For sustainable production & consumption

ECO-PRODUCTS DIRECTORY 2012

Featuring products and services in the Asia-Pacific region designed to contribute to the mitigation of global warming
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Last year, the APO celebrated its 50th anniversary since establishment in 1961. The year was a milestone for the organization, not only in recognizing the five decades of a meaningful history in serving its member countries in the Asia-Pacific but also in taking a moment to reflect on what we have done, where we are now, and our direction in the years ahead. When the concept of Green Productivity (GP) was first introduced by the APO in 1994, the idea of a more sustainable way of enhancing productivity and development was too new a concept for many member countries. At a time when the region was in the midst of thriving social and economic development, the notion of taking environmental considerations into account in business and organizational activities was regarded as more of a burden than an opportunity for many emerging Asia-Pacific industries. But as the impacts of global warming and the effects of climate change became increasingly evident, it became clear that environmental preservation alongside efforts for the enhancement of productivity was necessary to sustain the development of the region as well as to enhance its competitiveness in the global arena.

The APO continues active promotion of the concept of GP through its programs to create a shared understanding within the region that productivity enhancement can and must be compatible with the protection of the environment. Today, we face more challenges posed by various environmental issues, and designing a more sustainable way of social and economic life through harmonization with the surrounding environment has never seemed more important.

As one of the projects under its GP Program since 2004, the APO has published the APO Eco-products Directory, a comprehensive listing of environmentally friendly products and services offered by companies and organizations within the Asia-Pacific region. It is with great pleasure that we launch the 2012 edition as a tangible representation of the continued concerted efforts of the Asia-Pacific region to contribute to more sustainable development by promoting the concept of green production and consumption.

The APO is thankful for the guidance and support provided by the industry representatives of the Committee on the Eco-products Database under the leadership of its Chairperson, University of Tokyo Emeritus Professor Ryoichi Yamamoto; the Eco-products Database Working Group; and other regional partners. Their cooperation continues to be invaluable in the APO’s work to assist its member countries in GP-related areas.

Ryuichiro Yamazaki
Secretary-General
April 2012
The Earth Summit, held in the Brazilian city of Rio de Janeiro 20 years ago, was a momentous event not only for its magnitude as an environmental conference but also for its radical attempt to revisit conventional practices of global economic development in the face of growing environmental crisis. Since then, the global community has taken many steps toward building a more sustainable, more environmentally friendly society. Especially in recent years, we have seen a surge in various environmental initiatives taken by countries in the Asia-Pacific, indicating the energy and commitment of the region to play its role in contributing to the fight against climate change. A green economy is one of the main themes of the Rio+20 summit this year.

In Malaysia, following the establishment of the Ministry of Energy, Green Technology and Water earlier that year, the National Green Technology Policy was introduced in October 2009 as a government-driven initiative to place green technology at the forefront for accelerating national economic growth and promoting sustainable development. The success of the annual International Greentech and Eco Products Exhibition and Conference Malaysia since 2010 continues to represent the strong commitment of the country to balancing environmental preservation and vibrant economic development. There have also been important developments in the Philippines in terms of nationwide approaches to adapting to and minimizing the impacts of climate change. At the Green Productivity, Green Purchasing Towards Green Philippines Conference held in August 2011, prospects for the new National Climate Change Action Plan and the need to build national capacities to drive green public procurement were among the various strategies highlighted for creating a greener nation. In the Republic of China, the establishment of the Green Trade Project Office by the Ministry of Economic Affairs in March 2011 to promote green technologies in its industry and replace all of its exported goods with eco-products in the next three years are examples of the significant actions taken as national efforts to combine economic development and protection of the environment.

We seem to have come a long way in terms of building momentum for environmental protection alongside conventional business practices and ways of life, and yet various challenges are still ahead as the headlines tells us every day of hardships and constraints in the lives of people and other inhabitants of the earth as a result of environmental change. The urgent need to reduce carbon emissions drastically, seek greater efficiency in the use of resources, and create a more sustainable planet calls for bolder measures and the concerted efforts of the entire global community. This is not simply about altering or adjusting daily practices but about reshaping moral principles and fundamental values related to cohabitation with nature and the
environment. This can only be achieved from a greater arena of expertise, comprising
not only the scientific and political viewpoints we have been guided by so far but
also a wider spectrum including philosophical, religious, and ethical standpoints. In
the end, the creation of an “eco-culture” will help us to identify more comprehensive
solutions for a sustainable society.

Since the first edition in 2004, the APO Eco-products Directory has not only been a
regional tool for showcasing the range of green products and services in the Asia-
Pacific region but also for spreading a common consciousness within the region for
addressing environmental concerns in each stage of our daily lives. It is hoped that the
newest edition will reach the hands of as many individuals as possible within the Asia-
Pacific as well as abroad as, regardless of whether the reader is a government official,
a corporate officer, a consumer, or a student. Greening individual minds is crucial to
the fundamental changes demanded.

Ryoichi Yamamoto
Emeritus Professor, University of Tokyo
Chairperson of the Committee on the Eco-products Database, APO
Vice Chairperson of the Green Productivity Advisory Committee, APO
Green Purchasing that Underpins Sustainable Consumption and Production

Rio+20, the United Nations Conference on Sustainable Development, will be held in Rio de Janeiro, Brazil, in June 2012 to mark the 20th anniversary of the 1992 United Nations Conference on Environment and Development held in the same city. One of the conference themes is a green economy in the context of sustainable development. So far, the development and manufacture of products by industries with superior environmental performance have been discussed, and new green markets would be expected through the development of renewable energy devices such as solar panels and energy-saving products such as fuel-efficient cars. For this purpose, governments have been supporting producers of environmentally friendly products with policy initiatives and encouraging consumers to buy such products through subsidies such as point systems and other incentives. However, a society where businesses cannot be green without policy support cannot truly be called a sustainable green economy. A shift in consumer’s behavior so that individuals choose environmentally friendly products on their own initiative is necessary. This will encourage the development and manufacture of green products to meet consumer’s demand, which will lead in turn to the self-sustaining spread of eco-products throughout society and to greater economic growth. This is the true essence of a green economy.

In Japan, establishing a new energy system became a major social issue as a result of the Great Eastern Japan Earthquake in March 2011. In addition to energy saving actions, many consumers have taken voluntary actions such as replacing incandescent light bulbs with LED lighting and wearing cooler clothing in summer and warmer clothing in winter as personal contributions to energy conservation. Sales of fuel-efficient cars and well-insulated housing have also surged, though governmental support exists. This has catalyzed the development of green technologies and green products that are competitive in the market. This change to a greener economy occurred because consumers themselves became more aware of the importance of green purchasing and shifted their lifestyles accordingly.

In response to these changes, more manufacturers are emphasizing the environmental performance of their products to appeal to consumers instead of simply highlighting advanced functionality or low price. Automakers are competing in terms of fuel economy and related technologies. Advertisements for consumer electronic appliances with energy-saving functions, food and daily commodities in smaller, more compact packaging, and detergents that require less water are becoming increasingly common. Until recently, Japanese beverage makers were reluctant to use the advanced technology available to recycle used PET bottles for fear of consumer’s backlash. Today, those companies are proudly publicizing their use of recycled PET bottles as a sign of social responsibility.
In addition, there is growing interest in a new form of green business called “servicizing.” One example is car sharing, in which people pay only for the function of travel itself rather than purchasing and maintaining private vehicles. Older, more common examples include the leasing of copying machines with high recovery rates of parts and materials for recycling, and the sales of used but refurbished equipment. A shift from producing goods to providing services will gain further momentum due to its reduction of both economic burden and environmental impacts.

To encourage consumers to buy green products and thus contribute to the establishment of a green economy, good communication between industry and consumers is indispensable. This requires easy access to comprehensive information on products and their environmental performance. Products with eco-labels indicating quantitative environmental information such as the carbon footprint have increased, as have products labeled according to international forestry and fishery certification systems with their sustainability certified by authorized third parties. The Eco Mark Program, a well-known 20-year-old certified type I eco-label in Japan, is introducing new initiatives to enable consumers to incorporate environmental consciousness into their daily lives such as introducing new criteria for retail stores and for automotive insurance. Eco Mark is also currently developing certification criteria for other service industries such as car sharing and hotels/inns. The Green Purchasing Network database allows consumers online access to environmental information on products declared by their manufacturers and provides guidelines on environmentally friendly purchasing behavior by product type.

This *Eco-products Directory* published by the Asian Productivity Organization also serves as an invaluable reference on environmentally friendly products and services available in the Asia-Pacific region. It is hoped that all stakeholders worldwide will practice sustainable consumption and production, leading to the creation of a truly green economy.

Masahiko Hirao
The University of Tokyo
Introduction
“Green purchasing” as defined by the International Green Purchasing Network (IGPN) means “the purchase of any product and service that results in a lesser environmental impact while performing a similar function, and while demonstrating social responsibility and ethics, at its comparable price.” By this definition, green purchasing practices are able to contribute more to the cause of sustainable development through people’s production and consumption activities. It is one of the reasons why, although Asian economies have suffered greatly from the global recession since 2009, green purchasing activities in Asia, particularly those in the public sector, have still flourished and become more widespread than in other economies.

In many Asian economies, especially those in East Asia, the public sector has been providing the major incentive for promoting green purchasing, often in the form of green purchasing legislation of a mandatory or semimandatory nature. (“Semimandatory” means that even though some legislation requires government agencies to practice green purchasing, there is either no noncompliance penalty clause in place or it is not strictly enforced.) This (semi)mandatory green purchasing approach probably places more administrative burdens on government agencies but may also be more effective in achieving results when compared with the less-explicit or voluntary approaches adopted by many developed economies in the West. The legislative approach to green purchasing and the resulting effects of public sector-led green purchasing activities in Asia are discussed briefly below.

Green Purchasing Legislation and Implementation in Asia
In 1998, the Republic of China led Asia in introducing the first mandatory green purchasing approach through the adoption of a green procurement article (Article 96) in its Government Procurement Act, which allows preferential procurement of designated green products. The government then promulgated the Action Plan for Implementing Green Procurement by Government Agencies in 2001 and now stipulates designated product categories and annual procurement goals. The ROC government’s green purchasing program is mandatory for all levels of government agencies, institutions, and state enterprises. At present, there are 43 designated green product categories that may enjoy preferential purchasing treatment by government agencies, and over 93% of purchased products in these categories are considered green. Green Mark eco-labeled products are considered the most important of the three types of eco-products designated for green purchasing practices.
Japan subsequently introduced the first dedicated Asian green purchasing legislation in 2000 with the Law on Promoting Green Purchasing. The law requires the central government to develop a green procurement policy and implementation plan and to set up a competent authority to publish guidelines and product criteria. Since 2001, the government has designated over 250 green procurement products in 19 product categories. Eco Mark criteria and labeled products are widely adopted in the governmental green purchasing program. Through implementing this law since 2007, all central government ministries, 47 prefectural governments, 12 designated cities, and 68% of 700 local governments and cities have been practicing green purchasing. Collectively, more than 95% of products purchased in the designated product categories can be considered green.

In the Republic of Korea, the government also passed the Green Purchasing Law in 2004. The law requires the Ministry of the Environment to issue purchasing guidelines on eco-products annually and ensure that public agencies announce purchasing plans and practices as well as report their results annually. When conducting green purchasing, government agencies must preferentially purchase green products in the designated product categories. The Eco-Label Mark and Good Recycle Mark are used as the criteria for identifying green products. The Green Purchasing Law came into effect in 2005 and has resulted in a tremendous increase in the amount of governmental green purchase spending by the Korean public sector. The total amount of green purchasing including green supply chain management in 2007 was US$18.7 billion; the amount spent on Eco-Labeled Mark and Good Recycle Mark products was US$17.4 billion in the same year.

In addition to the economies mentioned above, APO members India, Malaysia, the Philippines, Singapore, Thailand, and Vietnam are all actively promoting governmental green purchasing. In addition to adopting green purchasing policies and programs, the approach most commonly employed by these economies is national eco-labeling schemes, although this short article cannot go into detail.

**Private-Sector Green Purchasing Activities**

As described above, when governments adopt and enforce green purchasing legislation, the results tend to be apparent and effective, as government agencies are required to follow those rules in their purchasing practices. However, the same legislative approach is unlikely to be applied successfully to the private sector, as consumers cannot be forced to buy only green products and forego all other products meeting relevant government regulations. Thus, private-sector green purchasing results often do not correspond well with governmental practices.
To expand on successful governmental green purchasing results, many innovative approaches have been adopted by Asian governments, for example, promotion of green purchasing alliances or networks, green stores, provision of green product information (through websites, directories, etc.), and other promotional campaigns. For the provision of information on green purchasing alternatives, the annual *Eco-products Directory* published by the APO can serve as an important resource for business-to-business communication purposes as well as offer ideas for both the public and private sectors on locating innovative eco-products. In addition, governments also seek to establish green product economies of scale and expand their market shares through green purchasing activities so that they can compete with conventional products not only in functional performance but also in manufacturing costs and product prices.

Apart from government actions, private-sector green purchasing may also be initiated by alliances and environmental movements/initiatives, so that consumers’ environmental awareness can create pressure for product manufacturers to green their supply chains. In this case, the creation of synergies between governmental and private-sector green purchasing initiatives is worth pursuing.

**The Way Forward**

Since 2000, the successful implementation of multiple green purchasing laws in many Asian economies by the public sector has been remarkable, and a great part of that success can be attributed to linking governmental green purchasing with national eco-labeling schemes. However, the experiences and results have been less successful in inducing similar results in the private sector of those economies. In this period of economic recession, private-sector green purchasing may suffer due to financial constraints; however, government-initiated green purchasing activities may still increase when those practices are integrated into routine purchasing by government agencies, at energy/resource-saving promotional events, or in stimulus packages for the private sector.
The important point is that governments’ green purchasing promotion efforts should not be deterred by current financial hardships. Governments should make use of the current global low interest-rate environment to invest in and develop the infrastructure for low-carbon, low-impact products and services to ensure a smooth transition to a future low-carbon economy, as well as educate consumers about the benefits of green products and services. In this case, the manufacturing bases for green products and services established by current governmental green purchasing practices can and will provide a stable foundation for such efforts.

Ning Yu, PhD
President, Environment and Development Foundation
About “eco-products”

“Eco-products” generally refer to environmentally friendly products, but there is no universal definition. In the *Eco-products Directory 2012*, they are defined as “products and services that have reduced environmental impacts compared with conventional versions with similar functions and are environment friendly, reflecting the voluntary efforts of the manufacturers to care for the environment.” Eco-products include not only industrial products but also goods and services in the areas of agriculture, tourism, and finance as well as those aimed directly at environmental impact reduction (i.e., eco-businesses, such as the production of pollution control devices, waste disposal/recycling, and consulting). The *Eco-products Directory 2012* is comprised of four main categories: materials; components; products; and services.

**Eco-products in the broad sense**

Many eco-products come with environmental labels (including text) that seek to communicate environmental information to consumers and other businesses. They certify that items are environmentally friendly according to standards or criteria independently set by countries, regions, organizations, or providers. The International Organization for Standardization (ISO) classifies environmental labels into Type I, Type II, and Type III and environmental labels are then given based on compliance certification, producers’ self-declaration of commitment to environmental preservation, and the verification and disclosure of quantitative environmental impact data. Additional environmental labels are awarded under the standards and criteria of other bodies.

In addition to environmental labels, other initiatives are undertaken to raise consumers’ environmental awareness, including the creation of databases where self-assessed products may be registered. Those are individual initiatives and thus differ.
ISO environmental labels

**Type I** (ISO 14020, ISO 14024): Seal of approval/compliance approval

Description: Type I labels are managed in accordance with the standards and principles of the ISO. This system ensures that the use of the label is accepted by a third party based on an independent, multifaceted standard. The standard covers the entire product life (resource extraction, manufacturing, distribution, use, disposal, recycling). The submitted products are assessed for approval and if successful are awarded the Type I label.

Examples:

- China Environmental Labeling
- Eco Mark (Japan)
- Green Choice Philippines
- Green Label (Singapore)
- Green Mark (Republic of China)
- Korea Eco-labeling Program
- MALAYSIA ECO-Label
- Thai Green Label
- The Blaue Engel (Germany)

**Type II** (ISO 14021): Producers’ self-declaration of commitment to the environment

Description: Product providers independently declare environment-related improvements in their products based on their own independently set criteria. There is no requirement for intervention by any third party.

Examples:

- Bridgestone Corp.
- CASIO COMPUTER CO., LTD.
- Fujitsu Limited
- Hitachi, Ltd.
- HoRIBA, Ltd
- Kao Corp.
- Mitsubishi Electric Corporation
- Panasonic Corp.
- PC green labels
- Sharp Corp.
- SCG eco value
- Shimadzu Corp
- Toyota industries Corp
- eco together
- eco ideas
- eco Mark
- eco Policy innovation
- eco Value
- eco together
- eco
- eco Policy innovation
- eco Value
**Type III** (ISO14025): Report card verification and disclosure of quantitative environmental impact data

Description: The type III label is managed in accordance with ISO 14025 (environmental declarations). They use the life cycle assessment method to show environmental information on products quantitatively from resource extraction to manufacturing/assembly, distribution, use, and discarding/recycling. Only the reliability of disclosed data is verified, and product evaluation is left to consumers.

Example:

![Image of Eco Leaf](image)

Eco Leaf (Japan)

The **TYPE I**, **TYPE II**, and **TYPE III** notations under the respective labels are intended to clarify their label types and are not included in the label design.

### Other environmental labels

Various environmental labels have been created in many areas including the consumer electronics industry and automotive industry.

- ARCAT green
- BiomassPla
- Butterfly Mark
- Carbon Footprint
- CRRC
- Energy Label
- Energy-Saving Label
- Energy Star label
- Environmental Technology Verification
- Fuel economy sticker
- Fuel-efficient tires
- Global Recycle Standard
- Green Building Material
- Green Energy Mark
- Greenguard
- GreenPla
- J-Moss green marks
- Low emitter vehicle sticker
- Oeko-TexR Label
- OK compost
- PEFC Forest Certification
- PET bottle reclaimed product
- rainforest-alliance
- Taiwan Carbon Label
- The Compostable Label
Products listed in the *Eco-products Directory 2012*

**Other initiatives to raise environmental awareness**

Apart from the promotion of environmental labels, the Green Purchasing Network (GPN) in Japan formulated guidelines for purchasing environment-friendly products, together with important points to consider, in 17 categories including printing and communication paper, stationery and office products, and vehicles. In line with the guidelines, the GPN Database provides the public with environmental information on products. The information contained in the database is based on judgments by registrants, and in no way represents an endorsement of the listed products by the GPN. The database is intended to catalogue products that comply with the GPN’s Purchasing Guidelines and the Law on Promoting Green Purchasing and to provide environmental data on those products to enable consumers to compare environmental information when making purchasing decisions.

The products and services in the *Eco-products Directory 2012* are listed if a third party certification body or the audit team of the Eco-products Directory 2012 Working Group has accepted them as eco-products that meet certain standards to help reduce environmental impacts associated with the product life cycle. For products and services holding third-party certifications (e.g., those with the Type I Environmental Label), the criteria for which they have been screened must be deemed adequate and open to the public. For products and services holding third-party certifications for which the criteria are not published, and those regarded as eco-products but have not been certified by a third party (e.g., those with the Type II Environmental Label), submission of the criteria or standards used to determine environmental impact is required, followed by a further audit and approval by the Eco-products Directory 2012 Working Group for inclusion in this directory. Products and services that are not certified as eco-products (e.g., those with the Type III Environmental Label or registered in the GPN Database) must be audited based on their environmental performance information and approved as eco-products by the Eco-products Directory 2012 Working Group for inclusion in this directory.

Please note that decisions by the Eco-products Directory 2012 Working Group are based solely on the environmental performance of products for the purpose of its inclusion in this directory and are in no way intended to represent a guarantee of their functions and safety.
4 Properties of listed products and services during 2004-2012

1. Number of listed products and services in this Directory

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<tr>
<td>Eco-materials</td>
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<td>80</td>
<td>71</td>
<td>70</td>
<td>73</td>
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<td>101</td>
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<td>Eco-components</td>
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<td>73</td>
<td>83</td>
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<td>105</td>
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<tr>
<td>Eco-products</td>
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<td>604</td>
<td>670</td>
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<td>Eco-services</td>
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<td>56</td>
<td>44</td>
<td>94</td>
<td>55</td>
<td>52</td>
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<td>Total</td>
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<td>591</td>
<td>725</td>
<td>804</td>
<td>1,000</td>
<td>818</td>
<td>927</td>
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</tbody>
</table>

Figure 1. Number of listed products and services

2. Number of listed products and services by category

Which environmental issues does the product or service intend to address?

<table>
<thead>
<tr>
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<td>A1: Global warming prevention</td>
<td>263</td>
<td>274</td>
<td>289</td>
<td>429</td>
<td>441</td>
<td>566</td>
<td>488</td>
<td>563</td>
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<tr>
<td>A2: Pollution prevention</td>
<td>95</td>
<td>98</td>
<td>51</td>
<td>73</td>
<td>84</td>
<td>145</td>
<td>110</td>
<td>103</td>
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<tr>
<td>A3: Chemical substance reduction</td>
<td>215</td>
<td>140</td>
<td>153</td>
<td>199</td>
<td>207</td>
<td>209</td>
<td>241</td>
<td>207</td>
</tr>
<tr>
<td>A4: Waste reduction</td>
<td>238</td>
<td>119</td>
<td>117</td>
<td>135</td>
<td>173</td>
<td>199</td>
<td>128</td>
<td>200</td>
</tr>
<tr>
<td>A5: Resource saving</td>
<td>264</td>
<td>201</td>
<td>190</td>
<td>376</td>
<td>355</td>
<td>471</td>
<td>361</td>
<td>482</td>
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<tr>
<td>A6: Biodiversity</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>7</td>
<td>12</td>
</tr>
</tbody>
</table>

Figure 2. Number of products and services categorized as A1-5
How does the product or service address environmental issues?

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>B1: Recyclability</td>
<td>214</td>
<td>110</td>
<td>84</td>
<td>85</td>
<td>116</td>
<td>136</td>
<td>110</td>
<td>156</td>
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<tr>
<td>B2: Long life</td>
<td>106</td>
<td>76</td>
<td>65</td>
<td>118</td>
<td>104</td>
<td>115</td>
<td>82</td>
<td>97</td>
</tr>
<tr>
<td>B3: Degradability</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>33</td>
<td>55</td>
<td>56</td>
<td>28</td>
<td>43</td>
</tr>
<tr>
<td>B4: High quality</td>
<td>243</td>
<td>198</td>
<td>179</td>
<td>228</td>
<td>230</td>
<td>321</td>
<td>330</td>
<td>349</td>
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<tr>
<td>B5: Energy saving</td>
<td>297</td>
<td>321</td>
<td>348</td>
<td>428</td>
<td>469</td>
<td>549</td>
<td>444</td>
<td>555</td>
</tr>
<tr>
<td>B6: Environmental clean-up products</td>
<td>135</td>
<td>74</td>
<td>107</td>
<td>75</td>
<td>83</td>
<td>125</td>
<td>123</td>
<td>125</td>
</tr>
<tr>
<td>B7: Using recycled materials</td>
<td>177</td>
<td>79</td>
<td>87</td>
<td>86</td>
<td>80</td>
<td>134</td>
<td>112</td>
<td>183</td>
</tr>
</tbody>
</table>

When and where in the product lifecycle does the product or service address environmental issues?

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>C1: Resource</td>
<td>63</td>
<td>23</td>
<td>35</td>
<td>43</td>
<td>48</td>
<td>66</td>
<td>55</td>
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</tr>
<tr>
<td>C2: Material/parts</td>
<td>45</td>
<td>30</td>
<td>52</td>
<td>59</td>
<td>86</td>
<td>107</td>
<td>105</td>
<td>79</td>
</tr>
<tr>
<td>C3: Design</td>
<td>163</td>
<td>83</td>
<td>184</td>
<td>229</td>
<td>247</td>
<td>313</td>
<td>229</td>
<td>204</td>
</tr>
<tr>
<td>C4: Production</td>
<td>111</td>
<td>40</td>
<td>79</td>
<td>95</td>
<td>145</td>
<td>237</td>
<td>186</td>
<td>140</td>
</tr>
<tr>
<td>C5: Transportation</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>16</td>
<td>29</td>
<td>22</td>
<td>11</td>
</tr>
<tr>
<td>C6: Use/repair</td>
<td>298</td>
<td>256</td>
<td>363</td>
<td>499</td>
<td>525</td>
<td>576</td>
<td>509</td>
<td>611</td>
</tr>
<tr>
<td>C7: End of life</td>
<td>205</td>
<td>78</td>
<td>87</td>
<td>110</td>
<td>80</td>
<td>90</td>
<td>92</td>
<td>102</td>
</tr>
</tbody>
</table>

Figure 3. Number of products and services categorized as B1-7

Figure 4. Number of products and services categorized as C1-7
To ensure an accurate understanding of the listed products and services, the following three categories were developed for the *Eco-products Directory 2012*:

**A: Which environmental issues does the product or service intend to address?**

This category helps consumers understand which environmental issues are addressed by the listed products and services. The focus is on global warming and resource consumption. Issues related to pollution and contamination (air, water, and soil), which are serious problems in developing economies, and waste disposal, are also included. A total of five issues are therefore listed:

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**Global warming prevention**

Helps reduce emissions of greenhouse gases such as carbon dioxide. This initiative includes the direct reduction of greenhouse gas emissions as well as energy saving and the reduction of deforestation.

---

**Air/water/soil pollution prevention**

Helps reduce emissions of substances into the air, water, and soil, such as photochemical oxidants (e.g., nitrogen oxides) and suspended particulate matter (e.g., sulfur oxides), which are substances restricted by environmental standards including air pollution control laws. This includes products that contribute to preventing ozone depletion and product oxidization. The cleanup of air/water/soil pollutants is also included.

---

**Chemical substance reduction**

Helps reduce and clean up eco-toxic chemical substances harmful to humans and the environment. These chemicals include substances specified by laws that identify the environmental impact created by emissions of specific chemical substances and that promote better management of such substances. This includes the reduction and purification of hazardous substances by recycling and reuse as well as products containing low levels of or no hazardous substances.

---

**Waste reduction**

Helps reduce the final disposal volumes by changing products, manufacturing processes, and packaging. This includes waste weight/volume reduction within the circulation system.

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**Resource saving**

Helps reduce the consumption of resources, such as mineral, forest, and water resources. This includes resource saving by reuse and recycling as well as resource saving in products and the manufacturing process.

---

**Biodiversity**

The product/service contributes to the conservation of biological diversity through a sustainable use of the components in the eco-system and promotes the fair and equitable sharing of benefits arising from the utilization of genetic resources.
How does the product or service address environmental issues?

This category explains how the listed products and services support environmental impact reduction in response to the five issues listed in A. The category is subdivided to provide comprehensive support for various environmental measures presently in place. This clarifies whether resource saving is achieved through enhanced product performance, longer product life, or improved product recyclability.

---

**Recyclability/reusability/refillability**

Raw materials can be recovered, processed, and recycled for reuse. Alternatively, they can be recycled efficiently by using designs that are easily disassembled. Reusable and refillable designs may be used in packaging and products.

**Long life**

With long-life designs, enhanced durability, and continued performance with repairs and maintenance, product life can be prolonged, leading to the reduction of raw materials and waste.

**Degradability/compostability**

Products, packaging, and their components can be biodegradable and produce substances that are relatively homogeneous and stable. They can also be degraded to a degree under certain conditions within a predetermined period of time.

**High quality/performance**

Product quality and performance improvements enable environmental impact reduction, subsequently leading to material and waste reduction.

**Energy saving**

Efficient process designs and product weight reduction enable energy saving. This initiative includes the use of energy recovered instead of disposed of.

**Environmental cleanup products**

The use of hazardous chemical substances in product manufacturing is reduced through the development of alternative materials or the use of the product helps clean up hazardous substances.

**Using recycled materials**

Recyclable materials (pre- and postconsumer) are recovered and used in the manufacturing process, either entirely or in high volumes.
C: When and where in the product life cycle does the product or service address environmental issues?

This category helps determine when and where within the life cycle of the product or service environmental initiatives are reflected. The product life cycle is broken down into seven steps: material extraction; material and component production; design; manufacturing; transportation; product use; and disposal.

Extraction of materials (resources)
In this step, resources needed for product manufacturing are collected. Some equipment is used for environmental impact reduction in this stage.

Material and component production (materials/parts)
This is a stage where interim products including materials and components are manufactured. Such interim products and their designs are intended for environmental impact reduction.

Design and material selection (design)
In this step, designs and materials are carefully selected for product manufacturing, including environmentally compatible designs.

Product manufacturing (production)
Products are manufactured in this step using materials and components. This step includes products that help reduce environmental impact during the manufacturing process.

Transportation
In this step, materials, parts, and products are carefully transported to result in a low environmental burden. This step includes products for which modes of transportation have been changed and those with unique packaging.

Product use, maintenance, and repair (use/repair)
In this step, products are used by consumers and maintenance and repairs are carried out. This step includes consideration of energy saving and environmental cleanup as well as prolonging product life by repairs and product life improvement.

End-of-life
In this step, products are disposed of and recycled. Included in this step are products that contribute to the reduction of final disposal volumes and can be disassembled, are easily reusable, easily recyclable, and compatible with well-established recycling systems.
Understanding the listed products and services

Product life cycle stage: Schematic diagram

Life Cycle

- Design
- Production
- Transport
- Use/repair
- End-of-life
- Reuse/recycle
- Resources
- Materials/parts
To make it simple and easy to understand for all readers, the product data are sorted and arranged in the directory as shown below.

EP-3-010
Classification 1 Classification 2 Product item no.

(1) Classification 1
In the Eco-products Directory 2012, the information on each eco-product is provided in four categories: 1. Materials, 2. Components, 3. Products, and 4. Services. These categories are also distinguished by frames of different colors (1. pink, 2. blue, 3. green, and 4. orange).

Eco-materials Eco-components
Eco-products Eco-services
(2) Classification 2

Each main category is divided into subcategories as shown below:

**EM**
1. Metals
2. Polymers
3. Natural materials
4. Foam
5. Ceramics and glass
6. Composites
7. Others

**EC**
1. Construction components
2. Electrical and electronic components
3. Semiconductor-related devices and components
4. Machine parts
5. Automobile parts
6. Packaging
7. Others

**EP**
1. Home electric appliances/lighting
2. Carriers/automobiles
3. OA/IT equipment
4. Office supplies/furniture
5. Apparel/textiles
6. Household goods and equipment
7. Building and civil engineering equipment
8. Machines and equipment
9. Others

**ES**
1. Product-related services (maintenance, upgrading, repair/reform)
2. Reuse and recycling services (collection, etc.)
3. Outsourcing services (waste disposal, control of hazardous items, chemical treatment, facility management)
4. Management-related services (consulting, accreditation, analysis, evaluation, etc.)
5. Others (e-commerce, eco-tourism, hotels, information transfer, etc.)

These subcategories are shown the right side of the bar as follows:

**Eco-materials // Metals**
- EM-1-001 Metals

**Eco-components // Construction components**
- EC-1-001 Construction

**Eco-products // Home electric appliances/lighting**
- EP-1-001 Home electric appliances/lighting

**Eco-services // Product-related services (maintenance, upgrading, repair/reform)**
- ES-1-001 Product-related
(3) **Product item number**
Each subcategory lists product items in numerical order in accordance with the Japan Statistical Standard Industry Classification, the Standard Industrial Classification for Japan, and the Commodity Classification for Census of Manufactures for Japan.

② **Title (product name and features)**
Brief description of how the product or service has been improved to contribute to environmental impact reduction.

③ **Product description**
(environmental performance and product performance)
Detailed description of how the product or service has been improved to contribute to environmental impact reduction.

④ **Company information**
The contact details of the providers of the product or service, including URLs for the websites of providers, the listed product, and provider’s corporate social responsibility report.

⑤ **Sales area**
The region or country where the product or service is available. (Sales areas are not always stated as this is an optional section.)

⑥ **Common product name**
The common name of the product or service (e.g., camera, pencil, desk, etc.).

⑦ **Categories**
How the product or service reflects certain environmental initiatives, indicated graphically under the following three categories:

A: **Which environmental issues does the product or service intend to address?**

B: **How does the product or service address environmental issues?**

C: **When and where in the product life cycle does the product or service address environmental issues?**
Product data display in the *Eco-products Directory 2012*

The icons indicate items (maximum of two each) selected from Categories A (which) and B (how).

<Icons>

**A: “Which”**

- Global warming
- Air/Water/Soil
- Chemical substances
- Waste
- Resource
- Biodiversity

**B: “How”**

- Recyclable
- Long life
- Degradable
- High quality
- Energy saving
- Purification
- Recycled materials

**C: “When” and “Where”**

The yellow dots indicate items (maximum of two) selected from the LC Stage

- Material
- Resource
- End-of-life
- Use/repair
- Design
- Production
- Transport
- Transport

**Environmental labels and other information**

Up to four environmental labels or other certification granted to the product or service are displayed based on applications from providers. For information on the types and names of these eco-labels, please refer to page 12-15 in 3. Products listed in the *Eco-products Directory 2012*.

We asked providers to specify greenhouse gas (GHG) emissions per product (if available) and indicate respective CO₂ equivalents below the illustration of the environmental labels. Where such values are indicated, we also specify the scope of the life cycle stages included in the calculation of GHG emissions (i.e., resource extraction, production of materials/parts, product manufacturing, transportation, use, and disposal). As a further measure, we indicate whether such values were inspected by a third-party organization.

**Product photo**

One photo or a related image is inserted for each product.

**Photo description**

The caption provides a brief description, e.g., model name, of each product photo.
With the APO Eco-products Database, users can have web-based, easy access to the environmentally friendly products and services listed in the Eco-products Directory. The database can become an even more useful tool by using the convenient web search function, which allows users to narrow the search by indicating specific keywords or criteria.

Searching for products or services with predefined keywords and criteria
Users are able to search through the entire database by indicating the requested predefined keywords or criteria in a check box.
If no specific keywords or criteria are checked, the system will perform a search of the database for the particular area. For example: If none of the boxes in the Labels area is checked, the system displays all information corresponding to all three label types.

Using the free-word search function
Users are also able to search the database using a specific keyword or phrase with the free-word function.
To do so, enter the specific keyword in the “Freeword search” box and click “Search.” To search the database using more than one keyword, separate each word with a space. For example: If “eco” and “products” are entered, only entries containing both keywords are shown.
In the Eco-products Directory 2012, “eco-materials” refer to “materials (or material technologies) that possess excellent characteristics with good performance, which can be manufactured, used, and recycled or disposed of, while having only a low impact on the environment as well as being kind to humans.” Environment-friendly eco-materials come in a diverse range and include recyclable materials, materials free from hazardous substances, materials manufactured with low energy consumption and in clean conditions, materials that purify contaminated water and air, materials that are very efficient and resource-saving while still offering high performance, and much more.

Carefully assessing the impact on the environment within the life cycle from resource collection to the disposal stage is important in choosing eco-materials. Once this has been clarified, eco-materials can be used to create eco-products with a good balance between function and eco-efficiency. Based on this concept, eco-materials must meet the following six criteria:

1. They do not use scarce resources.
2. They have functions to clean and conserve the environment.
3. They create only low environmental impact when manufactured.
4. They do not contain any hazardous substances.
5. They provide high performance when used.
6. They are easy to recycle.
### EM-1-001

**Pure titanium sheet for aircraft / Titanium alloy rods for aircraft engines**

**Environmental performance**
Titanium is being increasingly used in larger aircraft as a means of reducing weight in order to lower CO₂ emissions and reduce noise.

**Product performance**
Sumitomo Metals has been highly praised for its advanced quality management and delivery management, and is the exclusive supplier to Airbus of the pure titanium sheet used in the pylons that connect the wings and engines and in the piping. In addition, the titanium alloy rods produced by Sumitomo Metals were the first such Japanese products to be certified by Rolls Royce, and will be used in aircraft engine wing components and other parts. The titanium products of the Sumitomo Metals Group have been certified by Nadcap, the global aerospace standard inspection and certification program, and are approved for use by the airline industry around the world.

**Sumitomo Metal Industries, Ltd.**
1-8-11 Harumi, Chuo-ku, Tokyo, 104-6111, Japan
Tel +81-3-4416-6183  Fax +81-3-4416-6793
E-mail chikyu-kan@sumitomometals.co.jp
URL http://www.sumitomometals.co.jp

**Available in:** Worldwide

### EM-1-002

**Chromium-free new surface treatment technique**

**Environmental performance**
Chromium-free new surface treatment technique ("Super-Ecoat™") is an environment-friendly surface treatment for aluminum, since it contains no chromium and other poisonous substance.

**Product performance**
In this newly developed surface treatment product, non-porous, dense and thin aluminum oxide film with active surface layer is formed on aluminum. Corrosion resistance, adhesion and bonding strength more than equal to that of conventional chromate treatment are obtained. It is now widely used in home electric appliances, electronic parts, beverage and food containers, etc.

**Mitsubishi Aluminum Co., Ltd.**
2-3-3, Shiba, Minato-ku, Tokyo, 105-8546, Japan
Tel +81-3-3769-0111  Fax +81-3-3769-0180
URL http://www.malco.co.jp/english/index.html
### EM-1-003

#### Lead-Free Galvanized Steel Plate T. 6mm-16mm, etc.

**Environmental performance**
Incorporating the lead-free galvanization process, and does not generate heavy metals, such as lead, cadmium, chromium and the like, the waste derived from the process can be recycled and reused, and products with surface treatment are relatively free of black spots with a relatively thicker galvanized layer and a rustproof ratio higher than the conventional nickel plating, helping to extend the product's life cycle, and also reduce the subsequent maintenance and repair cost.

**Product performance**
For use in outdoor weatherproof environment, it can be used as floor base plate, and can also be reprocessed into other products.

**Shine Metal Hot-Galvanization Enterprise Co., Ltd.**
No.119-86, Sanhe Rd., Ligang Township, Pingtung County, Taiwan, 905, Republic of China
Tel +886-7-555-9377-105  Fax +886-7-555-9251
E-mail kingstar616@gmail.com
URL http://www.smg.com.tw/

Available in: Taiwan (Rep. of China)

### EM-1-004

#### Lead-Free Galvanized Steel Angles L50*50*6t, etc.

**Environmental performance**
Incorporating the lead-free galvanization process, and does not generate heavy metals, such as lead, cadmium, chromium and the like, the waste derived from the process can be recycled and reused, and products with surface treatment are relatively free of black spots with a relatively thicker galvanized layer and a rustproof ratio higher than the conventional nickel plating, helping to extend the product's life cycle, and also reduce the subsequent maintenance and repair cost.

**Product performance**
Parts and components used in plant structures, bridges, power transmission towers and for general structures.

**Shine Metal Hot-Galvanization Enterprise Co., Ltd.**
No.119-86, Sanhe Rd., Ligang Township, Pingtung County, Taiwan, 905, Republic of China
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E-mail kingstar616@gmail.com
URL http://www.smg.com.tw/

Available in: Taiwan (Rep. of China)
Lead-Free Galvanized Grating FB25*4. 5t, etc.

**Environmental performance**
Incorporating the lead-free galvanization process, and does not generate heavy metals, such as lead, cadmium, chromium and the like, the waste derived from the process can be recycled and reused, and products with surface treatment are relatively free of black spots with a relatively thicker galvanized layer and a rustproof ratio higher than the conventional nickel plating, helping to extend the product's life cycle, and also reduce the subsequent maintenance and repair cost.

**Product performance**
It is used in various plants and buildings' floor insulation layers. There are steel structure platforms and passageways, staircase steps, cement products' reinforcement material, roadway ditch cover plate, storage racks, grills, temporary cover plates for a variety of working holes, and post-modern architectural design materials.

**Shine Metal Hot-Galvanization Enterprise Co., Ltd.**
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E-mail kingstar616@gmail.com
URL http://www.smg.com.tw/

Available in: Taiwan (Rep. of China)

Lead-Free Galvanized Steel Structure 150*150*75, etc.

**Environmental performance**
Incorporating the lead-free galvanization process, and does not generate heavy metals, such as lead, cadmium, chromium and the like, the waste derived from the process can be recycled and reused, and products with surface treatment are relatively free of black spots with a relatively thicker galvanized layer and a rustproof ratio higher than the conventional nickel plating, helping to extend the product's life cycle, and also reduce the subsequent maintenance and repair cost.

**Product performance**
It is suitable as general building structural material or facilitating material for factories, warehouses, offices, schools, sports stadiums, agricultural greenhouses, prefabricated residential units, car canopies, car park equipment and the like.

**Shine Metal Hot-Galvanization Enterprise Co., Ltd.**
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E-mail kingstar616@gmail.com
URL http://www.smg.com.tw/

Available in: Taiwan (Rep. of China)
**EM-1-007 Metals**

**Lead-Free Galvanized Expanded Metal XG11, XG12, XG13, etc.**

**Environmental performance**
Incorporating the lead-free galvanization process, and does not generate heavy metals, such as lead, cadmium, chromium and the like, the waste derived from the process can be recycled and reused, and products with surface treatment are relatively free of black spots with a relatively thicker galvanized layer and a rustproof ratio higher than the conventional nickel plating, helping to extend the product's life cycle, and also reduce the subsequent maintenance and repair cost.

**Product performance**
It is used as factory, building, ship staircase's step plates, corridor and platform flooring, and can be used as fence walls, partitions, railings, reinforcement material and for producing electrical appliances and household electrical products.

**Shine Metal Hot-Galvanization Enterprise Co., Ltd.**

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Available in: Taiwan (Rep. of China)

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**EM-1-008 Metals**

**ECO BRASS (High-Performance Lead-free Copper Alloy)**

**Environmental performance**
ECO BRASS is a lead-free and environmentally friendly brass material. Instead of using heavy metal harmful to the human body, a precipitating metallic compound in the metal structure realizes good machinability.
Key Features:
1) Lead-free
2) High strength equivalent to stainless steel
3) Good machinability nearly equal to brass rod containing 1% lead
4) Excellent machined surface, de-zincification corrosion resistance, stress corrosion cracking resistance, warm brittleness cracking resistance, and hot forgeability
5) Easily accepts soldering and brazing
6) Good castability

Applications:
1) Water supply devices such as faucets, valves, fittings, etc.
2) Precision parts as a substitute for stainless steel such as shafts, screws, bearings
3) Electrical parts and connectors
4) Automobile parts: lead-free requirements
5) Medical devices

**Mitsubishi Shindoh Co., LTD**

374, 8-cho, Sambo-cho, Sakai-ku, Sakai-shi, Osaka, 590-0906, Japan
Tel +81-72-233-1161 Fax +81-72-227-6590
URL http://www.ecobrass.com/

Machined products using ECO BRASS rods
## EM-1-009 Metals

### SMart BEAM™ lightweight welded H-beam

**Environmental performance**

Sumitomo Metals is developing technologies that will allow the SMart BEAM™ H-beam, which is produced continuously by welding of a hot-rolled coil, to be used for a range of applications. It helps conserve natural resources, and is 20-30% lighter than a conventional rolled H-beam with the same performance, and is being used in industrialized home-building and other construction.

**Product performance**

Reducing the weight of construction materials is an important issue not only for cutting costs, but also for helping conserve natural resources. It can also be used as beams in wooden houses in order to reduce warpage of the floor and improve durability.

### Sumitomo Metal Industries, Ltd.

1-8-11 Harumi, Chuo-ku, Tokyo, 104-6111, Japan
Tel +81-3-4416-6183  Fax +81-3-4416-6793
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URL http://www.sumitomometals.co.jp

Available in: Worldwide

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## EM-1-010 Metals

### Amorphous soft magnetic alloy "Metglas® 2605SA1, 2605HB1M"

**Environmental performance**

No load loss of distribution transformers using amorphous soft magnetic alloy "Metglas®" can be reduced about 1/3 compared to that using CRGO (Cold Rolled Grain Oriented Electrical Steel), thereby significantly contributing to the prevention of global warming. Newly developed alloy "Metglas® 2605HB1M" which has about 5% higher saturation induction and higher squareness of B-H hysteresis loop compared to those of "Metglas® 2605SA1" can reduce the volume, weight and audible noise of amorphous distribution transformers.

**Product performance**

Metglas® has the following features compared to CRGO.
1) Coercivity is less than 1/2, thereby hysteresis loss is lower.
2) Thickness is about 1/10 (25 μm) and electric resistivity is more than 2 times (1.2 μΩ·m), thereby eddy current loss is lower.

### Hitachi Metals, Ltd.

SEAVANS North Building, 1-2-1, Shibaura, Minato-ku, Tokyo, 105-8614, Japan
Tel +81-3-5765-4202
E-mail hmcc@hitachi-metals.co.jp
URL http://www.hitachi-metals.co.jp/index.html
URL http://www.metglas.com/
URL http://www.hitachi-metals.co.jp/corp/corp14_01.html

Available in: Worldwide (Except for Iran)
### EM-1-011  Metals

**High Tensile Steel**

**Environmental performance**
Demand for high tensile steel sheets (HITEN) is growing as a material that enables both automobile body weight reduction and collision safety. Recently, demand has increased for higher tensile strength steel sheets (Ultra HITEN). The cold rolled 1180MPa, created with our proprietary WQ (Water Quenching) continuous annealing process, was employed for integrally molded door impact beams made with conventional press forming.

**JFE Steel Corporation**
2-3, Uchisaiwai-cho 2-chome, Chiyoda-ku, Tokyo, 100-0011, Japan
Tel +81-3-3597-3111  Fax +81-3-3597-4860
URL http://www.jfe-steel.co.jp/

### EM-1-012  Metals

**Chromate-free coated steel sheet**

**Environmental performance**
Chromate-free coated steel sheet is an environment-friendly product, since it contains no chrome (VI). A uniquely designed composite film consisting of a special organic resin and inorganic substance secures as much corrosion resistance as conventional products. It is now used in internal panels of home electric appliances and vending machines, internal components of OA equipment, chassis of audiovisual equipment, and other parts.

**JFE Steel Corporation**
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URL http://www.jfe-steel.co.jp/
EM-1-013  Metals

**all-purpose stainless steel JFE443CT**

**Environmental performance**

JFE443CT is all-purpose stainless steel which does not contain such rare resources as nickel or molybdenum but ensures high corrosion resistance equivalent to SUS304. When applied to cooking pans for induction heating (IH), it leads to substantial energy saving because of its properties of excellent heat transmission and magnetism.

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**JFE Steel Corporation**

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Tel +81-3-3597-3111  Fax +81-3-3597-4860
URL http://www.jfe-steel.co.jp/

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EM-1-014  Metals

**Highly Lubricant GA Steel Sheet: "JAZ (JFE Advanced Zinc)"**

**Environmental performance**

As an environment-friendly product, "JAZ" does not contain phosphate or heavy metal elements which used to be contained in conventional lubricated GA steel sheets. In this unique product, a surface reforming layer with nano-level thickness is formed on a zinc coated layer. JAZ has been adopted in automotive outer panels or inner panels which are otherwise difficult to form. More specifically, it is used in side panels, fenders, doors, and wheelhouses, etc.

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**JFE Steel Corporation**

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Tel +81-3-3597-3111  Fax +81-3-3597-4860
URL http://www.jfe-steel.co.jp/
EM-1-015  Metals

FCA-W steel plate, high-tensile-strength plate for improving the fatigue of welded joints

**Environmental performance**
FCA-W steel plate achieved weight reductions through the development of the innovative high-tensile-strength with preventing fatigue cracks from occurring at welded joints. It contributes to reducing CO₂ emission.

**Product performance**
By using this product, which not only controls the propagation of fatigue cracks, but also prevents fatigue cracks from occurring at welded joints in the first place, designers get free from design steps such as increasing plate thickness or adding reinforcement materials were used to prevent fatigue fracture of welded joints in steel structures.

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URL http://www.sumitomometals.co.jp

Available in: Worldwide

EM-1-016  Metals

NAR-301L HS1 stainless steel plate for cylinder head gaskets

**Environmental performance**
NAR-301 HS1 is that Sumitomo Metals has applied its original component design and manufacturing conditions to develop an ultra-fine structure steel plate. This product is used for the cylinder head gasket, and contributing to technology aimed at reducing fuel consumption.

**Product performance**
The cylinder head gasket is a component that supports technology used to improve the combustion efficiency of an automobile engine and to improve fuel economy. It is important that this component have spring performance that can keep gaps closed while adapting to vibration and heat, as well as good fatigue-resistance characteristics. This product has more than 30% better fatigue-resistance characteristics, and has been very highly evaluated.

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URL http://www.sumitomometals.co.jp

Available in: Worldwide
EM-1-017  Metals

Non-oriented electromagnetic steel sheet for high-efficiency motors

**Environmental performance**

This product is non-oriented electromagnetic steel sheet used in hybrid vehicle drive motors and air conditioner compressors, an iron core with superior magnetic characteristics is needed to achieve lighter weight, smaller size, and higher performance in the high-efficiency motors.

**Product performance**

We have applied its original component design and heat treatment technologies to control the crystal orientation and develop a non-oriented electromagnetic steel sheet with lower electrical loss and improved electromagnetic characteristics. This product has been praised as a revolutionary new technology from many directions.

**Sumitomo Metal Industries, Ltd.**

1-8-11 Harumi, Chuo-ku, Tokyo, 104-6111, Japan
Tel +81-3-4416-6183  Fax +81-3-4416-6793
E-mail chikyu-kan@sumitomometals.co.jp
URL http://www.sumitomometals.co.jp

Available in: Worldwide

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EM-1-018  Metals

NAR-AH-4 high heat-resistance stainless steel

**Environmental performance**

NAR-AH-4 contributes to the conservation of resources by using less than half of the amount of the valuable resource nickel than conventional products. At the same time, this product retains the same or better high-temperature strength and excellent high-temperature oxidation resistance.

**Product performance**

NAR-AH-4 retains excellent high-temperature strength and high-temperature oxidation resistance. This product is used in automobile exhaust manifolds and other applications.

**Sumitomo Metal Industries, Ltd.**

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Tel +81-3-4416-6183  Fax +81-3-4416-6793
E-mail chikyu-kan@sumitomometals.co.jp
URL http://www.sumitomometals.co.jp

Available in: Worldwide
EM-1-019

Chrome-free treated zinc-coated steel sheet

Environmental performance
Previously chrome compounds were used for the surface treatment of zinc-coated steel sheet to prevent corrosion. Sumitomo Metals is developing surface-treated steel sheet that uses no chrome compounds at all, designed for specific applications. And some kinds of these products do not require cleaning the surface with organic solvents-substances that have a large impact on the environment.

Product performance
Our products for use as motor covers are known for their excellent corrosion resistance, high resistance to surface peeling under harsh forming conditions, and the fact that they do not require cleaning with organic solvents-substances that have a large impact on the environment. For fuel tank applications, we are developing a material that can be used with highly corrosive bio-ethanol fuels.

Sumitomo Metal Industries, Ltd.
1-8-11 Harumi, Chuo-ku, Tokyo, 104-6111, Japan
Tel +81-3-4416-6183 Fax +81-3-4416-6793
E-mail chikyu-kan@sumitomometals.co.jp
URL http://www.sumitomometals.co.jp

Available in: Worldwide

EM-1-020

Stainless steel foil for bipolar plates of polymer electrolyte fuel cell

Environmental performance
This product, which was developed by Sumitomo Metals, is the stainless steel foil with high conductivity and highly corrosion resistant for bipolar plates of polymer electrolyte fuel cell. The bipolar plates are also called separators. The separator is one of main parts of fuel cells, which are expected to be the next-generation, eco-friendly, highly-efficient electrical power supply source, for practical application in automobiles and other diverse fields. It is a foil thicknesses of 0.2mm or less thin, achieved the separator of lightweight and high performance. For reducing CO₂, we expect this technology to make a large contribution for the fuel cell society.

Product performance
This product is high electrically conductive and highly corrosion resistant stainless steel foil for fuel cell separator by making electrically conductive metallic inclusions in stainless steel. The developed material is highly suitable for mass production and features excellent formability, and makes possible low-cost production of fuel cell separators.

Sumitomo Metal Industries, Ltd.
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Tel +81-3-4416-6183 Fax +81-3-4416-6793
E-mail chikyu-kan@sumitomometals.co.jp
URL http://www.sumitomometals.co.jp

Available in: Worldwide
### EM-1-021  Metals

#### Smigreen CS™ low carbon lead-free free-cutting steel

**Environmental performance**

Previously, lead was used to improve the cutting performance of free-cutting steel. Smigreen CS™, low carbon steel that utilizes no lead at all thanks to an increase in the amount of sulfur compounds added, maintains good cutting machinability without including lead that have a large impact on the environment.

**Product performance**

Smigreen CS™ is low carbon steel that maintains good cutting machinability without including lead that have a large impact on the environment. This product has been adopted for use as printer shafts by a major office automation (OA) equipment manufacturer.

#### Sumitomo Metal Industries, Ltd.

1-8-11 Harumi, Chuo-ku, Tokyo, 104-6111, Japan  
Tel +81-3-4416-6183  Fax +81-3-4416-6793  
E-mail chikyu-kan@sumitomometals.co.jp  
URL http://www.sumitomometals.co.jp

Available in: Worldwide  
Example of use (printer shafts)

### EM-1-022  Metals

#### Automotive Steel Tubes

**Environmental performance**

High performance electric resistance welded steel tubes known as "HISTORY (high speed tube welding and optimum reducing technology) steel tubes" contribute to automotive weight reduction by realizing hollow tubes and properties of high strength and high formability.

#### JFE Steel Corporation

2-3, Uchisaiwai-cho 2-chome, Chiyoda-ku, Tokyo, 100-0011, Japan  
Tel +81-3-3597-3111  Fax +81-3-3597-4860  
URL http://www.jfe-steel.co.jp/
## EM-1-023
### SM125S super high-strength corrosion-resistant steel OCTG (oil country tubular goods)

**Environmental performance**
SM125S are steel tubes with high strength and high corrosion resistance to extract natural gas, much of it exists in environments at great depths where highly corrosive hydrogen sulfide is present.

**Product performance**
SM125S create high strength (125 ksi) and high corrosion-resistant by applying a technology that envelops impurities in the steel with another impurity. This has made possible the previously impossible development of gas wells at depths of 4,000-6,000 meters or more.

**Sumitomo Metal Industries, Ltd.**
1-8-11 Harumi, Chuo-ku, Tokyo, 104-6111, Japan
Tel +81-3-4416-6183 Fax +81-3-4416-6793
E-mail chikyu-kan@sumitomometals.co.jp
URL http://www.sumitomometals.co.jp

 Available in: Worldwide

## EM-1-024
### X-80 large-diameter welded steel pipe for gas pipelines

**Environmental performance**
X-80, large-diameter welded steel pipe, is applied to extremely high pressure natural gas pipe lines. This improves the efficiency of the transportation and also contributes to the spread of natural gas which helps to reduce CO₂.

**Product performance**
The integral technology, such as original design of chemical composition, TMCP and pipe forming-welding technique, is considered during the manufacture of X-80 large-diameter welded steel pipe. This is good for the economy and helps in achieving excellent safety in harsh environments. This product has high strain resistance to earthquake or landslide is becoming more popular in the field of natural gas transportation.

**Sumitomo Metal Industries, Ltd.**
1-8-11 Harumi, Chuo-ku, Tokyo, 104-6111, Japan
Tel +81-3-4416-6183 Fax +81-3-4416-6793
E-mail chikyu-kan@sumitomometals.co.jp
URL http://www.sumitomometals.co.jp

 Available in: Worldwide
### EM-1-025

**Stainless steel boiler tubes for ultra supercritical coal-fired thermal power generation**

**Environmental performance**

At coal-fired power plants, improving power-generating efficiency by increasing the temperature and pressure (to the ultra supercritical state) of the steam generated by the boiler is a key issue for saving energy and reducing CO₂ emissions. By applying stainless steel boiler tubes for ultra supercritical coal-fired thermal power generation, the efficiency improved by 2% (up to 43%), CO₂ emissions decreased by 5% compared with conventional condition (supercritical state).

**Product performance**

This product has the excellent high-temperature strength and high resistance to steam oxidation corrosion and high-temperature corrosion, that are needed for use in ultra supercritical applications. We developed the world's strongest 18% chrome steel for use as steel tubes, by working with 18% chrome steel and applying technology for creating smaller crystal grain using niobium (Nb) carbide, and by also applying copper supplementation. For use with high sulfur-content coal, we have also developed the world's first 25% chrome steel for use as boiler tubes.

**Sumitomo Metal Industries, Ltd.**

1-8-11 Harumi, Chuo-ku, Tokyo, 104-6111, Japan
Tel +81-3-4416-6183 Fax +81-3-4416-6793
E-mail chikyu-kan@sumitomometals.co.jp
URL http://www.sumitomometals.co.jp

Available in: Worldwide

### EM-1-026

**Super 13Cr steel pipe for pipelines**

**Environmental performance**

Natural gas pipelines must be able to withstand harsh corrosive environments. This product is Super 13Cr pipeline steel with superior corrosion resistance. It is making a contribution to use of natural gas reducing CO₂.

**Product performance**

This product is Super 13Cr steel pipe for natural gas pipelines. It has the superior corrosion resistance for withstanding harsh corrosive environments.

**Sumitomo Metal Industries, Ltd.**

1-8-11 Harumi, Chuo-ku, Tokyo, 104-6111, Japan
Tel +81-3-4416-6183 Fax +81-3-4416-6793
E-mail chikyu-kan@sumitomometals.co.jp
URL http://www.sumitomometals.co.jp

Available in: Worldwide
## Advanced Plastic Mold Steel For General Purposes, "HPM-MAGIC™"

**Environmental performance**

Because "HPM-MAGIC™" has high toughness, breakage and chipping would be reduced, and we would expect longer die life. Furthermore, because of superior machinability, we can expect longer tool life and shorter working time in mold processing. Therefore "HPM-MAGIC™" can provide opportunities to save resource and energy.

**Eco-materials // Metals**

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<tr>
<th>EM-1-027</th>
<th>Metals</th>
<th>tool steel</th>
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<tbody>
<tr>
<td><strong>Advanced Plastic Mold Steel For General Purposes, &quot;HPM-MAGIC™&quot;</strong></td>
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<td><strong>Environmental performance</strong></td>
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<td>Hitachi Metals, Ltd.</td>
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<td>SEAVANS North Building, 1-2-1, Shibaura, Minato-ku, Tokyo, 105-8614, Japan</td>
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## High Performance Cold Working Tool Steel "SLD-MAGIC™"

**Environmental performance**

SLD-MAGIC™, Cold Working Die Steel, is showing superior reputation for wear resistance and machinability along with achieving excellent characteristics of lower heat treatment distortion, versatilities for surface treatments, toughness and weldability. "SLD-MAGIC™" can also improve the lifespan and fabricability of die molds compared to currently used die materials. Therefore, "SLD-MAGIC™" can provide opportunities to reduce energy and resources to be used and fabrication time for making various molds for automobile industries, and other industrial fields where molds are necessary.

**Eco-materials // Metals**

<table>
<thead>
<tr>
<th>EM-1-028</th>
<th>Metals</th>
<th>tool steel</th>
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<tbody>
<tr>
<td><strong>High Performance Cold Working Tool Steel &quot;SLD-MAGIC™&quot;</strong></td>
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High-Performance Steel for Diecasting die, “DAC-MAGIC™”

Because steel for Diecasting die, “DAC-MAGIC™”, has improved strength at high temperature and toughness, it has higher heat crack resistance than that of conventional steel. Furthermore, “DAC-MAGIC™” has excellent resistance to stress corrosion cracking, we would expect longer die life and save resource.

Hitachi Metals, Ltd.
SEAVANS North Building, 1-2-1, Shibaura, Minato-ku, Tokyo, 105-8614, Japan
Tel +81-3-5765-4410
E-mail hmcc@hitachi-metals.co.jp
URL http://www.hitachi-metals.co.jp/e/index.html
URL http://www.hitachi-metals.co.jp/e/prod/prod19/p19_04.html
URL http://www.hitachi-metals.co.jp/e/corp/corp14_01.html

Available in: Worldwide (Except for Iran)
### EM-2-001 Polymers

**Origo Corn-Based Bio-Plastic**

**Environmental performance**
Origio corn-based bio-plastic is a revolutionary material set to replace disposable plastics. 100% biodegradable and carbon-neutral, it is made of up to 75% corn, reducing the reliance on fossil fuels and cutting down on toxic/green house gases released when incinerated. Certified ISO-14001, ISO-14855, ASTM-6400, ASTM-6866, EN-13432.

**Product performance**
Origio bio-plastic can be made into a variety of products from flower pots to poster boards. It is durable, water-proof and printable. Certified ISO-9001, FDA approved.

**Olive Green Marketing Pte Ltd**
2 Toh Tuck Link #05-03, 596225, Singapore
Tel 65 67671301

Available in: Worldwide

![Origo Bio-Plastic Pellet Resin](image.png)

### EM-2-002 Polymers

**Biomass-based polyester fiber : ECOCIRCLE™ Plantfiber**

**Environmental performance**
PLANTPET™ is 30% bio-based PET fiber, with EG, one of the components of PET, derived from biomass. Its bio-content can be verified by using "Radiocarbon dating".

**Product performance**
*Characteristics are the same as the oil-based PET.  
*Functionality and sensitivity can be given to PLANTPET™.

**Teijin Fibers Limited**
6-7, Minami-hommachi 1-chome, Chuo-ku, Osaka, 541-8587, Japan
Tel 0088-22-0175
E-mail tfj0604@teijin.co.jp

![PLANTPET™ Plantfiber](image.png)
EM-2-003

100% Biodegradable & Compostable Plastic Resin (Film Grade) GB200, GB100, GB090

**Environmental performance**

* Produced using natural cornstarch, making the source of raw material dependable.
* Fully biodegradable through microbes, returning to nature in the form of carbon, water, bio-matter and such in a matter of a few months.

**Product performance**

* Does not generate toxic gas when burned, and the heat energy released is only one-half of conventional plastic materials, such as polyethylene.
* The product conforms to EN 13432 and ASTM D 6400 international compost standard, and it can be processed into industrial compost with kitchen scraps and leaves without requiring any additional processing. It can be completely broken down without leaving any toxic matter in three months.
* The processing method is the same as the general low-density LDPE, and can be processed on LDPE injection molding machines without having to modify the equipment.

Grabio Greentech Corporation

No. 91, Guangfu N. Rd., Hsinchu Industrial Park, Hukou Township, Hsinchu County, Taiwan, 30351, Republic of China
Tel +886-3-598-6496 Fax +886-3-598-6491
E-mail tony@grace-bio.com.tw
URL http://www.grabio.com.tw

Available in: Europe, North America, South America

EM-2-004

100% Biodegradable & Compostable Plastic Film GB200, GB100, GB090

**Environmental performance**

* Produced using natural cornstarch, making the source of raw material dependable.
* Fully biodegradable through microbes, returning to nature in the form of carbon, water, bio-matter and such in a matter of a few months.

**Product performance**

* Does not generate toxic gas when burned, and the heat energy released is only one-half of conventional plastic materials, such as polyethylene.
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Grabio Greentech Corporation

No. 91, Guangfu N. Rd., Hsinchu Industrial Park, Hukou Township, Hsinchu County, Taiwan, 30351, Republic of China
Tel +886-3-598-6496 Fax +886-3-598-6491
E-mail tony@grace-bio.com.tw
URL http://www.grabio.com.tw

Available in: Europe, North America, South America
EM-2-005  Polymers

**ECOLA**

**Environmental performance**
Kao has integrated the quality of ECOLA, its polylactic acid resin product, to save cycle time within the production process which contributes to the reduction of environmental burden.
1. Has realized injection molding that saves time to nearly the same extent as molding widely-used resin.
   - Conventional molding condition : 110°C X 10min.
   - New molding condition (with ECOLA) : 80°C X 30sec at most.
2. Has realized extrusion molding of transparent and soft materials such as sheet-shaped products.

**Product performance**
Kao contributes to a more easier use of eco-friendly biomass-based polymer. In addition to the plasticity control technology that has improved the softness of molded products, our unique nano-crystal control technology has realized the products’ transparency. These technologies have made it possible to expand the use of polylactic acid resin to plastic products. Extrusion-molding-targeted ECOLA enables molding of sheet-shaped or film-shaped products such as transparent folders, which resemble products made of PP. On the other hand, injection-molding-targeted ECOLA saves the molding time to nearly the same extent as molding such commonly-used resins as ABS or PP without losing the impact resistance or heat resistance after molding.

**Kao Corporation**

1-14-10, Nihonbashi Kayabacho, Chuo-ku, Tokyo, Japan
URL http://chemical.kao.com/global/
URL http://chemical.kao.com/jp/products/productname/c040115.html

Available in: Japan, China

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EM-2-006  Polymers

"Eco-Friendly Biodegradable Resin (EcolGreen Bio-Polymer)"

**Environmental performance**
Our company manufactures biodegradable material that is environmentally friendly. As a biodegradable material and the complete biodegradability test detecting whether the test substances have also been certified by completing the green mark. For more information, our company’s website (www.ecolgreen.com) to Please visit

**Product performance**
Our company’s products are environmentally friendly biodegradable material. The level of synthetic resin material is a substitute. Heat-resistant, synthetic resin, the level of intensity and complement existing was. For more information, our company’s website (www.ecolgreen.com) to Please visit

**ROK EcolBioTech.Co.,Ltd**

691-1, Gojan-dong, Namdong-gu, Incheon, Korea, 405-820, Republic of Korea
Tel +82-32-813-5023  Fax +82-32-813-5025
E-mail jcs1323@naver.com
URL http://www.ecolgreen.com
Eco-materials // Polymers

**EM-2-007**

**Recycled Polyester Fibers: ECOCIRCLE™ FIBERS, ECOPET®**

**Environmental performance**
The recycled polyester fiber made from the used polyester products is developed.

**Teijin Fibers Limited**
6-7, Minami-hommachi 1-chome, Chuo-ku, Osaka, 541-8587, Japan
Tel 0088-22-0175
E-mail tfj0604@teijin.co.jp
URL http://www.teijinfiber.com/

ECOCIRCLE™ and ECOPET® are the trademarks of Teijin Fiber Ltd.

**EM-2-008**

**R3plas Bio-mass pellet**

**Environmental performance**
Rice husk, Wheat husk and Coconut Husk is world most easily available and renewable source and ideal for alternative wood. It is natural and carbon natural and thereby helps mitigation of global warming. It help prevent deforestation in Asia and help to save wildlife.

**Product performance**
- Better waste resistant than wood
- Termite and fungus proof
- Compositable
- Recyclability
- Sustainable manufacturing
- Easy coloring
- Eco-friendly
- Cost competitive
- Eco-function in design

**WINRIGO (S) PTE LTD**
No. 21 Toh Guan Road East #04 - 09 Toh Guan Centre, 608609, Singapore
Tel +6598715058 Fax +6565154557
E-mail salewin@singnet.com.sg
URL http://www.winrigo.com.sg

Available in: Worldwide
**PLANT BASED FILM/BAG. CONTAINS ZERO-PLASTIC**

**Environmental performance**
- USES SUSTAINABLE PLANT BASED RESOURCES INCLUDING STARCH FROM TAPIOCA PLANT
- REDUCE DEPENDENCY ON PETROLEUM-BASED RAW MATERIAL
- ZERO-PLASTIC FILM/BAG WHICH DO NOT USE PE/PP/PS/PET COMMONLY FOUND
- BIODEGRADABLE, COMPOSTABLE AND WATER SOLUBLE REDUCING POLLUTION IN ENVIRONMENT & OCEAN

**Product performance**
GREENVIRONMENT, a division of Starchtech International Pte Ltd based in Singapore, is the producer of a new generation of eco-friendly zero-plastic polymer and bag. The zero-plastic film and bags uses sustainable plant based resources including starch from tapioca plant. The eco-friendly bags contain no petroleum-based raw material or polymer like polypropylene, polystyrene, polyethylene etc traditionally found in plastic bags.

The zero-plastic film is applicable as biodegradable dog poop bag, kitchen bin-liner, trash bag, garden and leaf bag, shopping bag, soluble laundry bag and others.

Greenvironment is the OEM supplier for "GreenBio Flushable Dog Poo Bag."

**GREENVIRONMENT**

60 BAYSHORE ROAD 1605, 469982, Singapore
Tel (65) 91174041
E-mail PHILONG7@SINGNET.COM.SG
URL http://www.starchtechnology.com

Available in: Worldwide
Eco-materials // Natural materials

**EM-3-001**

**F1 PLYWOOD MF1PW18 (F1)**

**Environmental performance**

100% made from farmed radiata pine in New Zealand and Australia. Helps reduce deforestation of tropical rainforests and alleviate global warming.

**Product performance**

Ever-New Plywood (Ever-New Square Lumber) is made from farmed conifers in New Zealand by an integrated process of rotary cutting, drying, gluing and hot-pressing. The F1 glue used in the manufacturing process conforms to the free formaldehyde release standards of Europe, USA, and Japan.

Prime Fortune CO., LTD.

No. 452, Chia-Shin Rd., Kangshan District, Kaohsiung City, Taiwan, 820, Republic of China

Tel +886-7-6223181   Fax +886-7-6225531

E-mail sumiao@pftc.com.tw

URL http://www.pftc.com.tw

Available in: Taiwan (Rep. of China)

**EM-3-002**

**KIKORIN-PLYWOOD: An environmentally sound plywood**

**Environmental performance**

KIKORIN-PLYWOOD offers not only high quality as plywood, but also a comprehensive approach to environmental sensitivity. KIKORIN-PLYWOOD is plywood containing at least 50% timber harvested from forests certified by FSC*1 or PEFC*2, or from plantation forests that are sustainably managed. A portion of the revenues from KIKORIN-PLYWOOD is invested in plantation forestry operations. In this fiscal year, investments were made in plantation forestry operations in Indonesia, where Sumitomo Forestry is endeavoring to revitalize degraded forests and bring back the forests.

*1... FSC is a third-party organization that provides a global forest certification system.
*2... PEFC is a forest certification program that promotes sustainable forest management by offering certification from third parties independent of stakeholders.

SUMITOMO FORESTRY CO., LTD.

Keidanren Kaikan, 1-3-2 OTEMACHI, CHIYODA-KU, TOKYO, 100-8270,
Tel +81-3-3214-2220

URL http://sfc.jp/english/

Available in: Japan
### EM-3-003  
**Natural materials**  
**BIOFRONT®, heat resistant polylactic acid**

**Environmental performance**  
BIOFRONT® offers significantly higher heat-resistance and crystallization rate than conventional bioplastics.

**Product performance**  
BIOFRONT® is a stereocomplex PLA that has a melting point of 210°C, or 40°C higher than conventional PLA. Teijin has successfully upgraded BIOFRONT® with substantially improved hydrolytic resistance. These meet practical requirements in industrial markets such as automotive, office equipment and electronics.

*Stereocomplex PLA  
The unique crystal structure composed of L-molecule and its optical isomer D-molecule are behind the new physical properties that include high heat-resistant characteristics.

**Teijin Limited**

2-1, Kasumigaseki 3-chome, Chiyoda-ku, Tokyo, 100-8585, Japan  
Tel +81-3-3506-4096  
E-mail biofront@teijin.co.jp  
URL http://www.teijin.co.jp/english/index.html

### EM-3-004  
**Natural materials**  
**F1 LVL LVL60 (F1)**

**Environmental performance**  
100% made from farmed radiata pine in New Zealand and Australia. Helps reduce deforestation of tropical rainforests and alleviate global warming.

**Product performance**  
Ever-New Plywood (Ever-New Square Lumber) is made from farmed conifers in New Zealand by an integrated process of rotary cutting, drying, gluing and hot-pressing. The F1 glue used in the manufacturing process conforms to the free formaldehyde release standards of Europe, USA, and Japan.

**Prime Fortune CO., LTD.**

No. 452, Chia-Shin Rd., Kangshan District, Kaohsiung City, Taiwan, 820, Republic of China  
Tel +886-7-6223181  
Fax +886-7-6225531  
E-mail sumiao@pftc.com.tw  
URL http://www.pftc.com.tw

Available in: Taiwan (Rep. of China)
### EM-3-005  
**Natural materials**  
**laminated veneer lumber**

**Environmental performance**  
The wood is derived from the artificial forestry developed and managed by the Forest Stewardship Council's principles and standards, and is a form of renewable natural resources.

**Product performance**  
The construction wood product is assembled by a multiple number of thin, single sheets. Better strength, straightness and homogeneity when compared with wood. Suitable for support beam, main structure of doors/windows, and use as construction material.

* FSC™ Certified

**Wand Tsai Industrial Co., Ltd.**

No.55, Hudi, Dalin Township, Chiayi County, Taiwan, 622, Republic of China  
Tel +886-5-2651181  
Fax +886-5-2657169  
E-mail wand.tsai@msa.hinet.net  
URL http://www.wts-ply.com.tw

*Available in: Japan, U.S.A., Taiwan (Rep. of China)*

### EM-3-006  
**Natural materials**  
mixed spun wool yarn

**"OZONE WOOL": Eco-friendly shrink-resistant wool**

**Environmental performance**  
Conventional chlorination treatment applied for shrink-proofing of wool fiber causes environmental contamination.  
This is because residual chlorine in industrial waste water drained into rivers reacts with organic matter and turns into a carcinogen (AOX=Absorbable Halogens), a harmful substance to humans and the environment.  
In OZONE WOOL's case, ozone is used instead of chlorine, which is non-AOX and greatly reduces the burden of contamination to the environment, and further, it has much less damaging effects to wool fiber than done by the conventional chlorine treatment for shrink-proofing.

**Product performance**  
OZONE WOOL is the world first shrink-resistant wool by ozone treatment.  
- Smooth and neat surface look, fluffless  
- Natural stretchability  
- Excellent shrink-resistance  
- Water repellency is retained  
(together with moisture releasing property of wool makes OZONE WOOL comfortable)

**KURABO INDUSTRIES LTD.**

4-31, 2-Chome, Kyutarou-machi, Chuo-ku, Osaka, 541-8581, Japan  
Tel +81-6-6266-5408  
Fax +81-6-6266-5119  
E-mail takaharu_nakayama@kurabo.co.jp  
URL http://www.kurabo.co.jp/english

*Available in: Worldwide*
### EM-3-007

**Mixed yarn, including yarn waste**

**"BREVANO ECO": Anti-flaming, antistatic fabric of ecology-specs**

**Environmental performance**
Fabric made from blending of excellent flameproof acrylic fiber and unused cotton generated during spinning process accounting for 10% of total material.  
- Designated "Eco-Mark certified product", Japan’s environmental label.

**Product performance**
- Having excellent anti-flaming property coupled with self-extinguishing property.  
- **LOI**: limited oxygen index 29 to 32.  
- Excellent in non-fusibility, compared with 100% general synthetic fibers. Safe as it would not stick to skin.  
- Having superior antistatic property. Complying with JIS T 8118:friction static electrical charge less than 7 μ C/m²  
- Refreshing and easy-to-wear, due to their excellent sweat absorption.  
- Will not pill.  
- Good coloring, good color fastness.  

*Note: LOI is a measure to show the degree of flammability. The less flammable, the higher the figure is. Generally, anti-flammable materials show the figure of 26 or higher.

**KURABO INDUSTRIES LTD.**

4-31, 2-Chome, Kyutaro-machi, Chuo-ku, Osaka, 541-8581, Japan  
Tel +81-6-6266-5295  Fax +81-6-6266-5539  
E-mail uniform_sect@kurabo.co.jp  
URL http://www.kurabo.co.jp/english

Available in: Worldwide

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### EM-3-008

**Mixed yarn, including yarn waste**

**"BioNature": Eco-oriented soil-returnable fabric**

**Environmental performance**
Bionature is a fabric made from natural fiber and eco-friendly polyester of DUPONT™.  
Bionature collapses in the compost with which environment was ready. The reduction of its weight and the loss of its molecular weight show the decomposition of Bionature in the compost. Safety is identified from the composts obtained in the decomposition process that have no impact on the earthworm reproduction and plants growth.

**Product performance**
The physical properties are strengthened without spoiling the biodegradation of natural materials, such as cotton and wool.

**KURABO INDUSTRIES LTD.**

4-31, 2-Chome, Kyutaro-machi, Chuo-ku, Osaka, 541-8581, Japan  
Tel +81-6-6266-5295  Fax +81-6-6266-5539  
E-mail uniform_sect@kurabo.co.jp  
URL http://www.kurabo.co.jp/english

Available in: Worldwide

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**EM-3-009 Natural materials**

**"Return Cotton": An eco-friendly material for a sound recycling society**

**Environmental performance**

Return Cotton is produced using our unique technology by recycling various unused fibers such as waste cotton generated in the cotton-spinning process accounting for 10% or more of total material. This is an eco-friendly material aimed at helping to achieve a sound recycling society.
- Designated "Eco Mark certified product", Japan's environment label.

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**EM-3-010 Natural materials**

**"EARTHDENIM": New feel denim born from our Eco-oriented research.**

**Environmental performance**

EARTHDENIM makes effective reuse of waste from each stage of production.
- EARTHDENIM is made by recycling denim production waste.
- A pair of jeans made of EARTHDENIM reduces CO₂ in a quantity equivalent to the quantity absorbed by about 180 four-leafed-clovers a year.

**Product performance**

It makes possible a super dark blue color as unmatched by normal dyeing. And it contributes to reduction of CO₂.
- Super dark blue and White core

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**KURABO INDUSTRIES LTD.**

4-31, 2-Chome, Kyutaromachi, Chuo-ku, Osaka, 541-8581, Japan
Tel +81-6-6266-5295  Fax +81-6-6266-5539
E-mail uniform_sect@kurabo.co.jp
URL http://www.kurabo.co.jp/english

Available in: Worldwide

**KURABO INDUSTRIES LTD.**

4-31, 2-Chome, Kyutaromachi, Chuo-ku, Osaka, 541-8581, Japan
Tel +81-6-6266-5324  Fax +81-6-6266-5204
E-mail casual_sect@kurabo.co.jp
URL http://www.kurabo.co.jp/english

Available in: Worldwide
Labeling Particle Board Products with Carbon Footprint Mark

**Environmental performance**
In October 2009, P.T. Rimba Partikel Indonesia (RPI), an Indonesian affiliate of Sumitomo Forestry Co., Ltd. engaged in the manufacture and sale of wood building materials, began labeling its particle board (PB) products with a carbon footprint (CFP) mark and became the first Indonesian firm to use CFP labeling. The PB manufactured by RPI are eco-friendly in that they effectively utilize wood leftover from logging and sawdust together with timber from company-owned plantations. PRI adopted wood biomass power generation technologies in 2008. That shift enabled it to begin producing its PB through manufacturing processes using clean energy with low CO2-emission. Although the labeling practice is voluntary, the company plans to devote study to the idea of utilizing the CFP framework now being advocated for future market entrants.

※The number of CFP explains its CO2 emissions per ɾ of PB.

**PT. Rimba Partikel Indonesia**
P.O.Box. 127 KENDAL Desa. Mororejo, Kaliwungu, Kendal, Jawa Tengah, 51372, Indonesia
Tel +62-248662990  Fax +62-248662988
URL http://www.rpi.co.id/

Available in: Indonesia, China

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**Plywood UA240-11, UA210-11, UA180-09, UA150-09, UA120-09, UA090-07, etc.**

**Environmental performance**
The wood is derived from the artificial forestry developed and managed by the Forest Stewardship Council’s principles and standards, and is a form of renewable natural resources.

**Product performance**
The paneling material produced from bonding thin, single timber sheets is characterized by tearing, contraction, warp resistance and high strength. It is applied in:
* Flooring, walls and ceilings.
* Decorating.
* Packaging.
* Building construction.
* FSC™ Certified

**Wand Tsai Industrial Co., Ltd.**
No.55, Hudi, Dalin Township, Chiayi County, Taiwan, 622, Republic of China
Tel +886-5-2651181  Fax +886-5-2657169
E-mail wand.tsai@msa.hinet.net
URL http://www.wts-ply.com.tw

Available in: Japan, U.S.A., Taiwan (Rep. of China)
**EM-3-013 Natural materials**

**straw-mats and mat bases**

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**“Kanryoso” stronger skin rush**

*Environmental performance*

Rush is widely known as a material of “tatami” in Japanese housing. The features of “tatami” are not only the fragrance and strength, but also humidity control. In addition, it has been lately found that rush has a function of adsorbing chemical substances and of deodorizing. (Ex. NH₃ 99.3% CH₃COOH 95.6%) The “Kanryoso®” rush has stronger skin compared with the previous rush, (ref., the photograph of electron-microscopy). This is a result of cultivation in which the intrinsic activity of rush has been fully leveraged. Every piece of the rush is thick and uniform.

*Product performance*

Because of its strength the life of products made from “Kanryoso®” is long. Rush is a plant that grows by taking CO₂ into its body. Namely, the long-life “Kanryoso®” product fixes CO₂ for a longer period than conventional products. We are therefore contributing to the fixation of CO₂ by raising young rushes.

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**IKEHIKO CORPORATION Co.,Ltd.**

1052 Miyamatsu, Ooki-machi, Mizuma-gun, Fukuoka, 830-0424, Japan
Tel +81-944-32-1203 Fax +81-944-33-1059
URL http://www.ikehiko.com

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Available in: Japan
Eco-materials // Ceramics and glass

**EM-5-001 Ceramics and glass**

**TG Insulating Glass TG-IL (F.GR-TLE62#2+CL) (6+12AS+6) mm**

**Environmental performance**
It has a high light transmittance ratio, low refractive ratio, high heat insulation, and is environmentally friendly and energy-saving.

**Product performance**
With a high transmittance ratio on visible light spectrum of 380nm to 780nm, it helps to reduce the use of interior lighting to save on energy. With a higher refraction ratio on infrared ray (at wave lengths between 780~3000nm), particularly in completely refracting the infrared ray with a longer wavelength (at wave lengths over 3000nm), it cut off the entry of voluminous heat, making the interior feels cooler to achieve winter warmth and summer cooling effect.

**Taiwan Glass Ind. Corp.**
Taiwan Glass Building 11F., No.261, Sec.3, Nanjing E Road, Taipei City, Taiwan, 105, Republic of China
Tel +886-4-26390333-4321 Fax +886-4-26390332
E-mail tf@taiwanglass.com
URL http://www.taiwanglass.com

Available in: Japan, Asia, Oceania, Europe, North America, Southeast Asia, Middle and Near East, U.S.A., Republic of Korea, Taiwan, Rep. of China, China, South Africa

**EM-5-002 Ceramics and glass**

**TG Insulating Glass TG-IL (F.GR-TLE72#2+CL) (10+12AS+10) mm**

**Environmental performance**
It has a high light transmittance ratio, low refractive ratio, high heat insulation, and is environmentally friendly and energy-saving.

**Product performance**
With a high transmittance ratio on visible light spectrum of 380nm to 780nm, it helps to reduce the use of interior lighting to save on energy. With a higher refraction ratio on infrared ray (at wave lengths between 780~3000nm), particularly in completely refracting the infrared ray with a longer wavelength (at wave lengths over 3000nm), it cut off the entry of voluminous heat, making the interior feels cooler to achieve winter warmth and summer cooling effect.

**Taiwan Glass Ind. Corp.**
Taiwan Glass Building 11F., No.261, Sec.3, Nanjing E Road, Taipei City, Taiwan, 105, Republic of Korea
Tel +886-4-26390333-4321 Fax +886-4-26390332
E-mail tf@taiwanglass.com
URL http://www.taiwanglass.com

Available in: Japan, Asia, Oceania, Europe, North America, Southeast Asia, Middle and Near East, Republic of Korea, Taiwan (Rep. of China), China, South Africa
Environmental performance
There are more than 100 types of optical glass, and in the past, generally, lead and arsenic have been used in most of them as constituents. However, these two elements have high risks to cause the environment pollution.
So, Nikon has developed nearly full types of optical glass not containing these two elements, and has applied them to Nikon’s optical products wholly.

Product performance
Optical glass has, in general, high transmission, high homogeneity and optical constants, and is used for lenses or prisms of various types of optical products, for example, cameras, microscopes, etc.
In Nikon, optical glasses have been developed under cooperation with optical design division, and Nikon has established production technologies and mass-production structure based on Nikon’s own glass production equipments. And, high quality of optical glasses produced by them have contributed to high performances of Nikon’s products.

NIKON CORPORATION
Shin-Yurakucho Bldg., 12-1, Yurakucho 1-chome, Chiyoda-ku, Tokyo, 100-8331, Japan
Tel +81-3-3214-5311
URL http://www.nikon.com/
URL http://www.nikon.com/about/csr/nikon-csr/index.htm

Available in: Worldwide

Lenses and prisms made of Eco-glass

Glasmstone Green Building Material

Environmental performance
Using scrapped glass for recycled and regenerative manufacturing.

Product performance
A surface furbishing material, it enriches the building surface with diversity, including rich colors, the glass’s translucent texture and the like.

Taibao Glass Industrial Co., Ltd.
No. 97, Sec.2, Yen-Ping Road, Hsin-Chu City, Taiwan, 300, Republic of China
Tel +886-3-540-2851 Fax +886-3-540-2858
E-mail taibaog@ms69.hinet.net
URL http://www.taibao.com.tw

Available in: Worldwide
Eco-materials // Ceramics and glass

**EM-5-005**

Ceramics and glass

VCEM brand, ground granulated blastfurnace slag (GGBS)

**Environmental performance**

GGBS's raw material is a by product of the iron-making industry derived from iron blast furnaces. The manufacture of GGBS reduces landfill problems and cuts gas emissions at steel plants. Every ton of GGBS reduces almost 1 ton of CO₂ by replacing Ordinary Portland Cement, a material normally used in concrete. Every ton of GGBS produced consumes only 10% of the energy required to produce 1 ton of OPC.

**Product performance**

Using GGBS in concrete improves workability, high compressive and flexural strengths, and resistance to damaging / aggressive chemicals. GGBS lowers permeability in concrete, therefore reducing the potential for reinforcing steel to corrode when exposed to chlorides. GGBS's off-white color reduces the "urban heat island" effect by making lighter-color concrete, enabling it to reflect more light and cooling structures and pavements with exposed concrete.

**EnGro Corporation Ltd**

29 International Business Park, #08-05/06 Acer Building Tower B, 609923, Singapore

Tel 65-6561 7978  Fax 65-6561 9770

E-mail vincent.loh@engro-global.com

URL http://www.engro-global.com

URL http://www.vcem-global.com

Available in: Worldwide

**EM-5-006**

Ceramics and glass

scientific and industrial fine ceramics

Long Life, High Reliability and Anticorrosion Minimize Environmental Impacts

**Environmental performance**

- Mitigation of climate change: Reduction in the rotational energy loss of ball bearings.
- Efficient use of resources: Resource saving as a result of longer ball bearing life (5 times longer compared to steel bearing). Reduction in the waste of worn-out bearings because our ceramic bearings do not require frequent replacement.
- Management of chemicals: Environmentally beneficial reduction in the amount of bearing grease required.

**Product performance**

- Maintenance saving: Easy maintenance thanks to a highly durable and reliable generator bearing system which is substantially free from electric corrosion because of its ceramic balls' good insulation property.

**Toshiba Materials Co., Ltd.**

1-1, Shibaura 1-Chome, Minato-Ku, Tokyo, 105-8001, Japan

Tel +81-3-3457-4875  Fax +81-3-5444-9235

URL http://www.toshiba.co.jp/index.htm

URL http://www.toshiba-tmat.co.jp/tmat/corp/env.htm
Marine Block

Environmental performance

JFE has been developing restoration technologies for marine environments by utilizing steel slag, which is a byproduct of manufacturing. Porous Marine Block, which is JFE’s block product made from steel slag and CO₂ through a solidification reaction, has been adopted for coral reef restoration works in Sekisaishoko on a trial basis. So far, good results have been observed. Marine Block has also been used in rejuvenation experiments for seaweed reefs close to Japan because of its excellent performance as an implantation base for seaweed.

JFE Steel Corporation

2-3, Uchisaiwai-cho 2-chome, Chiyoda-ku, Tokyo, 100-0011, Japan
Tel +81-3-3597-3111  Fax +81-3-3597-4860
URL http://www.jfe-steel.co.jp/
**Eco-materials // Composites**

### EM-6-001

**Composites**

**Water-based emulsion adhesive products with various foams "AH sheet"**

**Environmental performance**

Ever-light AH sheet is a kind of product combined with flexible urethane foam technique and the latest adhesion technique. It is a flexible high performance polyurethane sheet with adhesive on it. By using this sheet, it becomes easier to adhere requested foam with other substances. Conventional organic solvent product may cause air pollution and result in sickhouse syndrome. Instead of organic solvent, water is used to make AH sheet a water-based emulsion adhesive which is unhararmful. Removable Ever-light AH sheet for industrial use has been developed as well for the purpose of reuse of parts and release or separate of unnecessary parts.

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**Bridgestone Corporation**

1-6-6, Yaesu, Chuo-ku, Tokyo, 103-0028, Japan
Tel +81-3-5202-6830 Fax +81-3-5202-6833
URL http://www.bridgestone.com

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### EM-6-002

**Composites**

**Recycled wood (Toppan Material Wood)**

**Environmental performance**

Toppan Material Wood is a recycled industrial material made entirely from waste and waste plastic. This industrial material can be re-crushed and recycled time and time again with no change in its original form and function.

**Product performance**

High processability.
Steady strength.
High strength.
Anti-bacillus corrosion.
Water-proofing, weather resistant.

"TOPPAN MATERIAL WOOD" is a product sold by Toppan Cosmo, Inc. that employs ECO-M-WOOD, a product for which ECOWOOD Co. Ltd. has acquired an Ecomark authorization number.

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**TOPPAN COSMO, INC.**

Toppan Shibaura Building, 26-19-3, Shibaura, Minato-ku, Tokyo, 108-8536, Japan
Tel +81-3-5418-3616 Fax +81-3-5418-3674
E-mail eco@toppan.co.jp
URL http://www.toppan.co.jp/english/csr/csrreport.html

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**EM-6-003**  
**Composites**  
rubber-reforming material

**Sulfron**® improves fuel consumption and enhances the durability of tires

**Environmental performance**
Sulfron® contributes to automobiles CO₂ reduction by a 5% improvement in fuel consumption.

**Product performance**
Sulfron®, a modified aramid derived from Twaron®, is a unique rubber ingredient that has been chemically processed from cut fiber. When absorbed by the tread of a tire, it disperses inside the rubber and as it conforms to the rubber, the tire becomes more durable. It also reduces rolling resistance, which improves fuel efficiency.

Performance of Sulfron:
1. Improves fuel consumption by 5%
2. Increases tire durability by suppressing heating while moving
3. Prevents tire tread cracking

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**Teijin Aramid BV**

Westervoortsedijk 73 P.O.Box 9600 6800 TC Arnhem, The Netherlands, 100-8585, Japan  
Tel +31-26-366-4396 Fax +31-26-366-4110  
E-mail t.i@teijin.co.jp  
URL http://www.teijinaramid.com/

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**EM-6-004**  
**Composites**  
tile adhesive

**5rainbow Tile Adhesive 5368**

**Environmental performance**
Compliant with seven major heavy metal waste standards.

**Product performance**
Suitable as a super high-rise buildings’ interior and exterior furnishing building material, such as mineral fiber boards, plaster boards and related paneling surface layer bonded with a variety of furnishing materials, such as ceramic tiles, stone materials and so forth, with excellent workability, dynamic surface adhesion, high shock resistance, and with water-resistant property.

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**Wan Jin Trading Co., Ltd.**

1F., No. 9, Alley 7, Lane 252, Sec. 3, Zhongyang N. Rd., Beitou Dist., Taipei City, Taiwan, 11257, Republic of China  
Tel +886-2-2891-6338 Fax +886-2-2896-3203  
E-mail support@5rainbow.com.tw  
URL http://www.5rainbow.com.tw

Available in: Taiwan (Rep. of China)
### EM-7-001 Eco-materials // Others

#### ENiTö Deco Panels

**Environmental performance**
Made from recycled Coconut Shells, bamboo, cinnamon, and banana bark

**Product performance**
- Applications
  - Wall decorations
  - Counter/Table tops
  - Furniture components
  - Head boards
  - Lift lobby

#### ENiTö Flooring Pte Ltd

56 Serangoon North Ave 4 #06-04, 555851, Singapore
Tel 64884595  Fax 65 6257 6591
E-mail info@enitoflooring.com
URL http://www.enitoflooring.com

**Available in:** Worldwide

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### EM-7-002 Eco-materials // Others

#### Coconut Palm Wood Flooring

**Environmental performance**
ENiTö Coconut Palm Wood Flooring is made from 100% recycled solid Coconut Timber.
ENiTö use Coconut Palm Wood from senile coconut trees in well managed plantations. Unlike composite wood products ENiTö Coconut Palm Wood Flooring are reusable and 100% biodegradable.
- Prefinished/Unfinished
- Solid timber strips
- No toxic-emissions (EN 14823 approved)
- No content and/or transmission of hazardous materials (N71-3)
- ECO approved coating systems
- No formaldehyde
- No VOC emission

**Product performance**
- Applications
  - Commercial
  - Residential
  - Ceilings
  - Wall Paneling
- Prefinished Coating
  - Wear & Impact resistance
  - Scratch & Stain resistance
  - Water & Slip resistance

#### ENiTö Flooring Pte Ltd

56 Serangoon North Ave 4 #06-04, 555851, Singapore
Tel 64884595  Fax 65 6257 6591
E-mail info@enitoflooring.com
URL http://www.enitoflooring.com

**Available in:** Worldwide
Eco-materials // Others

EM-7-003

Polycrystalline Silicon (Materials for solar power systems)

Environmental performance
Global warming is an urgent issue not only for human beings but also any lives on the globe now. We are contributing to preservation and restoration of the natural environment on the earth by supplying polycrystalline silicon.

Product performance
We are producing polycrystalline silicon for semiconductor and solar cell from metallurgical silicon by Siemens process. The polycrystalline silicon for solar cells is a major raw material for photovoltaic industry and the energy generated from solar cells is clean without any generation of CO₂.

Mitsubishi Materials Corporation (Yokkaichi Plant)

5 Mita-cho, Yokkaichi, Mie, 510-0841, Japan
Tel +81-59-345-5191  Fax +81-59-346-5815
E-mail toishii@mmc.co.jp

Available in: Japan, Asia, Europe, Southeast Asia, U.S.A, China

EM-7-004

Reclaimed Graded Materials for Road Engineering (E-Aggregate)

Environmental performance
The e-grade materials have the "three-e" benefits, in which "three-e" stands for environment, engineering and economy, as explained below:
1. Environment:
   (1) Lower the demands of landfill sites and prevent wasteful use of land.
   (2) Reduce the excavation of river sand and land sand.
   (3) Avoid secondary pollution.
2. Engineering:
   (1) Minimize wasteful use of resources.
   (2) Allow clean production processes and reduce CO₂ emissions.
   (3) Meet the Green Construction policy and are economically efficient.
3. Economy:
   (1) Valuable substances are recycled.
   (2) Resources are used sustainably.

Product performance
Particle size analysis shows that e-grade reclaimed construction materials are well-graded sandy soil-SW (USCS) or A-1-b (AASHTO), which has good permeability, shear strength, compressibility and workability, and is suitable for use as the material of structure foundations or road bases. They are also good for use as a controlled low-strength material and can be mixed with non-reinforced concrete, asphalt concrete, and brick materials.

Run-Long Construction Co., Ltd.

No.220, Dechang St., Yingge Dist., New Taipei City, Taiwan, 239, Republic of China
Tel +886-2-2678-0666-305  Fax +886-2-2670-6406
E-mail fank@runlong.com.tw
URL http://www.runlong.com.tw/

Available in: Worldwide
Eco-materials // Others

**EM-7-005**

R3plas eco-label recycled plastic products (turn-key projects)

**R3plas Eco-label recycled Plastic Products (Turn-Key Projects)**

**Environmental performance**
R3plas Recycled resin closed loop system, R3plas Oxo-Biodegradable Packaging, R3plas Spectacle box and R3plas Eye wear made from post closed loop recycling system from post industrial waste and consumer waste.

**Product performance**
International Design Awards
Green Label Awards
Meet ASTM standards
Support ISO14000 and Green purchasing requirement

**WINRIGO (S) PTE LTD**

No. 21 Toh Guan Road East #04-09 Toh Guan Centre, 608609, Singapore
Tel +6598715058 Fax +6565154557
E-mail salewin@sinnet.com.sg
URL http://www.winrigo.com.sg

Available in: Worldwide

**EM-7-006**

regenerated non-ferrous pig metals and non-ferrous alloys

Columnar-crystal large-diameter silicon for solar cell and silicon parts

**Environmental performance**
From the view-point of the global environmental problems, the product contributes to energy saving and CO2 emission reduction as solar cells. Our product is superior in the efficiency of component manufacturing owing to its large diameter (square type: 1050 × 1050mm, circular type: Φ1050). This reveals an environmentally low-load manufacturing process.

**Product performance**
The product is excellent in machining characteristics, mechanical strength, and chemical resistance, compared with the poly-crystal products prepared by other methods. Moreover, it has the performance at almost the same level as that of single crystal. It is therefore expected as a substitute in the field where the single crystal has been used. Since a large-diameter product can be made, the demand for columnar silicon crystal is rapidly increasing in fields where SiC, quartz and carbon have been used.

**Mitsubishi Materials Electronic Chemicals Co., Ltd.**

3-1-6 Barajima, Akita City, Akita, 010-8585, Japan
Tel +81-18-864-6011 Fax +81-18-864-4002

Available in: Worldwide
## Coconut Palm Wood Timber

### Environmental performance
- 100% Solid Coconut Timber
- 100% Biodegradable
- 100% Recycled Material
- High density

### Product performance

**Applications**
- Fencing
- Benches
- Window/Door Frames

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### ENiTo Flooring Pte Ltd

56 Serangoon North Ave 4 #06-04, 555851, Singapore  
Tel 64884595    Fax 65 6257 6591  
E-mail info@enitoflooring.com  
URL http://www.enitoflooring.com  

Available in: Worldwide
In the Eco-products Directory 2012, “eco-components” refer to “environment-friendly components and functional parts assembled using such components.” Eco-components include components that have only low environmental impact when manufactured and components that enable finished (assembled) products to help reduce environmental impact. For example, vacuum insulation materials can be used in refrigerators to achieve energy savings. Components are often called “half-finished products” relative to “finished products,” i.e., many are used in finished products.

Like eco-materials, environmental impact reduction throughout the life cycle is a key point for eco-components. Hence, the six criteria under the definition of eco-materials (see the page titled “Eco-materials” in the directory) also partly apply to eco-components. For example, when eco-components can provide “high performance when used,” they can increase the energy saved by finished products. The reuse of components as functional parts is a good example of “high recyclability.” It should be noted, however, that various requirements must be met prior to the reuse of used components, e.g., in terms of long life, quality, and reliability.
**Eco-components // Construction**

### EC-1-001

**Construction**

double thermal barriers

**Multi-functional solar control interlayer film for laminated glass "COOLSAFE"**

**Environmental performance**

The COOLSAFE product combines heat shield film with coating technology with adhesive film for solar modules*1 (EVA film*2). COOLSAFE helps effectively block solar heat maintain consistent room temperatures and enable the efficient use of air conditioning thereby conserving energy (reduce energy consumed for air-conditioning by up to 22%). COOLSAFE also features enhanced shatterproof and penetration resistance*3 properties should the glass be broken.

*1 These are adhesive films used to fasten solar cells to the glass bases of solar modules and protect the silicon cells.

*2 EVA (Ethylene Vinyl Acetate) film has waterproof nature and strength against UV rays, used to fasten silicon cells to glass surfaces through heat-induced molecular binding.

*3 Penetration resistance complies with the following specifications: JIS R3205 in Japan, EN12600 in Europe, and ANSI Z97.1 in the United States.

**Bridgestone Corporation**

6-6, Yaesu 1-chome, Chuo-ku, Tokyo, 103-0028, Japan
Tel +81-3-5202-6907  Fax +81-3-5202-6842
URL http://www.bridgestone.com

### EC-1-002

**Construction**

fiber materials

**Shagarl, eco-friendly material made of dope-dyed plastic-bottle-derived fibers**

**Environmental performance**

*Eco Mark certificate number 05104041 (95% Recycled PET Fiber)
*100% recycled plastic bottle material
*No formaldehyde
*A 50m roll is comprised of 800 half-litter PET bottles
*Excellent in energy conservation (Air-conditioning electricity bills are reduced by 70% with external sun-shading)

**Product performance**

*Fireproof (authorized by the Japan Fire Retardant Association [JFRA] as Flame-retardant product): Flame retardant product
*Excellent weather resistance (solution-dyeing fibers are used)
*Waterproof property (resistance to 1000mm of water pressure)

**N.I. TEIJIN SHOJI CO.,LTD.**

Sumitomo Fudosan Shibadaimon Bldg, 5-5, Shibadaimon 2-chome, Minato-ku, Tokyo, Japan
Tel 03-6402-7013
E-mail smatsumoto44541@ni-teijinshoji.co.jp
URL http://www2.ni-teijinshoji.co.jp
URL http://tent.teijin.co.jp
URL http://www.teijin.co.jp

Available in: Japan Shagarl for awning
### EC-1-003

**Reftel®, Highly Transparent, Heat Insulating Film**

**Environmental performance**
Reftel® contributes to the energy conservation of air conditioning by intercepting the heat rays entering indoors from windows.

**Product performance**
Reftel® is the world's first highly transparent and heat reflective insulating film developed by Teijin. It is made by coating Teijin's polyester (PET) film with ultra thin metal layers using a sputtering method. It has a selective heat and light transmittance, and gives higher transparency, higher heat shielding and better durability compared with aluminum vapor deposited films, colored films or IR (Infrared) absorbing films. It is hardly noticeable when it is installed on a glass window because it has a 60 to 80% transmittance of visible light. There are a variety of grades which have different solar energy transmittance to meet any requirement. It has high infrared reflectivity and thus yields high energy saving effectiveness.

*Reftel® is a registered trademark of Teijin DuPont Films Japan Ltd.*

#### N.I. TEIJIN SHOJI CO., LTD.

Sumitomo Fudosan Shibadaimon Bldg, 5-5, Shibadaimon 2-chome, Minato-ku, Tokyo, 105-0012, Japan
Tel +81-3-6402-7006 Fax +81-3-6402-7071
E-mail ykandoh44605@ni-tejinshoji.co.jp
URL http://www.teijin.co.jp/english/index.html
URL http://www.teijin.co.jp/english/about/reftel/default.htm

![Structure and effect of Reftel®](image)

### EC-1-004

**High-Damping Seismic Isolation Rubber Bearing**

**Environmental performance**
High damping rubber bearing (H-RB), which is a type of seismic isolation bearings and provides damping characteristics by special rubber compound, is recognized as “low environmental impact” rubber bearings in terms of construction management because there is no need for using additional dampers, such as steel, or lead dampers. Bridgestone is committed to the development of H-RB from an early stage, has been providing products to the market in the past. Newly developed "H-RB (X0.6R)" has significantly reduced load-history dependency (change of properties by repeated loading cycles), and improved damping characteristics with minimized temperature dependency.

#### Bridgestone Corporation

6-6, Yaesu 1-chome, Chuo-ku, Tokyo, 103-0028, Japan
Tel +81-3-5202-6865 Fax +81-3-5202-6848
URL http://www.bridgestone.com
### EC-1-005

**INTERIOR ACRYLIC EMULSION PAINT (FLAT) CP-35**

**Environmental performance**
Low TVOC emission, low formaldehyde, low heavy metal content, no asbestos, no radioactive substance, harmless to human health, and in conformity with the standards of Green Building Material.

**Product performance**
This product is suitable for use as a protective or decorative paint for indoor walls, ceilings, partitions, etc.

**HSIN MEI HUA PAINT FACTORY CO., LTD.**
No. 39, Lianhua St., Bade City, Taoyuan County, Taiwan, 33452, Republic of China
Tel +886-3-3683266  Fax +886-3-3687840
E-mail star.coating@msa.hinet.net
URL http://www.starcoating.com.tw

Available in: Taiwan (Rep. of China)

### EC-1-006

**INTERIOR ACRYLIC EMULSION PAINT CP-44**

**Environmental performance**
Low TVOC emission, low formaldehyde, low heavy metal content, no asbestos, no radioactive substance, harmless to human health, and in conformity with the standards of Green Building Material.

**Product performance**
This product is suitable for use as a protective or decorative paint for concrete walls of buildings.

**HSIN MEI HUA PAINT FACTORY CO., LTD.**
No. 39, Lianhua St., Bade City, Taoyuan County, Taiwan, 33452, Republic of China
Tel +886-3-3683266  Fax +886-3-3687840
E-mail star.coating@msa.hinet.net
URL http://www.starcoating.com.tw

Available in: Taiwan (Rep. of China)
### EC-1-007

#### NANOMETER EMULSION COATING (WATER BASE) NE-01

**Environmental performance**

Low TVOC emission, low formaldehyde, low heavy metal content, no asbestos, no radioactive substance, harmless to human health, and in conformity with the standards of Green Building Material. Produces a photocatalytic effect when subjected to fluorescent or ultraviolet light. Has sterilizing and deodorizing functions. Achieves air purification and deodorization by decomposing organic matter and cigarette smell, with a deodorization rate of 75% or above. A nanoMark deodorizing product certified by the Industrial Development Bureau of the Ministry of Economic Affairs, Taiwan.

**Product performance**

This product is suitable for use as an eco-friendly nano-grade paint/final coating for concrete walls of residential houses, office buildings, hotels, hospitals, department stores, villas, etc. and for concrete products.

#### HSIN MEI HUA PAINT FACTORY CO., LTD.

No. 39, Lianhua St., Bade City, Taoyuan County, Taiwan, 33452, Republic of China
Tel +886-3-3683266  Fax +886-3-3687840
E-mail star.coating@msa.hinet.net
URL http://www.starcoating.com.tw

Available in: Taiwan (Rep. of China)

### EC-1-008

#### EPOXY COATING (WATER BASE) EP-59

**Environmental performance**

Low TVOC emission, low formaldehyde, low heavy metal content, no asbestos, no radioactive substance, harmless to human health, and in conformity with the standards of Green Building Material.

**Product performance**

Suitable for use as an epoxy primer or final coating for the maintenance or decoration of steel decks, concrete walls and asbestos plates in hospitals, electronic factories, etc.

#### HSIN MEI HUA PAINT FACTORY CO., LTD.

No. 39, Lianhua St., Bade City, Taoyuan County, Taiwan, 33452, Republic of China
Tel +886-3-3683266  Fax +886-3-3687840
E-mail star.coating@msa.hinet.net
URL http://www.starcoating.com.tw

Available in: Taiwan (Rep. of China)
### EC-1-009

**INTERIOR ACRYLIC EMULSION PAINT CP-77**

**Environmental performance**
Low TVOC emission, low formaldehyde, low heavy metal content, no asbestos, no radioactive substance, harmless to human health, and in conformity with the standards of Green Building Material.

**Product performance**
This product is suitable for use as a protective or decorative paint for concrete walls of buildings.

**HSIN MEI HUA PAINT FACTORY CO., LTD.**

No. 39, Lianhua St., Bade City, Taoyuan County, Taiwan, 33452, Republic of China  
Tel +886-3-3683266  Fax +886-3-3687840  
E-mail star.coating@msa.hinet.net  
URL http://www.starcoating.com.tw

Available in: Taiwan (Rep. of China)

### EC-1-010

**Ching Yeh 1000 Flat Masonry Paint**

**Environmental performance**
*Low Pollution:  
Aromatic Hydrocarbon content <1% (weight)  
*Green Building Material:  
Exposure assessment of HCHO: 0.002 mg / m² .hr  
Exposure assessment of TVOC: 0.020 mg / m² .hr

**Product performance**
1. Durable and washable.  
2. Yellowing-resistant, no color fading, fungal resistant, anti-alkali.  
3. Easy to apply.  
4. Can make the painting surface fine and gentle.  
5. Excellent cover with elegant color.

**SHAN YEH PAINT INDUSTRIAL CO., LTD.**

No. 207-1, Hung-Tzuen Rd., Ping Jen City, Taoyuan County, Taiwan, 324, Republic of China  
Tel +886-3-4509121-305  Fax +886-3-4509161  
E-mail lisalin@chingyehpaint.com.tw  
URL http://www.chingyehpaint.com.tw/Contact.htm

Available in: China
<table>
<thead>
<tr>
<th><strong>EC-1-011</strong></th>
<th>Construction paints</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ching Yeh 202 Flat Masonry Paint</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Environmental performance</strong></td>
<td></td>
</tr>
<tr>
<td><em>Low Pollution: Aromatic Hydrocarbon content &lt;1% (weight)</em></td>
<td></td>
</tr>
<tr>
<td><em>Green Building Material: Exposure assessment of HCHO: 0.002 mg / m² . hr</em></td>
<td></td>
</tr>
<tr>
<td><em>Green Building Material: Exposure assessment of TVOC: 0.085 mg / m² . hr</em></td>
<td></td>
</tr>
<tr>
<td><strong>Product performance</strong></td>
<td></td>
</tr>
<tr>
<td>1. Durable and washable.</td>
<td></td>
</tr>
<tr>
<td>2. Yellowing-resistant, no color fading, fungal resistant, anti-alkali.</td>
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<tr>
<td>3. Easy to apply.</td>
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<tr>
<td>5. Excellent cover with elegant color.</td>
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<td></td>
</tr>
<tr>
<td>No. 207-1, Hung-Tzuen Rd., Ping Jen City, Taoyuan County, Taiwan, 324, Republic of China</td>
<td></td>
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<tr>
<td>Tel +886-3-4509121-305 Fax +886-3-4509161</td>
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<tr>
<td>E-mail <a href="mailto:lisalin@chingyehpaint.com.tw">lisalin@chingyehpaint.com.tw</a></td>
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<tr>
<td>URL <a href="http://www.chingyehpaint.com.tw/Contact.htm">http://www.chingyehpaint.com.tw/Contact.htm</a></td>
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<tr>
<th><strong>EC-1-012</strong></th>
<th>Construction paints</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emulsion Paint</strong></td>
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<tr>
<td><strong>Environmental performance</strong></td>
<td></td>
</tr>
<tr>
<td><em>Low Pollution: Aromatic Hydrocarbon content &lt;1% (weight)</em></td>
<td></td>
</tr>
<tr>
<td><em>Green Building Material: Exposure assessment of HCHO: N.D.</em></td>
<td></td>
</tr>
<tr>
<td><em>Green Building Material: Exposure assessment of TVOC: 0.081 mg / m² . hr</em></td>
<td></td>
</tr>
<tr>
<td><strong>Product performance</strong></td>
<td></td>
</tr>
<tr>
<td>1. Durable and washable.</td>
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<td>2. Yellowing-resistant, no color fading, fungal resistant, anti-alkali.</td>
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<td></td>
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<tr>
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<td>Available in: China</td>
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</table>
Eco-components // Construction

EC-1-013

Excellent Insulation, High Radiant Reflectivity, Energy Saving, Prevents Condensation, Non-combustible Coating

**Environmental performance**

The product contains no carcinogens or volatile organic compounds. CCS100 is superior environmental barrier, it conforms directly to the surface of several type style substrates providing a weather barrier and eliminating places that could harbour bugs or rodents. Effectively reduces energy consumption that leads to minimizing carbon footprint. The product is tested safe to human and the environment proved by many testing laboratories across the globe.

**Product performance**

It lowers the consumption of electricity while providing maximum thermal comfort by containing the heat and coldness of the temperature according to what is needed. It protects and prolongs the life of the surface by protecting against corrosion, condensation and ultraviolet rays.

**Transvert Green Solutions Pte. Ltd.**

48 Hillview Terrace 06-05 Hillview Building, 669269, Singapore
Tel 65-6863-9011  Fax 65-6765-5382
E-mail greensolutions@transvert.com.sg
URL http://www.transvert.com.sg
URL http://www.transvert.com.sg/greensolutions

Available in: Indonesia, Singapore, Thailand, Malaysia

EC-1-014

straw-mats and mat bases

"Air-nice," a Plastered Wall Material using Rush and Natural Materials

**Environmental performance**

Rush is used in Japanese housing as "tatami," which is known to help with humidity control. In general, until the completed "tatami" mat is woven up, one-third of the rush is emitted as waste. Recently, it has been proven that "tatami" adsorbs chemical substances such as NO₂ and HCHO. (Ex.NO₂, 99.5% absorb)

With this in mind, we pulverized the waste, of rush mixed with natural materials and made a plastered wall material as a commercial product. Completed was a wall material that gives a warm atmosphere which is not felt from usual plaster and diatomaceous earth.

**Product performance**

The new product regulates the indoor environment by humidity control and adsorption, and restrains the emission of CO₂ by preventing the incineration of waste. As for air-tight houses, the influence of chemical substances on the human body is a serious matter. By using the rush wall-material, we can improve living conditions.

**IKEHIKO CORPORATION Co., Ltd.**

1052 Miyamatsu, Ooki-machi, Mizuma-gun, Fukuoka, 830-0424, Japan
Tel +81-944-32-1203  Fax +81-944-33-1059
URL http://www.ikehiko.com

Available in: Japan
EC-1-015

EPnS Water-Based Clear Sealer EP-001 Type II

Environmental performance
- Free of any of the eight major heavy metals, formaldehyde, benzene solvents, or other toxic substances. SGS tested to be in conformity with the highest level environmental protection standards such as the E0 Standard of the European Union and the F1 Standard of Japan.
- Will not produce any pungent odor or make any negative impact on the environment of the construction site during application.

Product performance
- A liquid paint ready for use without need to add any thinner. Therefore, the effort and time otherwise required for adding a thinner on site is spared.
- Easy to sand. Excellent gap-filling ability. High paint film fullness (good film build).
- Surface dries in ten minutes (at 25°C and 50% relative humidity).
- Re-paintable or be sanded in one hour (at 25°C and 50% relative humidity).
- No white fog phenomenon when applied on a rainy (high relative humidity) day; therefore, application efficiency will not be affected.

Yon Chun Ho International Co., Ltd.
3F., No. 248-39, Sinsheng Road, Cianjhen District, Kaohsiung City, Taiwan, 806, Republic of China
Tel +886-7-8135995  Fax +886-7-8135677
E-mail zoies@ychtw.com
URL http://www.ychtw.com

Available in: Asia, Philippines, Malaysia, Taiwan (Rep. of China), China

EC-1-016

EPnS Water-Based Top Coating- Matting, Semi-Matting, Glossy EP-001 Type II

Environmental performance
- Free of any of the eight major heavy metals, formaldehyde, benzene solvents, or other toxic substances. SGS tested to be in conformity with the highest level environmental protection standards such as the E0 Standard of the European Union and the F1 Standard of Japan.
- Will not produce any pungent odor or make any negative impact on the environment of the construction site during application.

Product performance
- Free of toxic solvent. No pungent odor. Safe to the health of workers and users.
- Hardness up to 2H.
- Gloss level up to 98% gloss (suitable for mirror coating).
- High wear resistance. Providing a nice feel to the touch.
- Fast drying.

Yon Chun Ho International Co., Ltd.
3F., No. 248-39, Sinsheng Road, Cianjhen District, Kaohsiung City, Taiwan, 806, Republic of China
Tel +886-7-8135995  Fax +886-7-8135677
E-mail zoies@ychtw.com
URL http://www.ychtw.com

Available in: Asia, Singapore, Malaysia, Taiwan (Rep. of China), China
### EC-1-017

**EPnS Water-Based Wood Coating- Stain EP-001 Type II**

**Environmental performance**
- Free of any of the eight major heavy metals, formaldehyde, benzene solvents, or other toxic substances. SGS tested to be in conformity with the highest level environmental protection standards such as the E0 Standard of the European Union and the F1 Standard of Japan.
- Will not produce any pungent odor or make any negative impact on the environment of the construction site during application.

**Product performance**
- Free of toxic solvent. No pungent odor. Safe to the health of workers and users.
- Can reveal wood grain and is perfect for use on valuable wood varieties. It is a transparent stain that will not obscure but accentuate the beauty of wood grain, giving a wooden object a better texture.
- Can cover a wooden object completely so that the object becomes as reflective as a mirror. Suitable for use as a coating on loudspeakers and musical instruments.

**Yon Chun Ho International Co., Ltd.**

3F., No. 248-39, Sinsheng Road, Cianjhen District, Kaohsiung City, Taiwan, 806, Republic of China  
Tel +886-7-8135995  Fax +886-7-8135677  
E-mail zoes@ychtw.com  
URL http://www.ychtw.com

Available in: Asia, Singapore, Malaysia, Taiwan (Rep. of China), China

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### EC-1-018

**EPnS Water-Based Outdoor Coating EP-001 Type II**

**Environmental performance**
- Free of any of the eight major heavy metals, formaldehyde, benzene solvents, or other toxic substances. SGS tested to be in conformity with the highest level environmental protection standards such as the E0 Standard of the European Union and the F1 Standard of Japan.
- Will not produce any pungent odor or make any negative impact on the environment of the construction site during application.

**Product performance**
- Free of toxic solvent. No pungent odor. Safe to the health of workers and users.
- In addition to the advantages of indoor paints, this product is proven by SGS report to be more weather-resistant and yellowing-resistant than other oil-based wood paints on the market. Besides, after-tack resistance is ensured, and paint adherence is higher than other outdoor wood paints.
- Proven by SGS ASTM G21-96 Fungal Resistance Test to achieve level 1 (highest level) fungal resistance.
- Dries fast to enhance work efficiency and minimize the impact of capricious weather conditions on outer application.

**Yon Chun Ho International Co., Ltd.**

3F., No. 248-39, Sinsheng Road, Cianjhen District, Kaohsiung City, Taiwan, 806, Republic of China  
Tel +886-7-8135995  Fax +886-7-8135677  
E-mail zoes@ychtw.com  
URL http://www.ychtw.com

Available in: Asia, Singapore, Malaysia, Taiwan (Rep. of China), China
**AC Servo Driver**

**Environmental performance**
The servo driver is used together with the servo motor. Resource saving: We could design the heat sink and frames lighter than our previous model through the thermal analysis simulation and load inspection. The weight of this product is 1.68kg. It is 7% lighter than our previous products (1.8kg). Hazardous chemical substance: These products conform to EU RoHS Directive.

**Product performance**
The improvement of the motor performance by the control algorithm and the reduction of energy consumption and thermal loss through the thermal analysis achieved the servo system with small size and high performance.

**Panasonic Corporation, Appliances Company**

7-1-1 Morofuku, Daito City, Osaka, 574-0044, Japan
Tel +81-72-871-1212 Fax +81-72-870-3120
URL http://panasonic.net/
URL http://panasonic.net/csr/

Available in: Worldwide

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**Angular Rate Sensor (Anti hand shaking)**

**Environmental performance**
With the main components in this product to be miniturized and have less parts, this product achieves the smallest, the thinnest, and the lightest feature by comparing with the other companies’ products with the same functions. This product achieves 87% in volume and 77% in mass compared with the second placed other company's product and also achieves the No.1 in resource recycling.

**Product performance**
This Angular Rate Sensor for anti hand shaking which is used for DSC or cellular phones has various stable characteristics. Among those, the performances such as low frequency noise or start-up drift surpasses the other companies' performances and realizes a stable sensing performance.

**Panasonic Electronic Devices Co., Ltd.**

1006 Kadoma, Kadoma City, Osaka, 571-8506, Japan
Tel +81-6-6907-4781
URL http://panasonic.net/ped/jp/
URL http://panasonic.net/ped/jp/environment/

Available in: Japan, Republic of Korea, Taiwan (Rep. of China), China
## Eco-components // Electrical and electronic

### EC-2-003

#### Electrical and electronic cable

<table>
<thead>
<tr>
<th>ECOGREEN® Environment-conscious type</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental performance</strong></td>
</tr>
<tr>
<td>A recycling system of waste electric wires is established.</td>
</tr>
<tr>
<td>There is no dioxin emission when incinerating and no harmful substance when buried underground.</td>
</tr>
<tr>
<td>The amount of material used is reduced and the amount of waste is also small.</td>
</tr>
<tr>
<td>* ECOGREEN® is registered trademark of Hitachi Cable, Ltd.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Product performance</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Halogen gas is not generated and less smoking occurs in case of fire.</td>
</tr>
</tbody>
</table>

#### Hitachi Cable, Ltd.

Hitaka Works, 5-1-1 Hitaka-cho, Hitachi-shi, Ibaraki-ken, 319-1414, Japan
Tel +81-294-25-3835  Fax +81-294-43-3852
E-mail taketani.noriaki@hitachi-cable.co.jp

*Available in: Worldwide (Except for Iran)*

### EC-2-004

#### Electrical and electronic capacitors

<table>
<thead>
<tr>
<th>Electric Double Layer Capacitor, DLCAP™</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental performance</strong></td>
</tr>
<tr>
<td>Nippon Chemi-Con's electric double layer capacitor, DLCAP™, is possible to charge-discharge large current, having longer cycle life compared to ordinary secondary batteries. It is expected to be used for vehicle hybrid system, regarding energy saving.</td>
</tr>
<tr>
<td>- Characteristics:</td>
</tr>
<tr>
<td>- With low degradation, multimillion cycles of charge-discharge is possible.</td>
</tr>
<tr>
<td>- With a high power density, rapid (high current) charge-discharge is possible.</td>
</tr>
<tr>
<td>- With a high charge-discharge efficiency, an output efficiency of over 95% at 1kW/kg is obtained.</td>
</tr>
<tr>
<td>- Environmentally friendly without using heavy metal for its structure material.</td>
</tr>
<tr>
<td>- High in safety during abnormal time, and no malfunction occurs due to short circulation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Product performance</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Capacitance: 350 to 3,200F</td>
</tr>
<tr>
<td>- Low Internal Resistance: from 0.8mOhm</td>
</tr>
<tr>
<td>- Temperature Performance: -25°C to 60°C</td>
</tr>
<tr>
<td><em>-40°C to 85°C is under development</em></td>
</tr>
</tbody>
</table>

#### Nippon Chemi-Con Corporation

5-6-4, Osaki, Shinagawa-ku, Tokyo, 151-8604, Japan
Tel +81-3-5436-7836  Fax +81-3-5436-7613
URL http://www.chemi-con.co.jp/e/index.html
URL http://www.chemi-con.co.jp/e/catalog/index.html
URL http://www.chemi-con.co.jp/e/env/index.html

*Available in: Worldwide*
**Eco-components // Electrical and electronic**

**EC-2-005**

**Environmental performance**

- A redesigned heat dissipation mechanism lowers the parts count and reduces weight by 30% compared with conventional models.

- A low power consumption LSI has reduced power consumption by 14% compared with conventional models.

- No lead used in surface treatment of boards and mounting solder.

**Product performance**

- MELNET-ES1100 is ideal for network configurations requiring environmental resistance and large capacity, such as onsite facility surveillance of roads, rivers, dams, erosion control hotspots, ports and harbors, railways, toll roads and other infrastructure, as well as CCTV video coverage equipment.

- Long-distance transmission up to 80 kilometers.

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**Mitsubishi Electric Corporation**

2-7-3, Marunouchi Chiyoda-ku, Tokyo, 100-8310, Japan
Tel +81-3-3218-9024 Fax +81-3-3218-2465
E-mail eqd.eco@pj.MitsubishiElectric.co.jp
URL http://global.mitsubishielectric.com/index.html

Available in: Japan, North America, China

---

**EC-2-006**

**Electronic equipment**

**Environmental performance**

- Mitigation of climate change: Power efficiency (IOPS*/wattage) of 13,800 IOPS/Watt is 360 times compared with the benchmark HDD model**.

- Efficient use of resources: Weight of 152g is 30% lighter than the benchmark HDD model.

- Management of chemicals: Bromine-, chlorine- and antimony-free*** HDD.

  * IOPS (Input Output Per Second, random access speed)
  ** Benchmark model: MBE2147RC
  *** Self standard value

- Chlorine : less than 900ppm
- Bromine : less than 900ppm
- Chlorine + Bromine : less than 1500ppm
- Antimony : less than 1000ppm

**Product performance**

- The storage device uses the 32 nm single level cell (SLC) NAND flash memory manufactured by Toshiba and a 6Gb/sec Serial Attached SCSI (SAS) interface.

- The drives have been realized the performance, random access 90,000 IOPS and sequential access 510MB/sec.

- Low power consumption of only 6.5 watts in operation, and industry-leading power efficiency of 13,800 IOPS/Watt have been realized.

---

**TOSHIBA CORPORATION Semiconductor & Storage Products Company**

1-1, Shibaura 1-Chome, Minato-Ku, Tokyo, 105-8001, Japan
URL http://www.toshiba.co.jp/index.htm
URL http://www3.toshiba.co.jp/storage/index.htm

---
## EC-2-007
### Lightweight, Compact, Energy-saving CCD Camera System

#### Environmental performance
- Mitigation of climate change: Power consumption 9% lower than for the previous model.
- Efficient use of resources: Compact system thanks to about 50% reduction in weight and about 60% reduction in volume compared with the previous model.
- Management of chemicals: Compliant with regulations covering the use of specific hazardous substances.

#### Product performance
"When CCD Camera combines with image intensifier,"
- High brightness: Advanced technology miniaturizes columnar crystals with optical fiber structure.
- Low noise: The high-contrast, high-brightness image is virtually defect-free. Newly developed processing technology greatly reduces structural noise.

### Toshiba Electron Tubes & Devices Co.,Ltd
1385, Shimoishigami, Otawara-shi, Tochigi, 324-8550, Japan
Tel +81-287-26-6558 Fax +81-287-26-6059
URL [http://www.toshiba.co.jp/index.htm](http://www.toshiba.co.jp/index.htm)

## EC-2-008
### Environment-friendly cadmium-free electric contact

#### Environmental performance
(Features)
This product is a high-reliability cadmium-free electric contact, which is excellent in welding resistance and consumption resistance. These electric contacts provide relays and switches with longer life and higher capacity, also making them much smaller in size. This product complies with the EU RoHS directive.

#### Product performance
(Uses)
They have been widely used in relays, switches, magnetic contactors, circuit breakers and circuit protectors in on-vehicle electrical components, home appliances, power distribution apparatus, switchboards and others. They are also widely adopted in hybrid cars making them suitable for high voltage power systems.

### Mitsubishi Materials C.M.I. Corporation
46-1 Sempuku, Susono City, Shizuoka, 410-1116, Japan
Tel +81-55-992-6111 Fax +81-55-992-6137
URL [http://group.mmc.co.jp/cmi/en/0102.html](http://group.mmc.co.jp/cmi/en/0102.html)
### EC-2-009

**Electrical and electronic industrial X-ray equipment**

**X-ray output power 4 times greater than that of a conventional tube. Reduced investigation time for X-ray fluorescent spectroscopy**

#### Environmental performance
- Mitigation of climate change: 20.6 kg reduction in CO₂ emissions compared with a conventional X-ray tube as a result of the reduced use of materials.
- Efficient use of resources: 3.9 kg reduction in the product weight compared with a conventional X-ray tube as a result of the reduced use of materials.
- Management of chemicals: Reduced environmental risks during use and disposal because of the elimination of the use of insulation oil, which is not readily biodegradable.

#### Product performance
- Quick investigation: 4 times greater throughput thanks to enhanced X-ray output power.
- Compactness: As compact as a conventional unit despite high performance.

**Toshiba Electron Tubes & Devices Co., Ltd**

1385, Shimoishigami, Otawara-shi, Tochigi, 324-8550, Japan
Tel +81-287-26-6558  Fax +81-287-26-6059
URL http://www.toshiba-tetd.co.jp/tetd/index_j.htm
URL http://www.toshiba-tetd.co.jp/tetd/eng/company/env.htm

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### EC-2-010

**Electrical and electronic laser module, light source**

**COMPACT GREEN LASER MODULE "BEAM MATE®" <RoHS Compliant>**

Small green laser modules are now attracting more attention from industries as a light source for laser line markers and projectors. Shimadzu has developed the green laser module "BEAM MATE®" for built-in applications. It is compact in size and has low power consumption. "BEAM MATE®" is a compact green laser module that is competitively priced. Because it works with high accuracy over a wide operating temperature range, from -10°C to +50°C, it can be used outdoors.

1. High-quality beam characteristics thanks to our specially-designed microchip laser module technologies
2. Wide operating temperature range from -10°C to +50°C
3. Compact body with built-in control PCB in the laser head
4. High efficiency and Low power consumption
5. Low operating voltage of 2.4 V to 3.3 V
6. Polarization extinction ratio is 50 : 1 min.

**SHIMADZU CORPORATION**

1, Nishinokyo-Kuwabaracho, Nakagyo-ku, Kyoto, 604-8511, Japan
Tel +81-75-823-1113  Fax +81-75-823-2062
URL http://www.shimadzu.com/index.html
URL http://www.shimadzu.com/about/environmental/index.html

Available in: Worldwide

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EC-2-011  Electrical and electronic laser module, light source

**LUMICUBE FREQUENCY DOUBLED DIODE LASER (RoHS Compliant)**

**Environmental performance**

LUMICUBE is a frequency doubled diode laser for built-in applications that covers the 480 nm to 530 nm optical wavelength range of an argon ion laser. It incorporates Shimadzu’s QPM component to offer high optical conversion efficiency and high reliability. Its compact size, single power-supply operation (+12 V DC), low power consumption, and low heat generation make LUMICUBE ideal for installation in products. Shimadzu’s unique self-tuning and auto power control functions maintain excellent beam quality over a wide temperature range from 15 to 45 degrees.

1. **Unique QPM (quasi-phase-matching) component achieves high beam quality.**
2. **Shimadzu digital control technology achieves superb power stability over a wide temperature range from 15 to 45 degrees.**
3. **Compact and highly reliable laser head**
4. **Low power consumption and low heat generation**
5. **Covers various wavelength ranges.**

SHIMADZU CORPORATION

1, Nishinokyo-Kuwabaracho, Nakagyo-ku, Kyoto, 604-8511, Japan
Tel +81-75-823-1113  Fax +81-75-823-2062
URL http://www.shimadzu.com/index.html
URL http://www.shimadzu.com/about/environmental/index.html

Available in: Worldwide

EC-2-012  Electrical and electronic magnetic parts

**EMC Noise Reduction Products “FINEMET®”**

**Environmental performance**

While IT and electronics devices continue to become smaller and achieve greater performance as well as increased functionality, EMC (Electro-Magnetic Compatibility) regulations are becoming even more stringent. In this situation, electronics manufacturers require materials and components with high EMC noise suppression capabilities. Hitachi Metals offers its “FINEMET®” series of nanocrystalline soft magnetic materials for high-performance EMC noise reduction. These products are lead-free and RoHS compliant.

Hitachi Metals, Ltd.

SEAVANS North Building, 1-2-1, Shibaura, Minato-ku, Tokyo, 105-8614, Japan
Tel +81-3-5765-4429
E-mail hmmc@hitachi-metals.co.jp
URL http://www.hitachi-metals.co.jp/e/index.html
URL http://www.hitachi-metals.co.jp/e/prod/prod02/p02_22.html
URL http://www.hitachi-metals.co.jp/e/corp/corp14.html

Available in: Worldwide (Except for Iran)
**Eco-components // Electrical and electronic**

**EC-2-013**

**Ferrite Magnet "NMF-12 Series"**

**Environmental performance**

Hitachi Metals’ new ferrite magnet "NMF-12 series" is greatly superior to its conventional product. Among ferrite magnets, it provides the industry best magnetic properties as mass production. These products significantly contributing to the prevention of global warming by being used in motors for electrical components such as starters, anti-lock brake systems, electric power steerings, engine cooling fans as well as in home appliances such as air-conditioner compressors, refrigerator compressors, and washing machines.

**Product performance**

Temperature coefficient of intrinsic coercive force of NMF-12 is 0.13-0.16%/K. It is smaller than the normal Sr ferrite’s one (0.3-0.4%/K). It means little demagnetization even at a low temperature and high resistance against temperature fluctuation.

**Hitachi Metals, Ltd.**

SEAVANS North Building, 1-2-1, Shibaura, Minato-ku, Tokyo, 105-8614, Japan
Tel +81-3-5765-4202
E-mail hmcc@hitachi-metals.co.jp
URL http://www.hitachi-metals.co.jp/e/index.html
URL http://www.hitachi-metals.co.jp/e/prod/prod03/p03_10.html
URL http://www.hitachi-metals.co.jp/e/corp/corp14_01.html

Available in: Worldwide (Except for Iran)

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**EC-2-014**

**Neodymium-Iron-Boron Sintered Magnets “NEOMAX® Series”**

**Environmental performance**

Nd-Fe-B sintered magnets (NEOMAX®), their strong magnetism allows motors to operate more efficiently and to be made smaller, helping to improve the fuel efficiency of hybrid and electric vehicles when used for such applications as drive motors, generators, electric power steering, and electric braking. These magnets are used in a wide range of industries, including in appliances such as compressors for air conditioners and refrigerators, servo motors for machine tools, and medical devices. The improved energy efficiency of these devices helps to prevent global warming and lessen environmental loads.

**Hitachi Metals, Ltd.**

SEAVANS North Building, 1-2-1, Shibaura, Minato-ku, Tokyo, 105-8614, Japan
Tel +81-3-5765-4202
E-mail hmcc@hitachi-metals.co.jp
URL http://www.hitachi-metals.co.jp/e/index.html
URL http://www.hitachi-metals.co.jp/e/prod/prod0/p0_7.html
URL http://www.hitachi-metals.co.jp/e/corp/corp14_01.html

Available in: Worldwide (Except for Iran)
**Amorphous Cut core for the Power Conditioner of Photovoltaic Generation Systems**

**Environmental performance**

This is a cut core made from amorphous metal ribbon. Amorphous metal is an alloy with a non crystalline structure produced by ultra-rapid quenching (about 1 million °C per second) of molten alloy. The molten raw materials composed primarily of iron, silicon, and boron. The thing with amorphous cut core as ribbon of die thickness 25 μm can realize a low core loss (1.38W/kg Max at 16kHz, 0.037T) in frequency to 100kHz. Furthermore Amorphous cut core can attain the downsizing such as inductors for photovoltaic generation systems, wind power generation systems, besides, high frequency power transformer for X-rays CT equipments, electric reactors for up/down converters of a hybrid car and the fuel cell-powered vehicle. Therefore, amorphous cut cores make a major contribution to energy conservation and to ministry exploitation of resources.

**Hitachi Metals, Ltd.**

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Tel +81-3-5765-4429
E-mail hmcc@hitachi-metals.co.jp
URL http://www.hitachi-metals.co.jp/e/index.html
URL http://www.hitachi-metals.co.jp/e/prod/prod13/p13_08.html
URL http://www.hitachi-metals.co.jp/e/corp/corp14.html

Available in: Worldwide (Except for Iran)

**Appearance of Amorphous Cut core**

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**Metal Powder Core for PFC Reactor**

**Environmental performance**

This is the metal powder core for PFC (Power Factor Correction) reactor that compression molding our original magnetic powdery "HIDUST"® which pulverized amorphous metal materials composed primarily of iron, silicon. Because it has both low core loss and high saturation magnetic flux density, this metal powder core contribute to exploitation of resources-saving with small size and high performance.

**Product performance**

Downsizing, high performance are enabled with applying this metal powder core as an electric reactor for PFC such as an inverter airconditioner, a hybrid car and the electric vehicle and has a good dc excellence characteristic by high saturation magnetic flux density.

**Hitachi Metals, Ltd.**

SEAVANS North Building, 1-2-1, Shibaura, Minato-ku, Tokyo, 105-8614, Japan
Tel +81-3-5765-4429
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URL http://www.hitachi-metals.co.jp/e/index.html
URL http://www.hitachi-metals.co.jp/e/prod/prod0/p0_9.html
URL http://www.hitachi-metals.co.jp/e/corp/corp14_01.html

Available in: Worldwide (Except for Iran)

**Appearance of PFC Reactor**
Thin Film PV Module (Glass/Glass model, NS-F135G5)

Environmental performance

1. Resource saving
   - Quantity of silicon is less than that of crystalline silicon.
2. Short Energy Payback Time
   - Our Thin Film module was made by a shorter and simpler manufacturing process and uses no high temperature process.
3. Reduction of Environment load
   - Our Thin Film module is made of silicon as main material, so it is free from any toxic material.

Product performance

1. High electric generating capacity is demonstrated under the high temperature of midsummer.
   - Thin Film Si module’s performance is better than Crystalline Si module in warm region/season.
   - Because of Thin Film module have superior temperature characteristics, Output degradation of Thin Film module is smaller than Crystalline Si module at the high temperature.
   - Our module performance is better than Crystalline Si module at low latitude region. Our module has high sensitivity to the short wavelength light richly contained in the sunlight of summer.
   - (In theory, solar spectrum at low latitudes shorter wavelength light)
2. Laminated glass structure realizes high reliability, easy maintenance and various installation.
   - Glass is adopted as the both of front and back covers.
   - Full flat structure is realized by removing frame.
   - Vertical and horizontal installation are both possible.

Sharp Corporation

22-22 Nagaike-cho, Abeno-ku, Osaka, 545-8522, Japan
Tel +81-6-6625-0438 Fax +81-6-6625-0153
E-mail eco-info@sharp.co.jp
URL http://sharp-world.com/
URL http://sharp-world.com/corporate/eco/

Available in: Worldwide

BLACKSOLAR Technology Employing Novel Mono-Crystalline High Efficiency PV Module

Environmental performance

1. 11.7% increase in Pmax compared to our 170W Multi-Crystalline PV Module of the same size.
2. PV module power output declines with an increase in ambient temperature.
   - 20% decrease of power loss in high temperature conditions compared to traditional PV modules.
3. Cell thickness is decreased by approximately 30% compared to traditional multi-crystalline cells; leading to reduction of silicon needed for production.

Product performance

We achieved high conversion efficiency through the development of BLACKSOLAR technology, which employs back-contact cell structure and sheet electrodes. Back-contact cell structure allows greater cell area for light absorption, and sheet electrodes decrease power transmission loss between cells.
Moreover, we implemented the “Roofit II” module layout scheme, which utilizes two modules of different sizes (190W and 135W modules) and allows greater rooftop module coverage.

Sharp Corporation

22-22 Nagaike-cho, Abeno-ku, Osaka, 545-8522, Japan
Tel +81-6-6625-0438 Fax +81-6-6625-0153
E-mail eco-info@sharp.co.jp
URL http://sharp-world.com/
URL http://sharp-world.com/corporate/eco/

Available in: Japan
### DC Brushless Fan Motor for Air-conditioning

**Environmental performance**
Energy saving: Efficiency is 88% at the rated power of 40W, and 3 points upper than 85% of conventional motors.
Hazardous chemical substance: These products conform to EU RoHS Directive.

**Product performance**
This product is a brushless motor for air conditioner units.
High efficiency and low noise have been achieved at the same time by Neodymium magnet rotor and own designed drive IC.

#### Panasonic Corporation, Appliances Company
7-1-1 Morofuku, Daito City, Osaka, 574-0044, Japan
Tel +81-72-871-1212
URL http://panasonic.co.jp/
URL http://panasonic.co.jp/motor/
URL http://panasonic.co.jp/csr/

Available in: Japan, China

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### AC Servo Motor

**Environmental performance**
The servo motor is used together with the servo driver.
Resource saving: Adoption of high energy gained magnet and reduction of losses by the new MINAS method could lose weight of the motor.
The weight of our new product is 4.11kg. It is 20% lighter than our previous product (5.12kg).
Hazardous chemical substance: These products conform to EU RoHS Directive.

**Product performance**
The improvement of the motor performance by the control algorithm and the reduction of energy consumption and thermal loss through the thermal analysis achieved the servo system with small size and high performance.

#### Panasonic Corporation, Appliances Company
7-1-1 Morofuku, Daito City, Osaka, 574-0044, Japan
Tel +81-72-871-1212 Fax +81-72-870-3120
URL http://panasonic.net/
URL http://panasonic.net/csr/

Available in: Worldwide
### EC-2-021

**Zero Mercury and Zero Lead Added Silver Oxide Battery**

**Environmental performance**

Zero mercury and zero lead added. Conventional Silver Oxide batteries have a small but non-regligible amount of mercury and lead added to the anodal zinc to prevent emission of gasses. Through the development of original zinc corrosion prevention technologies, Maxell has eliminated the use of mercury and lead. This initiative to reduce environmental impact has drawn enthusiastic acclaim from outside the company.

**Product performance**

Indemnified against leakage due to its Excellent Leakage Resistance. Superior performance than LR Button Battery.

**Hitachi Maxell Energy, Ltd.**

5, Takumidai, Ono-shi, Hyogo, 675-1322, Japan

Tel +81-794-63-8054

URL http://biz.maxell.com


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### EC-2-022

**Innovative rechargeable battery with a long life of 4,000 charge-discharge cycles and rechargeable in 15 minutes, safety and durability.**

**Environmental performance**

- Mitigation of climate change: Battery for eco products, such as electric bicycles, electric motor bikes, and EV (Electric Vehicle).
- Efficient use of resources: A long life of 4,000 charge-discharge cycles leads to a reduction of waste.

**Product performance**

- Safety and durability: Excellent safety thanks to a structure resistant to internal short circuiting and thermal runaway.
- Long life: Capacity loss after 4,000 charge-discharge cycles is less than 20% at cell level.
- Rapid charging: Rapid charging in 15 minutes (up to 80%) at cell level.

**TOSHIBA CORPORATION Social Infrastructure Systems Company**

1-1, Shibaura 1-Chome, Minato-Ku, Tokyo, 105-8001, Japan

URL http://www.toshiba.co.jp/index.htm


Available in: Japan
### EC-2-023

**Self-lubrication enameled wire "KOMAKI™" for higher space factor**

#### Environmental performance

"KOMAKI™" Series of enameled wires provide a coil with high space factor, and so meet the demand for high-efficiency compact motors while conserving energy.

#### Product performance

"KOMAKI™" Series wires deliver much stronger bonding strength with impregnating vanish compared to existing self-lubricated enameled wires. *"KOMAKI™" is registered trademark of Hitachi Cable, Ltd. in Japan.*

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**Hitachi Cable, Ltd.**

Hitaka Works, 5-1-1 Hitaka-cho, Hitachi-shi, Ibaraki-ken, 319-1414, Japan
Tel +81-294-25-3835  Fax +81-294-43-3852
E-mail taketani.noriaki@hitachi-cable.co.jp

Available in: Worldwide (Except for Iran)

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### EC-2-024

**Inverter surge resistant enameled wire "KMKED"**

#### Environmental performance

- "KMKED" has an insulation film that is hardly eroded by inverter surges.
- "KMKED" also provides much higher mechanical strength than existing products.
- These features contributes to the longer life of motors.

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**Hitachi Cable, Ltd.**

Hitaka Works, 5-1-1 Hitaka-cho, Hitachi-shi, Ibaraki-ken, 319-1414, Japan
Tel +81-294-25-3835  Fax +81-294-43-3852
E-mail taketani.noriaki@hitachi-cable.co.jp

Available in: Worldwide (Except for Iran)
Solder Coated Copper Wire for Solar Cells

Environmental performance
- Lead Free and comply with RoHS* directive.
- Contribution to energy conservation by offering various conductors specific to usages and needs.
  * RoHS: Restriction of the use of certain hazardous substances

Product performance
- Stress caused by connection has been decreased using soft annealing copper wire that is suitable for thin type Si cells.

Hitachi Cable, Ltd.

Hitaka Works, 5-1-1 Hitaka-cho, Hitachi-shi, Ibaraki-ken, 319-1414, Japan
Tel +81-294-25-3835 Fax +81-294-43-3852
E-mail taketani.noriaki@hitachi-cable.co.jp

Available in: Worldwide (Except for Iran)

Modified II Tin Plating FFC (Flexible Flat Cable)

Environmental performance
Lead-free and complies with EU RoHS* directive.
Mitigate Whisker (Crystallization of thin needles) from tin plated conductor surface without gold plating, which prevents resource depletion.
  * RoHS: Restriction of the use of certain hazardous substances

Hitachi Cable, Ltd.

Hitaka Works, 5-1-1 Hitaka-cho, Hitachi-shi, Ibaraki-ken, 319-1414, Japan
Tel +81-294-25-3835 Fax +81-294-43-3852
E-mail taketani.noriaki@hitachi-cable.co.jp

Available in: Worldwide (Except for Iran)
**Resonance circuit for Power Supply Metallized Polypropylene Film Capacitors**

**Environmental performance**

This product achieves resource saving by downsizing. It achieves 85% in volume and 47% in mass compared with our conventional product (0.28 μF product). This product also reduces energy consumption in production processes to 56%.

**Product performance**

This product does not only achieve small size and high current by new processes but also the high level of safety.

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**Panasonic Electronic Devices Co., Ltd.**

1006 Kadoma, Kadoma City, Osaka, 571-8506, Japan  
Tel +81-6-6907-4781  
URL [http://panasonic.net/ped/jp/](http://panasonic.net/ped/jp/)  
URL [http://panasonic.net/ped/jp/environment/](http://panasonic.net/ped/jp/environment/)  

Available in: China
### EC-3-001

#### Semiconductor-related

electrical machinery, equipment and supplies

#### EVA film for a solar cell

**Environmental performance**

A solar cell is a kind of clean system which does not emit CO₂ and other hazardous substances during use. It has become more and more important recent years by the viewpoint of earth environment protection. Bridgestone is manufacturing and selling EVA film of EVASKY brand which is used as a seal material for Silicon cell. EVASKY has been highly evaluated by customers due to its high efficiency, high productivity and high durability.

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Bridgestone Corporation

1-6-6, Yaesu, Chuo-ku, Tokyo, 103-0028, Japan
Tel +81-3-5202-6907    Fax +81-3-5202-6842
URL [http://www.bridgestone.com](http://www.bridgestone.com)

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### EC-3-002

#### Semiconductor-related

Ir receiver for 3D glass

#### Reduction of Idle current

**Environmental performance**

It is reduced Power Consumption than a previous model by 1/5.

<table>
<thead>
<tr>
<th></th>
<th>Measurement condition</th>
<th>PNJ4841M</th>
<th>Previous Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idle Current:IccL</td>
<td>Vcc=2.8v</td>
<td>60 (μA)</td>
<td>300 (μA)</td>
</tr>
<tr>
<td>On Current:IccH</td>
<td>Vcc=2.8v</td>
<td>90 (μA)</td>
<td>350 (μA)</td>
</tr>
<tr>
<td>Power Consumption:PC</td>
<td>Vcc=2.8v, Duty=1/10</td>
<td>0.18 (mW)</td>
<td>0.85 (mW)</td>
</tr>
</tbody>
</table>

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Panasonic Corporation, Industrial devices Company

1786-6 Tokushige, Ijuin-cho, Hioki City, Kagoshima, 899-2595, Japan
Tel +81-99-246-5221    Fax +81-099-246-5238
URL [http://panasonic.net/](http://panasonic.net/)
URL [http://panasonic.net/csr/](http://panasonic.net/csr/)
Eco-components // Semiconductor-related

<table>
<thead>
<tr>
<th>EC-3-003</th>
<th>Semiconductor-related</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PureBeta</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Environmental performance**

Along with strong research and development program, Bridgestone has produced a high-purity silicon carbide powder created through the combination of high-level polymer technology. It is manufactured on a very clean production line by sintering, processing and cleaning. Because of its excellent resistance against wet cleaning, those SiC sintering products can be used repeatably which is also good for the environment. Further, SiC single crystal wafer is one of the promising candidates for electronic devices used for hybrid vehicle, low loss invertors and LEDs which has high expectation on global energy saving and CO2 emission reduction. This product has yielded an integrated production flow from the raw materials to the fabrication.

**Bridgestone Corporation**

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URL http://www.bridgestone.com
URL http://www.purebeta.com/global/

<table>
<thead>
<tr>
<th>EC-3-004</th>
<th>Semiconductor-related</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High-reliability Al circuits substrate (DBA substrate) for motor-drive of eco-cars</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Environmental performance**

Al circuits substrate (DBA substrate) with high reliability for power modules have been mounted on the hybrid vehicles of above one million since the beginning of our mass-production. At present, AlN insulator is the main stream, but we promote also the practical use of various ceramics including silicon nitride and others for DBA substrates.

**Product performance**

As the parts for the automobile field, it is required that peeling-off and cracking at the junction portion do not occur by the thermal cycling test (-40 ~ 125°C, more than 3,000 cycles).

Compared to the conventional substrates, our company's product satisfied such severe requirements, and has been used as an important part in the mobile application which needs high reliability. For example, it is used as a part of the inverter for motor drive of the eco-cars such as hybrid vehicles and electric automobiles.

**Mitsubishi Materials Corporation (Sanda Plant Shizuoka DBA Center)**

1400 Suganuma, Oyamacho, Suntogun, Shizuoka, 410-1312, Japan
Tel +81-550-76-3106  Fax +81-550-76-3107
E-mail suzukiss@mmc.co.jp

Available in: Japan, Europe, U.S.A
## Intelligent Power Module

### Environmental performance
Transfer mold IPM, a powerful component which is widely employed from white home appliances to industrial machinery for its outstanding performance in energy-saving and miniaturization.

--- **Material / Resource consumption reduction** ---

The thermal resistance, and therefore the temperature rise of power chip junction is remarkably reduced by adopting high heat-dispersion insulation structure, in virtue of which the package of the module is miniaturized and the mounting area on the PWB is decreased by about 40% compared to conventional products.

--- **Energy saving** ---

Energy consumption reduction is achieved owing to adoption of the full-gate CSTBT, the chip size of which is shrunk by 40%.

* CSTBT™ (Carrier Stored Trench Gate Bipolar Transistor) : New generation of IGBT originated at Mitsubishi, utilizing the carrier storage effect.

--- **Toxicity / Chemical substances elimination** ---

Lead-free soldering process for power chips, in addition to lead-free soldering tin of outer terminals, realizes fully lead-free products (RoHS compliant), while ensuring the reliability.

* Awarded the 52nd Okochi Prize (Production award)

### Mitsubishi Electric Corporation

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URL http://global.mitsubishelectric.com/index.html

Available in: Worldwide

## Single Chip Inverter IC

### Environmental performance
The Single-chip inverter IC integrates various devices and circuits that are necessary for inverter control onto a single die. The inverter IC controls a motor at various speeds. The variable speed control improves the efficiency of motors. The inverter IC downsizes the control board of motors utilizing single chip structure, which allows the control board mounting the inverter IC to be embedded into a motor. The inverter IC, which is a lead-free (Pb-free) product conforming to JEITA Phase 3A, is environmentally-friendly.

### Product performance
The Single-chip inverter IC is an intelligent power IC, developed based on a unique dielectric separation technology. Because it’s possible to design a latch-up-free structure, various IC formations are possible, even if high-voltage, large-current output circuits and logic circuits are mixed. Compared with conventional discrete substrate-based hybrid ICs, downsizing can be effected.

### Hitachi, Ltd. Power Systems Company

Akihabara Daibiru Building 18-13, Soto-Kanda 1-chome, Chiyoda-ku, Tokyo, 101-8608, Japan
Tel +81-3-3258-1111
URL http://www.hitachi.com/
URL http://www.hitachi.com/csr/

Available in: Worldwide (Except for Iran)
### High-Precision, High-Quality OFF-AXIS PARABOLIC MIRRORS SPA Series

**Environmental performance**

Off-axis parabolic mirrors turn plane waves into spherical waves, and vice versa, at high precision. These aspherical mirrors are essential for spectrometers and interferometers that require high resolution.

**RoHS Compliant product**

**Product performance**

The Off-axis Parabolic Mirrors SPA Series has the following features:

1. Surface accuracy of \( \lambda /6 \) has been achieved through the newly-developed precision replica technology (conventional Shimadzu product: \( \lambda /2, \lambda =632.8 \text{nm} \)).

2. Stable quality due to the production of a replica mirror using a high-precision master mirror.

3. Proven mass-production technology ensures a stable supply of large quantities.

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URL http://www.shimadzu.com/index.html
URL http://www.shimadzu.com/products/opt/off/5iqj1d0000001k2i.html
URL http://www.shimadzu.com/about/environmental/index.html

Available in: Worldwide

### Toroidal Mirror TR Series

**Environmental performance**

A toroidal mirror is an aspheric mirror with a different curvature in the vertical and horizontal directions. As it can focus light diverging from a point source to approximately a single point under specific off-axis conditions, it can form an efficient optical system and reduce the size of optical component. The TR Series meets the requirements restricting the use of hazardous substances in EU Directive 2002/95/EC. These products can be used to configure highly energy-efficient and compact optical systems, making them suitable optical elements for eco-products.

The Shimadzu toroidal mirrors TR Series offer the following features:

1. Precision-polish optical glass offers high surface accuracy and low surface roughness.

2. Shimadzu’s unique aluminum coating technology offers high reflectance in the UV region

3. RoHS Compliant product

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URL http://www.shimadzu.com/products/opt/off/5iqj1d0000001k2i.html
URL http://www.shimadzu.com/about/environmental/index.html

Available in: Worldwide
Polka-Dot Beamsplitters

Environmental performance

A polka-dot beamsplitter has a polka-dot pattern aluminum coated onto a glass substrate. Incident light is reflected from the coated areas but is transmitted through the uncoated areas. Unlike a conventional dielectric beamsplitter, the light split ratio is almost independent of the angle of incidence. These polka-dot beamsplitters meet the requirements restricting the use of hazardous substances in EU Directive 2002/95/EC. As a single polka-dot beamsplitter covers a broad wavelength range, the number of optical elements in an optical component can be reduced to contribute to space-savings and more efficient use of resources.

The polka-dot beamsplitter offers the following features:

1. Wide wavelength range (UV to IR)
2. Low dependence on angle of incidence
3. Two models available: standard type (to 2200 nm) and high-grade type (to 3200 nm)
4. RoHS Compliant product

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URL http://www.shimadzu.com/about/environmental/index.html

Available in: Worldwide
**Eco-components // Machine parts**

### EC-4-005
**Machine parts**

**Series Spindle Motors Striving for Energy saving and Resource conservation SJ-D**

**Environmental performance**

-----<< Material / Resource saving >>-----

The SJ-D Series’ revised electrical design cuts the use of copper wiring by 43%, while its optimized structure lowers the parts count.

-----<< Energy saving >>-----

The optimal electrical design facilitates a 25% reduction in motor power loss compared with conventional models, lowering power consumption.

-----<< Toxicity / Chemical substances reduction >>-----

Compliant with European RoHS Directive.

**Product performance**

Mitsubishi Electric continues to strive for energy savings and resource conservation in its products as part of its environmental countermeasures. In a field where industrial equipment products have a lifespan in excess of 10 years, this series fuses functionality and design to become a product unaffected by prevalent trends. The SJ-D Series of spindle motor was awarded a Good Design Award (Best 15) in 2009.

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Available in: Worldwide

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### EC-4-006
**Machine parts**

**High-speed railway wheels and axles**

**Environmental performance**

As a modal shift, high-speed railway lines are being planned all over the world. Sumitomo Metals controls a 100% share of the market for the wheels and axles that are used in the famous Japanese "bullet trains," and also control a 35% share of the world market for high-speed railway wheels. High-speed railway wheels and axles contribute to reducing CO₂ emissions that takes place in the transport sector.

**Product performance**

Sumitomo Metals controls a 100% share of the market for the wheels and axles that are used in the famous Japanese "bullet trains," as well as a high market share of the brake discs and driving systems. We also control a 35% share of the world market for high-speed railway wheels, and have earned a high level of trust. We have recently concluded a long-term, three-year contract for high-speed railway replacement wheels with the German railway company Deutsche Bundesbahn, and are meeting the growing demand from high-speed railways.

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Available in: Worldwide
EC-4-007  Machine parts

Super Radius Mill ASR* Multi-flutes type

**Environmental performance**

Recently growing environmental awareness has resulted in the change of cutting method along with other drastic modification. In effort to improve the method and life of cutting tools, Hitachi Tool Engineering developed " ASR Multi-flutes type with JX coating ". This tool with new small inserts geometry shows extremely high cutting performance under high feed operation. New indexable tool were made multi-flute with small inserts. In addition, JX coating make long tool life because of coating characteristics has greatly improved in their lubricant, hardness, heat-resistance and chipping resistance.

*ASR=Alpha Super Radius Mill

**Product performance**

Small inserts, breakage resistance has been greatly improved, so that use at the maximum feed rate of the latest machining equipment is recommended.

Hitachi Tool Engineering, Ltd.

SEAVANS North Building, 1-2-1, Shibaura, Minato-ku, Tokyo, 105-0023, Japan
Tel +81-3-6858-2204 Fax +81-3-6858-2229
URL http://www.hitachi-tool.co.jp/e/index.html
URL http://www.hitachi-tool.co.jp/j/products/indexable/index_e.html
URL http://www.hitachi-tool.co.jp/e/environment/index.html

Available in: Worldwide (Except for Iran)

EC-4-008  Machine parts

High-efficiency End Mill "Epoch Mirus" series

**Environmental performance**

Recently, development of Eco-production tends to improve tool life, efficiency and cutting method. This is a revolutionary tool developed for improving efficiency, and made unprecedented high efficiency possible. There are two features of figures. One is Unequal phase to reduce cutting vibration. The other one is Double gash guarantees to remove thick chip smoothly. In addition, this tool is adopted new TH coating which further improved hardness and oxidation resistance. It will achieve stable cutting in a high cutting temperature, can dry cutting without coolant, shorten operating time of M/C, and save energy.

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URL http://www.hitachi-tool.co.jp/e/environment/index.html

Available in: Worldwide (Except for Iran)
Eco-components // Machine parts

**EC-4-009**

**Machine parts**

**Vacuum pumps**

**Turbo Molecular Pump with Integrated Power Supply:** TMP-V1704/V2304/V2804/V3304LM Series

### Environmental Performance
- RoHS compliant products
- Energy savings achieved by adopting improved power factor circuitry
- Miniaturization and weight savings achieved thanks to optimal rotor design

### Product Performance
The miniaturized TMP-V04LM series turbomolecular pumps were developed with a smaller flange, yet they provide better exhaust performance than conventional models. Integrating the separately positioned controller makes connection cables unnecessary, dramatically simplifying pump installation.

#### Model/ Flange size/ Gas throughput (N2) [L/s] / Height [mm] / Maximum power consumption [kVA]

<table>
<thead>
<tr>
<th>Model</th>
<th>Flange size</th>
<th>Gas throughput (N2) [L/s]</th>
<th>Height [mm]</th>
<th>Maximum power consumption [kVA]</th>
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</thead>
<tbody>
<tr>
<td>TMP-V1704LM</td>
<td>VG200</td>
<td>1400</td>
<td>411</td>
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<tr>
<td>TMP-V2304LM</td>
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<td>2100</td>
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<td>1.2</td>
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<tr>
<td>TMP-V2804LM (F)</td>
<td>VG250</td>
<td>2800</td>
<td>506</td>
<td>1.2</td>
</tr>
<tr>
<td>TMP-V3304LM (F)</td>
<td>VG300</td>
<td>3200</td>
<td>462</td>
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</table>

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Eco-components // Automobile parts

EC-5-001

**Neotard Retarder**

**Environmental performance**
As many of these retarders are lightweight and compact, they contribute to consuming extremely little energy. Also by reducing the amount of hazardous substances such as brake lining wear particles, they make a large contribution to preserving the Earth's environment.

**Product performance**
This retarder is an auxiliary brake used in large trucks, buses, and similar vehicles. It is a product that reduces hazardous substances such as brake lining wear particles, and supports safety and riding comfort. The Sumitomo Metals retarder, Neotard Retarder, is a permanent magnet eddy current braking system that utilizes the world's most powerful neodymium permanent magnet to generate braking force.

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**Available in:** Worldwide

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EC-5-002

**Ring Material for CVT Belt**

**Environmental performance**
CVT (Continuously Variable Transmission) which does not use gears, but can vary speed automatically and continuously, contributes to CO₂ reduction through its low fuel consumption performance. Hitachi Metals has developed the metal belt material with excellent fatigue strength. Excellent melting technology and cold rolling technology allow the detoxification of non-metallic inclusions and surface defects that might cause fractures.

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URL http://www.hitachi-metals.co.jp/e/corp/corp14_01.html

**Available in:** Worldwide (Except for Iran)
**Epoch's HHybrid Fuel System EP-C100**

**Environmental performance**
1. Environmentally friendly: Oxyhydrogen is a clean energy source free of pollution or toxicants and is effective in facilitating fuel combustion. According to ARTC test results, it reduces automobile exhaust emissions by 12%–29% and prevents carbon deposition on the engine.
2. Energy saving: It produces oxyhydrogen as auxiliary fuel to increase engine power and reduce fuel consumption. Driving test results show an average 14.4% cut in energy consumption.

**Product performance**
The "Hydrogen-Fuel Vehicle Power Unit" uses the electricity in a vehicle to transform "water" into hydrogen and oxygen by electrolysis. The hydrogen and oxygen are guided into the engine of the vehicle along with air and serve as an auxiliary fuel for reducing CO, HC, and black smoke emissions. As the mixture of fuel and the oxyhydrogen generated by the unit are completely burned, carbon deposition in the engine’s combustion chamber is prevented, and vehicle power is increased at low fuel consumption. Besides, the combustion of oxyhydrogen only produces water vapor. Therefore, this product has outstanding energy-saving and carbon-reducing performances and is truly helpful in environmental protection.

**EPOCH ENERGY TECHNOLOGY CORP.**
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E-mail jasmine@oxy-hydrogen.com
URL http://www.oxy-hydrogen.com

Available in: Europe, U.S.A., Singapore, Thailand, Malaysia, Mexico, Taiwan (Rep. of China)

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**Energy Saving Electrical Power Steering (Motor and Controller)**

**Environmental performance**
- Compact size and High power Motor/Controller contributes to the design of light weight vehicles.
- Consumes energy only when the steering wheel is being turned, this improves a vehicle’s fuel consumption efficiency.
- Maintainance free

**Product performance**
The electric power steering system assists the driver in steering only when the steering wheel is being turned; hence it serves to improve fuel economy by 3 to 5% compared with the conventional hydraulic power steering system. The compact yet high-power motor has realized system lineups for a full range from light motor vehicles up to oversized vehicles. It has its original control algorithm that creates excellent steering feeling and stability.

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### EC-5-005

#### High-efficiency crash box

**Environmental performance**

The crash box is a component located at the both end of front/rear bumper of an automobile that folds like an accordion to lessen the impact in the event of a collision. Our product is a lightweight and high-efficiency crash box with a structure that delivers more than twice the energy absorption capability of conventional products. This product contributes to reducing vehicle body weight and CO₂.

**Product performance**

A crash box is a component located at the both end of front/rear bumper of an automobile that folds like an accordion to lessen the impact in the event of a collision. Sumitomo Metals and Toyoda Iron Works have developed a lightweight crash box with a structure that delivers more than twice the energy absorption capability of conventional products. This product contributes to reducing vehicle body weight.

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#### Crash box characteristics

**LC Stage**  
Transport  
Production  
Design  
Material  
Resource  
End-of-life

### EC-5-006

#### Seat Pad with Different Density but Usual Hardness

**Environmental performance**

We conventionally reduce the weight of seat pads with a lightweight formulation, but this sometimes reduces ride comfort and durability. Bridgestone has developed a seat with the usual hardness but less density with reduced weight without compromising ride comfort. This advantage is realized not only through high-performance formulation of the base parts that are important for ride comfort, but also through the adoption of a lightweight formulation for other parts, without reducing the weight of the whole seat pad.

**Bridgestone Corporation**

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URL http://www.bridgestone.com  
Eco-components // Automobile parts

EC-5-007

Lightweight Resin Anti-vibration Rubber

Environmental performance

Anti-vibration rubber is adopted in torque rod, engine mount and so on. This component suppresses acceleration-deceleration shocks, engine vibration and so on. Light weight resin anti-vibration rubber contributes improvement of fuel efficiency by weight saving. Making full use of many types of analysis, we consult on resinifying of metal parts of anti-vibration rubber, and succeed in productization of torque rod, engine mount made by resin. We continuously consult on developing products lighter and lighter, second and third generation.

Bridgestone Corporation

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URL http://www.bridgestone.com

EC-5-008

Aluminum Casting

Environmental performance

Hitachi Metals produces aluminum castings to wide applications of parts including engine parts, chassis parts, and body parts. These are designed by our optimized design with the precision CAE (computer-aided engineering) for lighter weight parts than current pasts. Our technologies and products contribute to energy-saving and CO₂ reduction through vehicles’ low fuel consumption. Our aluminum castings are adopted for the battery case in the EV (Electric Vehicle).

Hitachi Metals, Ltd.

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URL http://www.hitachi-metals.co.jp/e/prod/prod06/p06_02.html
URL http://www.hitachi-metals.co.jp/e/corp/corp14_01.html

Available in: Worldwide (Except for Iran)
**Eco-components // Automobile parts**

### EC-5-009

**High-Toughness Ductile Cast Iron HNM™ Series**

**Environmental Performance**

Hitachi Metals produces high-strength & high-toughness ductile cast iron HNM™ series for automotive chassis parts. These are designed by our optimal design with the precision CAE (computer-aided engineering) for lighter weight parts than current pasts. Our technologies and products contribute to energy-saving and CO₂ reduction through vehicles' low fuel consumption.

**Hitachi Metals, Ltd.**

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URL http://www.hitachi-metals.co.jp/e/corp/corp14_01.html

Available in: Worldwide (Except for Iran)

### EC-5-010

**Rebuilt Alternator**

**Environmental Performance**

A remanufactured alternator is produced through the process of disassembling used units, cleaning and re-assembling after testing. Usable components from the first-made product will be used as many as possible, so it will minimize the use of new components. You can save a tremendous amount of raw materials and energy used for the production of new components by using a remanufactured alternator.

**SHIN ETSU DENSO CO., LTD.**

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Fax +81-261-233906  
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URL http://www.shine-reman.com

Available in: Worldwide
**EC-5-011**

**Automobile parts**

**Rebuilt starter**

**Environmental performance**

A remanufactured starter is produced through the process of disassembling used units, cleaning and re-assembling after testing. Usable components from the first-made product will be used as many as possible, so it will minimize the use of new components. You can save a tremendous amount of raw materials and energy used for the production of new components by using a remanufactured starter.

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Available in: Worldwide

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**EC-5-012**

**Automobile parts**

**Heat resisting casting components "HERCUNITE® Series**

**Environmental performance**

Hitachi Metals’ HERCUNITE® series of heat-resistant cast-iron and steel components are resistant to the high-temperature combustion of engines and help to reduce fuel consumption and cleaner exhaust of gasoline engine vehicles. These series are mainly used of the exhaust manifolds, turbine housings, and other exhaust system components to withstand the extreme heat (Maximum temperature 1,050°C) generated by an internal combustion engine and contribute to improving a cars’ environmental performance.

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URL http://www.hitachi-metals.co.jp/e/corp/corp14_01.html

Available in: Worldwide (Except for Iran)
## EC-5-013  
### Power cable Harness for Hybrid Vehicles

**Environmental performance**
Heat and oil resistance has been greatly improved through the use of FLUONLEX® for the insulator.
* FLUONLEX® is registered trademark of Hitachi Cable, Ltd.

**Product performance**
Sizes of cable and connection methods that are specific to individual vehicle systems and spaces are offered. Safety for high voltage, noise reduction, and easier installation into the car are considered.

### Hitachi Cable, Ltd.
Hitaka Works, 5-1-1 Hitaka-cho, Hitachi-shi, Ibaraki-ken, 319-1414, Japan
Tel +81-294-25-3835  Fax +81-294-43-3852
E-mail taketani.noriaki@hitachi-cable.co.jp

Available in: Worldwide (Except for Iran)

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## EC-5-014  
### Brake Hose

**Environmental performance**
Long life is achieved by developing new materials and re-designing the structure. A new forged manufacturing method of metal fittings is developed which eliminates material loss and reduces energy consumption. Adoption of new surface treatment that doesn't use hexavalent chromium.

### Hitachi Cable, Ltd.
Hitaka Works, 5-1-1 Hitaka-cho, Hitachi-shi, Ibaraki-ken, 319-1414, Japan
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Available in: Worldwide (Except for Iran)
### EC-5-015  Automobile parts

#### High-strength steel for forged connecting rods

**Environmental performance**

Higher performance and lighter weights of automobile engine components also contribute to reducing CO₂ emissions. This new material allows the two parts to be created on a single line by forging a single part and then splitting it. This helps to reduce the CO₂ that is produced by the production line.

**Product performance**

In collaboration with Honda Motor Co., Sumitomo Metals has developed a revolutionary new material for use in the connecting rods that transmit the reciprocating motion of the pistons to the crankshaft. Previously, a connecting rod was composed of two components manufactured on two separate lines. However, this new material allows the two parts to be created on a single line by forging a single part and then splitting it. This also reduces the weight of the part by 13% because of its improved fatigue strength.

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Available in: Worldwide

### EC-5-016  Automobile parts

#### Non-heat treated nitrocarburized high-strength crankshaft steel

**Environmental performance**

This material contains titanium nitride and molybdenum, making it possible to omit the normalizing heat treatment that was previously essential in order to improve material fatigue strength and bending correction properties. This reduces the CO₂ emissions from the manufacturing process by 22%.

**Product performance**

Sumitomo Metals has developed a new material for crankshafts jointly with Honda Motor Co.

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Available in: Worldwide
### High-strength case-hardened boron steel

**Environmental performance**

However there are concerns that the world’s supply of molybdenum is being depleted. A high-strength case-hardened boron steel uses boron as the additive instead of molybdenum. These products are contributing to resource saving.

**Product performance**

Ordinarily, molybdenum is added to the main shaft and counter shaft (steel components) of a motorcycle transmission so that heat treatment can be used to create an extremely hard surface. We, in collaboration with Honda Motor Co., have developed a high-strength case-hardened boron steel, which uses boron as the additive instead of molybdenum.

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Available in: Worldwide

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### Fashionable Aluminium Road Wheel "SCUBA™"

**Environmental performance**

Hitachi Metals’ aluminium wheels SCUBA™ are created by employing high-precision CAE (computer-aided engineering) technology. They are very strong, rigid, and light (15% lighter than our previous products) and contribute to fuel savings of vehicles as well as reduced CO₂ emissions. We can provide fashionable and delicate designs wheels to take advantage of aluminium casting techniques. We can also provide VOCs* free surface treatment and the high-grade surface treatment such as our high-quality LUSTERIC™ coating.

*VOCs: Volatile Organic Compounds

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URL http://www.hitachi-metals.co.jp/e/corp/corp14_01.html

Available in: Worldwide (Except for Iran)
### Aluminum wheels for trucks and buses

**Environmental performance**
Aluminum wheels reduce vehicle weights and contribute to reducing CO₂ emissions. These correspond to the new emissions restrictions that took effect in 2010.

**Product performance**
Sumitomo Metals developed the first single-piece forged aluminum wheels for trucks and buses in Japan. These correspond to the new emissions restrictions that took effect in 2010, and new ISO standard. We also supply aluminum wheels for new transportation systems and special vehicles.

**Sumitomo Metal Industries, Ltd.**
1-8-11 Harumi, Chuo-ku, Tokyo, 104-6111, Japan
Tel +81-3-4416-6183  Fax +81-3-4416-6793
E-mail chikyu-kan@sumitomometals.co.jp
URL http://www.sumitomometals.co.jp

Available in: Worldwide

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### Fuel Efficient Tires "ECOPIA"

**Environmental performance**
Bridgestone's advanced technology realizes a tire that combines lower rolling resistance with sustained braking performance. That is ECOPIA. Compared with Bridgestone’s standard tire, "B'style EX", ECOPIA EP100S reduces rolling resistance by 39%. Furthermore, ECOPIA EP100S has the same braking performance. ECOPIA EP100S is an environmentally friendly and fuel-efficient tire that does not compromise safety.

Compared with Bridgestone’s standard tire, B250, ECOPIA EP100A reduces rolling resistance by 20% and improves fuel efficiency by 3.1%*.

*Fuel efficiency tests were conducted under Japan standard method (JC08 mode). Results may vary according to car model, tire size and driving performance.

*ECOPIA EP100S is available in Japan
*ECOPIA EP100A is available in Asia, Middle East, Africa and Russia.

**Bridgestone Corporation**
1-10-1, Kyobashi 1-chome, Chuo-ku, Tokyo, 104-8340, Japan
Tel +81-3-3563-6972  Fax +81-3-3563-1165
URL http://www.bridgestone.com

Available in: Japan, Asia, Middle and Near East
### EC-5-021

**Run-Flat tire "POTENZA S001 RFT"**

**Environmental performance**

Run-flat tires can be driven for up to 80 km at 80 km/h, under normal driving conditions at 0kPa inflation pressure. 59 mil.*1 spare tires and contribute to saving resources. Further, the total CO₂ emissions during the life-cycle of spare tires could be lowered by an average of 2 million tons per year. Additional CO₂ emissions from spare tire wheels can also be cut back.

*1 Bridgestone research

*2 The figure is calculated from CO₂ emissions from the life-cycle of Bridgestone temper tire TR2 (size:145/70R18 107M). Tire CO₂ emissions are calculated using Japan Rubber Manufacturer’s Association’s "Tire Inventory Analysis Trail" (1998 version). Here, usage phase is considered as zero emissions.

#### Bridgestone Corporation

10-1, Kyobashi 1-chome, Chuo-ku, Tokyo, 104-8340, Japan
Tel +81-3-3563-6972    Fax +81-3-3563-1165

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### EC-5-022

**Fuel Efficient Tires "ECOPIA R680"**

**Environmental performance**

The R680, using the performance standards of the Durvais R670 as its base, has achieved a 20% reduction in rolling resistance and equal performance in the areas of wear life and regular wear endurance. Regarding the R680's wet brake performance, it should especially be noted that this is the first fuel efficient van tyre developed by Bridgestone to achieve equal performance standards to the R670.

#### Bridgestone Corporation

10-1, Kyobashi 1-chome, Chuo-ku, Tokyo, 104-8340, Japan
Tel +81-3-3563-6972    Fax +81-3-3563-1165
URL [http://www.bridgestone.com](http://www.bridgestone.com)
**Eco-components // Automobile parts**

### EC-5-023

**Automobile parts**

**Fuel Efficient Truck and Bus Tires "ECOPIA M801"**

**Environmental performance**

The ECOPIA M801 is the latest product of truck bus mix ECOPIA series which was introduced to Japan market in 2002. It adopts low rolling resistance technology such as the new eco compound on tread rubber and Energy Saving Line "GUTT" on the casing structure to achieve superior low rolling resistance performance. It reduces rolling resistance by 36% from conventional life-oriented product M890.

**Bridgestone Corporation**

10-1, Kyobashi 1-chome, Chuo-ku, Tokyo, 104-8340, Japan  
Tel +81-3-3563-6972  Fax +81-3-3563-1165  
URL http://www.bridgestone.com  

Available in: Japan

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### EC-5-024

**Automobile parts**

**Tire for Single Drive Axle "GREATEC"**

**Environmental performance**

The GREATEC was introduced in 2000 as an ultra low profile tire which would replace two conventional dual tires into one single tire. This tire not only benefits in rolling resistance but also contributes in raw material reduction, weight saving & vehicle space constraint. It is mainly sold and used in fleets in North America, Japan and European market.

**Bridgestone Corporation**

10-1, Kyobashi 1-chome, Chuo-ku, Tokyo, 104-8340, Japan  
Tel +81-3-3563-6972  Fax +81-3-3563-1165  
URL http://www.bridgestone.com  
URL http://www.bridgestone.co.jp/english/greatec/  

Available in: Japan, Europe, North America, U.S.A
**Environmental performance**

Asahi Breweries, Ltd. is introducing efforts to reduce the weight of beer-can ends. In 2007, the company reduced the surface area of these ends by approx. 6% and their thickness by 0.01 mm through the introduction of 206-diameter SuperEnd next-generation lightweight ends featuring an exclusive countersink wall. This design reduces aluminum consumption by about 9% compared with the conventional model (approx. 0.3 g per end). Using this type of end for beer cans will save approx. 1,200 tons of aluminum annually and reduce CO₂ emissions by about 9,000 tons per annum. Asahi Breweries is committed to developing environmentally friendly containers and packaging while promoting the 3 Rs (Reduce, Reuse and Recycle) toward the establishment of a recycling-oriented society.

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**Asahi Breweries, Ltd.**

1-23-1 Azumabashi, Sumida-ku, Tokyo, 130-8602, Japan
Tel +81-3-5608-5195 Fax +81-3-5608-5201
URL http://www.asahibeer.co.jp/english/

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**A beer-keg cap made from polylactic acid (a plant-derived plastic)**

Asahi Breweries, Ltd. is introducing efforts to develop environmentally friendly containers and packaging materials. This product is a cap seal that protects the mouthpiece of kegs, and is made from polylactic acid (a plant-derived plastic). It is used for stainless kegs that contain beer and RTD, and is manufactured using a type of plant-derived plastic that has no petroleum content in its raw materials and is biodegradable. This is the world’s first cap seal to be introduced for keg products. CO₂ emissions in the product cycle, from raw materials to manufacturing and disposal, will be reduced by approximately 60%, which amounts to about 150 tons per year. Asahi Breweries is committed to developing environmentally friendly containers and packaging while promoting the 3 Rs (Reduce, Reuse and Recycle) toward the establishment of a recycling-oriented society.

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**Asahi Breweries, Ltd.**

1-23-1 Azumabashi, Sumida-ku, Tokyo, 130-8602, Japan
Tel +81-3-5608-5195 Fax +81-3-5608-5201
URL http://www.asahibeer.co.jp/english/
### EC-6-003

#### Packaging

**PET bottle based on universal design for environment load reduction**

**Environmental performance**

PET bottle with hollow surface and thermal adhesion label

Hollow bottle reduced the used quantity of resin by 21%. Its feature is that it is easy to hold and to pour. It is being used as the bottle of the tea drink for a famous brand. The thermal adhesion label can be thermally stuck at only one spot after it is wound up on the body of the bottle. It can reduce the used amount of label by 22% compared to conventional. The label is easy to be stripped, and it is expected to promote the classification and discharge of the bottle.

Asahi Soft Drinks Co., Ltd. contributes to the realization of rich, healthy eating habits of the consumers, through various company activities aimed at passing the earth on to the next generation in a healthier state.

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**Asahi Soft Drinks Co., Ltd.**

1-23-1 Azumabashi, Sumida-ku, Tokyo, 130-8602, Japan  
Tel +81-3-5608-7227  Fax +81-3-5608-7248

### EC-6-004

#### Packaging

**PET bottle using biomass plastic label**

**Environmental performance**

Asahi Soft Drinks Co., Ltd. introduced the eco-friendly "biomass label" on 500ml Juroku-cha PET bottles. Using 50% or more plant-derived polylactic acid made from corn starch, it is the first soft drink PET bottle label to attain the "biomass plus mark." As the labels reduce the use of fossil fuel resources, CO₂ emissions can be limited. Compared with conventional labels, approximately 200 tons of CO₂ per year will be reduced. This product won the Beverage Packaging Category Award of the Japan Packaging Contest. Asahi Soft Drinks Co., Ltd. contributes to the realization of rich, healthy eating habits of the consumers, through various company activities aimed at passing the earth on to the next generation in a healthier state.

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**Asahi Soft Drinks Co., Ltd.**

1-23-1 Azumabashi, Sumida-ku, Tokyo, 130-8602, Japan  
Tel +81-3-5608-7227  Fax +81-3-5608-7248
### EC-6-005  Packaging

**Wine in lightweight Ecology Bottles**

**Environmental performance**
Asahi Breweries, Ltd. is introducing efforts to reduce amounts of waste containers and packaging materials and to promote recycling in order to save resources. This product uses a lightweight wine bottle called the Ecology Bottle, which uses more than 90% recycled glass. It maintains the same height as existing wine bottles, but its weight is reduced by approx. 18%. CO₂ emissions during the model’s manufacture are reduced by approx. 180 tons per year, and the resulting enhancements in transportation efficiency have also led to reduced CO₂ emissions. Asahi Breweries is committed to developing environmentally friendly containers and packaging while promoting the 3 Rs (Reduce, Reuse and Recycle) toward the establishment of a recycling-oriented society.

**Asahi Breweries, Ltd.**
1-23-1 Azumabashi, Sumida-ku, Tokyo, 130-8602, Japan  
Tel +81-3-5608-5195  Fax +81-3-5608-5201  
URL http://www.asahibeer.co.jp/english/

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### EC-6-006  Packaging

**Cartocan**

**Environmental performance**
The Cartocan uses domestic lumber, including wood from forest-thinning, for over 30% of its raw materials and thus contributes to the prevention of global warming by helping to nurture healthy forests.

**Product performance**
An aseptic filling system is used and deterioration due to heat is minimal, meaning that the content's original quality is not lost. Toppan GL Film is used for the barrier layer. GL Film has outstanding barrier properties, enabling distribution at ambient temperatures and stable content conservation. The Cartocan has a cylindrical shape that can be held easily even by small hands and overflow of the content is minimized.

**TOPPAN PRINTING CO., LTD.**
1, Kanda Izumi-cho, Chiyoda-ku, Tokyo, 101-0024, Japan  
Tel +81-3-3835-5549  Fax +81-3-3835-0849  
E-mail eco@toppan.co.jp  
URL http://www.toppan.co.jp/english/  
URL http://www.toppan.co.jp/english/csr/csrreport.html
Eco-components // Packaging

### EC-6-007  
**Packaging**  
**beverage for baby & kids**

**Paper container "Cartocan" using the forest thinning material**

**Environmental performance**

Wakodo Co., Ltd. has acquired the public mark for "Forest Thinning Material" on its paper container "Cartocan," because it uses more than 30% domestic wood comprising forest thinning materials greater than 10%. Through the positive use of domestically obtained wood, some of the expense to repair local forests is fed back to the mountains, thus promoting a healthier forest. This activity coincides with a national project the Japan Forest Agency is promoting: "National campaign to promote the making of beautiful woods" and "The campaign to use domestic wood." This is helping the construction of a recycling society and the absorption of CO₂. Beverages sold include a 125 ml pack for children, including Genkicchi and the caffeine-free blended tea "Juroku-Cha".

**Wakodo Co., Ltd.**

2-14-3 Kanda Tsukasa-machi, Chiyoda-ku, Tokyo, 101-0048, Japan  
Tel +81-3-5296-6815  
Fax +81-3-5296-6808

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### EC-6-008  
**Packaging**  
**plastic containers**

**Beaubelcup® - Air**

**Environmental performance**

DNP has developed the lightest Injection Molded Cup 9.9g in the world, called "Beaubel Cup Air", which was already adopted for Chilled Beverage Cup. DNP achieved about 5.0 g reduction, that is, 33% resin weight reduction per a cup, compared to the conventional light weight Beaubel Cup 14.8 g. Beaubel Cup Air has no longer rigid feeling but soft with necessary strength as an original plastic cup.  

<Major applications>  
Beverages, desserts.

**Dai Nippon Printing Co., Ltd.**

1-1-1, Ichigaya-Kagacho, Shinjuku-ku, Tokyo, 162-8001, Japan  
Tel +81-3-5225-5901  
URL http://www.dnp.co.jp/eng/
## EC-6-009 Packaging

### eco slim box

**Environmental performance**

'Eco-slim box' is a package for the golf ball where the quantity consumed of paper was reduced, the box has been used for the products since 2009. The package of the past was a structure that divided upper and lower part. By combining it, the quantity consumed of paper has been reduced in about 18~24%. The new package reduced by about 30% is developed, and used in 2010. The mark of 'Eco-slim box' is posted in the package and the catalog, the consumers can choose the product from respect of the environmental protection.

**BRIDGESTONE SPORTS CO., LTD.**

World Trade Bldg. 2-4-1, Hamamatsu-cho, Minato-ku, Tokyo, 140-0013, Japan
URL http://www.bs-sports.co.jp/english/index.html

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## EC-6-010 Packaging

### paperboard boxes and cups

**Environmental performance**

Forest certification systems intend to achieve sustainable use and protect forest resources through labeling which represents to meet a certain standard such as avoiding illegal logging and preserving bio-diversity for managing forest resources in an appropriate way. Therefore, certified paper is made from pulp derived from appropriately-managed forest.

Logo of Forest Stewardship Council (FSC) has been printed on paper package for 'Toro-Fuwa pudding'. FSC is one of the two major credible forest certification systems in the world.

Dai Nippon Printing Co., Ltd. as package manufacturer has been certified as meeting the requirement of FSC’s chain of custody standards.

**MORINAGA MILK INDUSTRY CO., LTD.**

34-6, Shiba 5-Chome Minato-ku, Tokyo, 108-8384, Japan
Tel +81 3 (3798) 0145 Fax +81 3 (3798) 1049

Available in: Japan
**IB-Film**

**Environmental performance**
IB-film is a transparent film with high barrier performance as an oxygen and moisture barrier. It is made by depositing aluminum oxide and silicon oxide onto polyester and nylon films. Its transparency, high barrier features and suitability for printing make it useful as a base material for packaging. IB-film allows the elimination of layers (such as aluminum foil), aluminum vapor deposition and other plastic films with barrier capability. This reduces the weight of packing materials, thus contributing to a reduction of the environmental burden it creates. And it can be used for heating in microwaves, thus enhancing convenience.

<Major applications>
Food, snacks, beverages, drugs, medical materials, industrial materials, packaging materials

**Dai Nippon Printing Co., Ltd.**

1-1-1, Ichigaya-Kagacho, Shinjuku-ku, Tokyo, 162-8001, Japan
Tel +81-3-5225-5901
URL http://www.dnp.co.jp/eng/

Available in: Worldwide

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**GL and GX Film**

**Environmental performance**
GL and GX Film are collective names for Toppan’s clear high barrier films developed using coating and deposition technologies. Since these films do not use chlorine-based resins, no chlorine gases are released on incineration. When they are used as packaging material, the high barrier properties preserve contents and best before and sell by dates can be extended. This therefore contributes to reducing waste from products that have passed their use or sell by dates. It is also possible to reduce waste because the packaging material itself is rationalized and reduced in volume.

**Product performance**
GL and GX Films have outstanding barrier properties and stability achieved through original deposition processing technologies. They hold the top share of the global market and are used widely for various applications including food packaging, toiletries, electrical components.

**TOPPAN PRINTING CO., LTD.**

1, Kanda Izumi-cho, Chiyoda-ku, Taito-ku, Tokyo, 101-0024, Japan
Tel +81-3-3835-5549 Fax +81-3-3835-0849
E-mail eco@toppan.co.jp
URL http://www.toppan.co.jp/english/
URL http://www.toppan.co.jp/english/csr/csrreport.html

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**Synchronized aseptic filling system**

**Environmental performance**

This is an aseptic system that enables the filling of light PET bottles that have no heat resistance at normal temperatures in place of heavy heat-resistant PET bottles designed for hot filling.

The technique represents a low-cost, environmentally friendly system that has integrated processes from blow molding to filling by making effective use of the residual heat from blow molding to sterilize bottles. The system has enabled a reduction in the weight of bottles and the use of bottles with improved design characteristics, thereby significantly cutting the amount of energy used.

In the new method the amount of water required to wash bottles can be reduced to approximately one sixth compared to the conventional method.

**Scope of reduction**
- Installation space: Reduced by 50 percent
- Utility used: Reduced by 50 percent
- Water used: Reduced by 80 percent

**Dai Nippon Printing Co., Ltd.**

1-1-1, Ichigaya-Kagacho, Shinjuku-ku, Tokyo, 162-8001, Japan
Tel +81-3-5225-5901
URL http://www.dnp.co.jp/eng/

Available in: Worldwide

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**One piece molding tube**

**Environmental performance**

One piece molding tube is which sholder and cap are integrated. 
DNP achieved 50 percent regin wheigt reduction per cap and sholder by molding.

About the part of body, It is possible that 30 percent wheigt reduction by changing extrusion tube to laminate tube.

In the case of one piece laminate tube, it is possible that 40 percent wheigt reduction.

By molding shoulder and cap at the same time, there is no clearance between the shoulder and cap, clean water and dust entering.

**<Major applications>**
- Conditioner, cosmetics

**Dai Nippon Printing Co., Ltd.**

1-1-1, Ichigaya-Kagacho, Shinjuku-ku, Tokyo, 162-8001, Japan
Tel +81-3-5225-5901
URL http://www.dnp.co.jp/eng/
### EC-6-015  
**Packaging**

**Micvac**

*Environmental performance*

MicVac is a valve system developed in Sweden used for in-pack cooking and pasteurization of foods. Fresh food ingredients and pre-cooked sauce are first filled into a tray, a MicVac valve is applied to a film lid and the lid is then sealed to the tray. Sealed trays are then passed through a continuous microwave system to cook and pasteurize the food.

The key purpose of this system is to increase shelf life. Food products packed in this way and maintained at temperatures below 8 degrees C can have a life of up to 35 days, reducing food waste through spoilage. It will be the reason to reduction of disposal loss.

Long preservation and retention of product quality: Oxidization is almost totally eliminated so spoilage is minimized.

*Dai Nippon Printing Co., Ltd.*

1-1-1, Ichigaya-Kagacho, Shinjuku-ku, Tokyo, 162-8001, Japan  
Tel +81-3-5225-5901  
URL [http://www.dnp.co.jp](http://www.dnp.co.jp)  
URL [http://packaging.jp](http://packaging.jp)  
URL [http://www.dnp.co.jp/jis/eco/index02.html](http://www.dnp.co.jp/jis/eco/index02.html)

Available in: Japan, Republic of Korea

### EC-6-016  
**Packaging**

**DynAsept**

*Environmental performance*

This system is efficient aseptic packaging in comparison with the retort packaging or frozen packaging that is representative food save technology. In addition, you can largely reduce plastic materials to use, because you can replace an institutional packaging with a single pouch from BIB.

This is Aseptic Packaging System which can support wide product size from 10cc to 1000cc. This System can fill product from low viscosity such as Noodles soup, Soup stock and sauce to high viscosity such as Demi-glace sauce and White sauce. We succeeded in development of a new Aseptic Packaging System (DynAsept-Deca), which can support wide product size from 1L to 10L.

<Major applications>  
Seasoning food such as Soup stock and sauce, Dairy products and Drink.

*Dai Nippon Printing Co., Ltd.*

1-1-1, Ichigaya-Kagacho, Shinjuku-ku, Tokyo, 162-8001, Japan

Available in: Worldwide
EC-6-017  
Re-fill DVD/CD packaging

**Environmental performance**

The life of conventional spindle cases tends to last only until the discs they hold are used, and they are then discarded. Re-fill, a product by Imation Corp., is a resource-saving idea that involves the refilling of spindle cases with discs to reduce waste and the consumption of material resources.

**Imation Corp. Japan**

Aoyama Oval Building, 52-2, Jingumae 5-chome, Shibuya-ku, Tokyo, 150-0001, Japan

Available in: Japan

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EC-6-018  
One Dish Aid confectionery container

**Environmental performance**

Ceramic confectionery containers used for puddings, etc., are usually disposable. The One Dish Aid confectionery container is made using 20% crushed (recycled) material from waste tableware collected from households, etc. This is Japan’s first product for which a deposit system for container reuse was adopted. It also contributes to nature conservation and O₂ reduction through a system in which 2 yen of the profits from each container are donated to tree planting activities and the like. Promotion of this product not only contributes to recycling of exhaustible ceramic materials, but also if use at least 5 times during its total lifecycle, reduces CO₂ emissions to 1/4 those of conventional containers.

**Product performance**

To enable this product to be used repeatedly, it has an antifouling highly-glazed finish, an easy-to-wash shape, slits to facilitate drying of the base, and thick edges to improve its washing efficiency and strength. The containers come in three sizes frequently used for confectionery, and two colors (white and brown), with an extremely safe glaze. A stackable type has also been put on the market to improve storage efficiency in shops and homes.

**NPO JAPAN One Dish Aid Association**

Shibuya Bldg. 5F 6-10 Samon-cho, Shinjuku-ku, Tokyo, 160-0017, Japan
Tel +81-3-3354-9012  Fax +81-3-3354-9013
E-mail info@e-sakon.co.jp
URL http://onedish.net
URL http://onedish.net/youki/youki_top.html
URL http://onedish.net/katsudou/index.html

Available in: Japan
**Earth-conscious linerless seal label, Non-Sepa®**

**Environmental performance**
Non-Sepa (linerless) labels use no backing papers even during the production process. Since no waste backing is left behind, the amount of paper used and CO₂ emissions are reduced.

**Product performance**
Disposal time and cost are reduced. In addition, roughly 40% more labels are in each roll compared with a standard roll of the same diameter, while work efficiency is improved and spaces for stock and transportation costs can be cut.

Sato's Ecomatch series promotes the 3Rs (Reduce, Reuse, Recycle) and supports customers conducting environmental conservation activities.

**SATO CORPORATION**
7-1, Shimomeguro 1-chome, meguro-ku, Tokyo, 153-0064, Japan
URL http://www.sato.co.jp

Available in: Japan, Asia, Oceania, Europe, North America, South America

**Revolutionary Systems-Concept Packaging**

**Environmental performance**
The Revolutionary Systems-Concept Packaging (RSCP) is a nail-free, lightweight packaging made from Oriented Strand Board (OSB) material. OSB is a green material sourced solely from FSC-certified sustainable forests, enabling us to cut down on indiscriminate logging and deforestation. The nail-free feature prevents products inside the packaging from getting damaged.

REDUCE - Using 20% to 60% less timber, RSCP optimises raw materials and enhances the structure of the packaging to provide greater support, resulting in lighter packaging that saves material and freight cost.

REUSE - RSCP has in-built collapsible features, allowing for easy dismantle and storage, and reassembled for reuse when needed.

RECYCLE - RSCP can also be easily recycled into chipboards or fibreboards as they do not contain nails or metallic fasteners.

**Greenpac(S)Pte Ltd**
8 Pandan Crescent, #01-01 United Tech Park, Singapore 128464, Singapore
Tel +65-6567-8366
E-mail info@greenpac.com.sg
URL http://www.greenpac.com.sg
Environmental performance
With this water conservation dual-flush toilet retrofit device, toilets can save up to 50% of water.

Product performance
Compared with ordinary toilets, which release about 6L of water in each flush, toilets equipped with dual-flush devices can save up to 50% of water by adjusting water consumption per flush for liquid waste.

LUNG TIEN HSIA INDUSTRIAL CO., LTD.
No.47, Yongxiang Rd., Fangliao Township, Pingtung County, Taiwan, 940, Republic of China
Tel +886-7-6163666 Fax +886-7-6160361
E-mail service@lth.com.tw
URL http://www.lth.com.tw

Available in: Taiwan (Rep. of China)

Environmental performance
Low-pollution, non-toxic.
The product does not contain chlorine, phthalates (esters of 1, 2-benezenedicarboxylic acid), the compounds of cadmium, lead, mercury or tin.

Product performance
* Low-pollution, non-toxic.
* Recyclable.
* Easy to install.
* Durable in a wide range of temperatures.

SHUN-MING PLASTIC INDUSTRIAL CORP.
No. 287-1, Feng Yeh Village, Yang-Mei City, Taoyuan County, Taiwan, 326, Republic of China
Tel +886-3-4726548 Fax +886-3-4726549
E-mail sm265879@ms17.hinet.net
URL http://www.shunming.com.tw

Available in: Worldwide
## Eco-components // Others

### EC-7-003  
PE Pipe for General Uses (Electricity, Telecommunication, Sewage, Boats)

**Environmental performance**
Low-pollution, non-toxic. The product does not contain chlorine, phthalates (esters of 1, 2-benzene dicarboxylic acid), the compounds of cadmium, lead, mercury or tin.

**Product performance**
* Low-pollution, non-toxic.
* Recyclable.
* Easy to install.
* Durable in a wide range of temperatures.

**SHUN-MING PLASTIC INDUSTRIAL CORP.**
No. 287-1, Feng Yeh Village, Yang-Mei City, Taoyuan County, Taiwan, 326, Republic of China
Tel +886-3-4726548  Fax +886-3-4726549
E-mail sm265879@ms17.hinet.net
URL http://www.shunming.com.tw

Available in: Worldwide

### EC-7-004  
Color filter (BM made of organic resin)

**Environmental performance**
To improve light transmission that contributes to saving electric power for liquid crystal display panels (LCDs), the width of the color filter's black matrix (BM) is formed narrower than before. In addition, more environmentally friendly materials, resin, is used instead of chrome which has been widely used as BM material.

**Product performance**
Color filters are key components of color LCD panels and consist of primary three-color patterns of RGB. In the process of manufacturing them, it is necessary to form BM first on a glass substrate in order to prevent unnecessary leakage of light through patterns.

**TOPPAN PRINTING CO., LTD.**
1, Kanda Izumi-cho, Chiyoda-ku, Tokyo, 101-0024, Japan
Tel +81-3-3835-5549  Fax +81-3-3835-0849
E-mail eco@toppan.co.jp
URL http://www.toppan.co.jp/english/
URL http://www.toppan.co.jp/english/CSR/csrreport.html
Eco-products

1 Home electric appliances/lighting
2 Carriers/automobiles
3 OA/IT equipment
4 Office supplies/furniture
5 Apparel/textiles
6 Household goods and equipment
7 Building and civil engineering equipment
8 Machines and equipment
9 Others

Eco-products are environment-friendly products. In this section, they refer particularly to “finished products” to differentiate them from “eco-materials” and “eco-components.” Like eco-materials and eco-components, eco-products include “products that help clean and conserve the environment” and “products with high performance, yet creating a low environmental impact.” The latter come in a wide variety. The first stage of eco-product development is eco-design. Eco-design proceeds based on the evaluation of three factors: 1) effective and efficient use of materials; 2) energy saving; and 3) low/no toxicity.

Characteristics of eco-products, including the environment-friendly aspect, are determined during the design stage, and evaluation factors are therefore crucial. These three product evaluation factors differ from the six criteria for eco-materials (see the page titled “Eco-materials”). This is because eco-products involve consumers more directly than eco-materials, and the environmental aspects of eco-products are appropriately evaluated from the consumer’s viewpoint.

To help consumers understand eco-products better, environmental labels are widely used in Japan. It is hoped that an ideal cycle to support a low environmental-impact society will develop, where more consumers are encouraged by environmental labels to buy eco-products so that manufacturers make further efforts in eco-product development and the provision of environmental information in response to consumer demand.
**EP-1-001**

**Home electric appliances/lighting**

**Room Air Conditioner with "Notice Navi" Function to Encourage Energy-Saving Operation**

**Environmental performance**

- **Material / Resource saving**
  - Our selection technology allows three major types of plastic to be separated from the mixed plastic that results from end-of-life home appliances. This technology enables recycled plastic to be reused for the plastic parts of this device, greatly increasing the utilization of recycled plastic produced from used devices.
  - Our unique coating technology effectively reduces the adhesion of contamination to 1/10 the normal level.

- **Energy saving**
  - Efficiency of compressors, heat exchangers and fan motors are improved, realizing the leading energy-saving performance in the industry.
  - Our infrared sensor, Move Eye, senses floor and wall temperatures, as well as people’s locations and movements, and automatically adjusts its direction and temperature according to individual body temperatures while achieving an energy saving of up to 65%.
  - The "Notice Navi" function provides energy-saving advice during operation to develop the users' consciousness for energy saving.

- **Toxicity / Chemical substances reduction**
  - Emits no substances defined in the EU RoHS directive, Japanese Industrial Standards (JIS) or J-Moss.

**Product performance**

The Comfort Selection function is adopted to allow intuitive air conditioner operation by selecting pictures shown on the remote controller’s LCD. This is the brand-new remote controller which allows users to select 21 different varieties of functions, such as foot heating and skin moisturizing. The Raku-raku Assist function displays easy-to-understand letters and pictures using the Graphical User Interface (GUI) on the 3.5-inch full-dot LCD. The advanced infrared sensor, Move Eye, senses the condition of rooms to operate the air conditioner automatically to provide comfort for users.

**Mitsubishi Electric Corporation**

2-7-3, Marunouchi Chiyoda-ku, Tokyo, 100-8310, Japan
Tel +81-3-3218-9024    Fax +81-3-3218-2465
E-mail eqd.eco@pj.MitsubishiElectric.co.jp
URL http://global.mitsubishielectric.com/index.html

Available in: Japan

**EP-1-002**

**Home electric appliances/lighting**

**Air Conditioner: energy-saving, air-cleaning: CS/CU-S13NKT**

**Environmental performance**

Energy saving is achieved by top class COP advanced inverter technology. Save more energy by "ECONAVI" with sunlight sensor, which can save energy by sensing human presence, activity volume and sunlight intensity inside the room. Through this product concept, we deliver to consumers the company message of "eco ideas".

**Product performance**

This air conditioner has new air purifying system (APS) "nanoe G", which can clean the room air speedily with its dust/bacteria collecting effects. In addition, this newly developed device can deactivate the adhere bacteria/virus in the room.

**Panasonic Corporation, Appliances Company**

Lot 2, Persiaran Tengku Ampuan, Section 21, Shah Alam Industrial Site, 40300 Shah Alam, Selangor, Malaysia
Tel +60-3-5891-4000    Fax +60-3-5891-4001
URL http://papamy.panasonic.com.my/

Available in: Asia
Eco-product // Home electric appliances/lighting

EP-1-003  Home electric appliances/lighting  
Air Conditioner with Plasmacluster Technology

Environmental performance
(1) Realized high energy efficiency with compact chassis by adopting "Louverless Long Panel" based on hydrodynamics, and unique indoor and outdoor fans based on biomimetics engineering.
(2) Can always achieve the most energy efficient operation of the moment by just one push of "auto-eco" button.

Product performance
(1) Not only the air purification in the room, High-Density Plasmacluster 25000 will bring positive effects to make your skin beautiful.
(2) Original air flow control system using panel type indoor unit will warm you immediately and powerfully from the feet without stress.
(3) Comfortable cooling and heating without direct air Original "Ultra-wide Airflow" will cool down or warm up the room gently and comfortably without feeling direct airflow on your body.

Sharp Corporation
22-22 Nagaike-cho, Abeno-ku, Osaka, 545-8522, Japan
Tel +81-6-6625-0438  Fax +81-6-6625-0153
E-mail eco-info@sharp.co.jp
URL http://sharp-world.com/
Available in: Japan

EP-1-004  Home electric appliances/lighting  
Energy-saving Performance for Long Period of Time - A World Leading Model in Terms of Quality and Environmental Performance

Environmental performance
- Mitigation of climate change: 55% reduction in annual power consumption compared with the conventional model (a rated model of Toshiba). 1.1 tons/year reduction in CO2 emissions compared with the conventional model.
- Management of chemicals: Adoption of lead-free soldering and chromium-free steel plating.

Product performance
- Self-cleaning function: Automatic cleaning to maintain energy-saving performance for a long time.
- Comfort control: New flaps for omnidirectional airflow contribute to comfort with minimal uneven temperature distribution.
- Simple installation: The monitor displays the status during trial operation for simple, quick installation.

Toshiba Carrier Corporation
3-23-17 Takanawa, Minato-ku, Tokyo, 108-8580, Japan
Tel +81-3-6409-1735  Fax +81-3-5447-8101
URL http://www.toshiba-co.jp/index.htm
URL http://www.toshiba-aircon.jp/aboutus/environment.htm
### EP-1-005

**Home electric appliances/lighting**

#### Energy-Efficient Package Air Conditioners: Mr Slim ER Clean Plus Series

**Environmental performance**

- **Material / Resource saving**
  - Pipe cleaning and pipe replacement has become unnecessary.
  - Frictional heat from the compressor's moving parts has been reduced.
  - An originally developed highly stable alkylbenzene refrigerant oil (Models P40-P63).

- **Energy saving**
  - The "Move Eye 360°" determines radiant floor temperature.
  - The "Area Move Eye" and unique air-flow control delivers energy-efficient operation with minimal unnecessary running.
  - The "Automatic Filter Cleaning Unit" cuts power consumption by 10% (Slim ER Clean Plus).

**Mitsubishi Electric Corporation**

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URL http://global.mitsubishielectric.com/index.html

Available in: Japan

MPLZ-ERP140BECM

### EP-1-006

**Home electric appliances/lighting**

#### Replacement Multi Air Conditioner Reusing Existing Refrigerant Tubing

**Environmental performance**

- **Material / Resource saving**
  - Compact design in outdoor unit enables to be carried by an elevator for 6 people. Automatic refrigerant charge and automatic mineral oil collection enables great shortening of term of construction. It collects oil through general air conditioning operation.

- **Toxicity / Chemical substances reduction**
  - R410 refrigerant is zero ODP (Ozone Depletion Potential)

**Product performance**

"Replace Multi" is an air conditioning system for building using existing refrigerant tubing, which basically contributes to resource saving. The Prize of the Chairman of JIII, 2007 (JIII: Japan Institute of Invention and Innovation)

**Mitsubishi Electric Corporation**

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E-mail eqd.eco@pj.MitsubishiElectric.co.jp
URL http://global.mitsubishielectric.com/index.html

Available in: Japan
Compact Design "City Multi" Air Conditioner

**Environmental performance**

- **Material / Resource saving**
  The manageability of the outdoor unit has been improved due to a drastic reduction in weight, leading to easy transportation, installation, and reduction in withstand load.

- **Energy saving**
  VRF (Variable Refrigerant Flow) is a multi and direct expansion type air conditioning system whereby one outdoor unit can be connected to multiple indoor units. The amount of refrigerant can be regulated freely according to the load on the indoor unit by the inverter driven compressor in the outdoor unit. Energy conservation is easily handled because individual indoor units can stop and start as needed.

- **Toxicity / Chemical substances reduction**
  R410 refrigerant is zero ODP (Ozone Depletion Potential)

**Product performance**

Due to the compact design of the outdoor unit, industry leading space saving is realized.

Mitsubishi Electric Corporation

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URL http://global.mitsubishielectric.com/index.html

Available in: Asia, Oceania, Europe, South America

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**EP-1-008**

First in the world. The air-conditioner which operation by voice.

**Environmental performance**

- **Mitigation of climate change**: Equipped with a dual compressor, cooling and heating is done with only 45W power consumption (1yen/hour), 28% reduction in annual power consumption. (conventional model RAS-406YDR '00 model)
- **Power saving operation**: can be set up easily by voice controller.
- **Eliminate futile operation**: which checked person motion and brightness by active search sensor and brightness sensor.
- **Peak cut operation**: is possible by power selection function.

**Product performance**

- **Voice controller**: Operation of an air-conditioner can be performed with a sound.
- **Air cleaning**: Control of virus and mold by pico-ion.
- **Dash heating**: Warm air blow off at about 1 minute.

TOSHIBA HOME APPLIANCES CORPORATION

2-15, Sotokanda 2-chome, Chiyoda-ku, Tokyo, 101-0021, Japan
URL http://www.toshiba.co.jp/index.htm

Available in: Japan
HITACHI PAM Air Conditioner "Stainless Clean SHIROKUMAKUN" RAS-S40B2

Environmental performance
- Indoor unit heat exchanger with reduced divided sections, high-density outdoor unit condenser, CV-PAM*1 Control and Jet Scroll Compressor with high efficient motor realized high energy efficiency. (APF*2 Period Power Consumption 1,196kW)
  *1 Cascade Vector PAM control
  *2 Annual Performance Factor

Product performance
- "Stainless Clean System" which stainless steel material is applied to the indoor unit interior prevents dirt form sticking inside of the unit. Auto-filter cleaning is also applied to reduce cleaning workload.
- By pressing "Eco Korekkiri" (=once and for all) button, the combination of Watch, Listen and Feel sensors detect the user's life scene precisely and creates comfortable and energy saving operation.
- With "Electricity Cut" function, it reduces max electricity consumption and keeps the room temperature at 20°C (heating) and 28°C (cooling). It also controls the air flow direction to the remote controller's location.
- Heating power is increased thanks to "Jet Scroll Compressor" and CV-PAM control.

Hitachi Appliances, Inc.
Hitachi Atago Bldg., 15-12 Nishi Shimbashi 2-chome, Minato-ku, Tokyo, 105-8410, Japan
Tel +81-3-3502-2111 Fax +81-3-3506-1442
URL http://www.hitachi-ap.com/

Available in: Japan

WALL MOUNTED SPLIT TYPE AIR CONDITIONER FROST FU-112CS1(G)+ FI-112CS1(A)

Environmental performance
Environmentally friendly, low noise; free of the controlled substances of the Montreal Protocol, helpful in preventing heavy metal pollution; highly efficient in energy use, electricity-saving; free of hazardous chemicals, helpful in preventing hazardous substance pollution; made from recycled materials.

Product performance
Eco-friendly, energy-saving (EER ≥ 3.14), fast cooling, low noise (indoors ≤ 58dB, outdoors ≤ 62dB), easy to operate, providing a comfortable living environment.

Product Series:
- FROST FU-112CS1(G) (outdoor unit) + FROST FI-112CS1(A) (indoor unit)
- FROST FU-112CSD1(G) (outdoor unit) + FROST FD-112CS1(indoor unit)

FAST ELECTRIC CO., LTD.
No. 59, Hsin Chuang, Hsin Chuang Village, Shanshang Dist., Tainan City, Taiwan, 743, Republic of China
Tel +886-6-5783233-320 Fax +886-6-5783889
E-mail aircon@frost.com.tw
URL http://www.frost.com.tw

Available in: Worldwide
### EP-1-011  Home Electric Appliances/Lighting

**WALL MOUNTED SPLIT TYPE AIR CONDITIONER FROST FUV-22CS1+ FIV-22CS1(S)M**

#### Environmental performance

Environmentally friendly, low noise; free of the controlled substances of the Montreal Protocol, helpful in preventing heavy metal pollution; highly efficient in energy use, electricity-saving; free of hazardous chemicals, helpful in preventing hazardous substance pollution; made from recycled materials.

#### Product performance

Eco-friendly, energy-saving (EER ≥ 3.19), fast cooling, low noise (indoor ≤ 50dB, out door ≤ 53dB), easy to operate, providing a comfortable living environment.

**Product Series:**

* FROST FUV-22CS1 (outdoor unit) + FROST FIV-22CS1 (S)M (indoor unit)
* FROST FUV-22CS1 (outdoor unit) + FROST FIV-22CS1 (S) (indoor unit)
* FROST FUV-22CS1 (outdoor unit) + FROST FIV-22CS1(D)M (indoor unit)
* FROST FUV-22CS1 (outdoor unit) + FROST FIV-22CS1(D) (indoor unit)

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**FAST ELECTRIC CO., LTD.**

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URL http://www.frost.com.tw

Available in: Worldwide

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### EP-1-012  Home Electric Appliances/Lighting

**WINDOW TYPE AIR CONDITIONER FROST FW-52CS1**

#### Environmental performance

Environmentally friendly, low noise; free of the controlled substances of the Montreal Protocol, helpful in preventing heavy metal pollution; highly efficient in energy use, electricity-saving; free of hazardous chemicals, helpful in preventing hazardous substance pollution; made from recycled materials.

#### Product performance

Eco-friendly, energy-saving (EER ≥ 2.86), fast cooling, low noise (indoor ≤ 58dB, out door ≤ 62dB), easy to operate, providing a comfortable living environment.

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**FAST ELECTRIC CO., Ltd.**

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URL http://www.frost.com.tw

Available in: Worldwide
Eco-product // Home electric appliances/lighting

EP-1-013

Home electric appliances/lighting

WINDOW TYPE AIR CONDITIONER FROST FWV-41CS1

Environmental performance
Environmentally friendly, low noise; free of the controlled substances of the Montreal Protocol, helpful in preventing heavy metal pollution; highly efficient in energy use, electricity-saving; free of hazardous chemicals, helpful in preventing hazardous substance pollution; made from recycled materials.

Product performance
Eco-friendly, energy-saving (EER ≥ 3.05), fast cooling, low noise (indoor ≤ 53dB, outdoor ≤ 57dB), easy to operate, providing a comfortable living environment.

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URL http://www.frost.com.tw

Available in: Worldwide

EP-1-014

Home electric appliances/lighting

WALL MOUNTED SPLIT TYPE AIR CONDITIONER FROST FU-36CS1 (D) + FI-36CS1 (D) M

Environmental performance
Environmentally friendly, low noise; free of the controlled substances of the Montreal Protocol, helpful in preventing heavy metal pollution; highly efficient in energy use, electricity-saving; free of hazardous chemicals, helpful in preventing hazardous substance pollution; made from recycled materials.

Product performance
Eco-friendly, energy-saving (EER ≥ 3.42), fast cooling, low noise (indoor ≤ 53dB, outdoor ≤ 57dB), easy to operate, providing a comfortable living environment.

Product Series:
* FROST FU-36CS1 (D) (outdoor unit) + FROST FI-36CS1 (D) M (indoor unit)
* FROST FU-36CS1 (D) (outdoor unit) + FROST FI-36CS1 (D) (indoor unit)
* FROST FU-36CS1 (D) (outdoor unit) + FROST FD-36CS1 (indoor unit)

FAST ELECTRIC CO., Ltd.

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Available in: Worldwide
**Eco-product // Home electric appliances/lighting**

**EP-1-015**

**Home electric appliances/lighting**

**Air Purifier**

- **Environmental performance**
  - Adoption of Artificial Zeolite as a deodorizing filter deodorization material; this is made from coal ash generated in thermal power plants.
  - RoHS*1 Directive compliant.
  - Realization of long-life filter (deodorizing filter approx. 10 years, air cleaner filter approx. 8 years).
  - Equipped with eco power conservation operation that reduces power consumption during standby to zero*2.
  - *1: Restriction of the use of certain hazardous substances
  - *2: Only a minute amount of electricity is expended for 10 minutes after operation is stopped.

- **Product performance**
  - Equipped with a "Triple power deodorizing filter" that removes 11 types of odorous substances and 4 types of VOC.
  - Equipped with an easy-to-operate Eco Mode: This special power-saving feature reduces up to a maximum of 35% of power usage compared with normal operating use.
  - 70W low power consumption: Realizes high sound quality and high power 120W output power per channel utilizing highly efficient Class D amplifiers and a newly developed power source while achieving 70W low power consumption; reduces power consumption by approximately 52%*.
  - Helps to conserve energy during product transportation: Slim and compact size utilizing highly efficient Class D amplifiers and other equipment; successfully reduces product mass and packaging capacity; as a result, helps to enhance transport loading efficiency, thereby reducing the volume of CO2 emission during product transportation by approximately 19%*.

  *Comparison with Pioneer’s AV multi-channel amplifier VSA-C301 (released in 2003).

- **Hitachi Appliances, Inc.**
  - Hitachi Atago Bldg., 15-12, Nishi Shimbashi 2-chome, Minato-ku, Tokyo, 105-8410, Japan
  - Tel +81-3-3502-2111 Fax +81-3-3506-1442
  - URL http://www.hitachi-ap.com/

- **Available in:** Japan

**EP-1-016**

**Home electric appliances/lighting**

**AV amplifier**

- **Environmental performance**
  - The AV multi-channel amplifier VSX-S300 is a full-scale amplifier for home theater that thoroughly pursued energy saving. In addition to the high performances in audio and picture quality, environmental consciousness into the designing was incorporated. Complex operations were eliminated for eco activation by simply pressing the dedicated ECO button on the remote controller. In watching movies and listening to music, anyone may easily and comfortably enjoy the pleasures with eco performance.
  - (Main environment-friendly factors)
    - Equipped with an easy-to-operate Eco Mode: This special power-saving feature reduces up to a maximum of 35% of power usage compared with normal operating use.
    - 70W low power consumption: Realizes high sound quality and high power 120W output power per channel utilizing highly efficient Class D amplifiers and a newly developed power source while achieving 70W low power consumption; reduces power consumption by approximately 52%*.
    - Helps to conserve energy during product transportation: Slim and compact size utilizing highly efficient Class D amplifiers and other equipment; successfully reduces product mass and packaging capacity; as a result, helps to enhance transport loading efficiency, thereby reducing the volume of CO2 emission during product transportation by approximately 19%*.

  *Comparison with Pioneer’s AV multi-channel amplifier VSA-C301 (released in 2003).

- **PIONEER CORPORATION**
  - 1-1 Shin-ogura, Saiwai-ku, Kawasaki-shi, Kanagawa, 212-0031, Japan
  - Tel +81-44-580-3211
  - URL http://pioneer.jp/index-e.php
  - URL http://pioneer.jp/components/avamp/s300/index.html
  - URL http://pioneer.jp/environment-e/

- **Available in:** Japan
Eco-product // Home electric appliances/lighting

EP-1-017  Home electric appliances/lighting

3D Blu-ray Disk Player DMP-BDT110/210

**Environmental performance**
- Achieved stand-by power consumption of approx.0.1W. (North America model).
- Achieved power consumption of approx.9.9W (North America model) due to low power circuit.
- Circuit is highly integrated to conserve energy and Resources saving design employed for circuit boards and key components.
- Non-Use of Specific Chemical Substances*.
  (*: Lead, mercury, cadmium, hexavalent chromium, two specific brominated flame retardants, designated by the EU RoHS Directive.)

**Product performance**
- 3D Full HD Blu-ray Disk Player.
- DLNA, Act Vila, Viera Cast, BD-LIVE.
- High quality Digital Audio & Video and UniPhier™ Technology.

Panasonic Corporation, AVC Networks Company

1-15 Matsuo-cho, Kadoma City, Osaka, 571-8504, Japan
Tel +81-6-6906-3007
URL http://panasonic.net/
URL http://panasonic.net/csr/

Available in: Japan, Asia, Oceania, Europe, North America, South America, Southeast Asia, Taiwan (Rep. of China), China

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EP-1-018  Home electric appliances/lighting

3D Blu-ray Disc recorder DMR-BZT9000/910/810/710

**Environmental performance**
- Achieved power consumption of approx.29W (DMR-BZT9000)/approx.28W (DMR-BZT910)/approx.27W (DMR-BZT810)/approx.26W (DMR-BZT710) due to low power circuit technology.
- Standby consumption: approx.0.03W.
- Circuit is highly integrated to conserve energy and Resources saving design employed for circuit boards and key components.
- Non-Use of Specific Chemical Substances. *
  (*: Lead, mercury, cadmium, hexavalent chromium, two specific brominated flame retardants, designated by the EU RoHS Directive.)

**Product performance**
- 3D Blu-ray Disc recorder with 3TB (DMR-BZT9000), 2TB (DMR-BZT910), 1TB (DMR-BZT810), 500GB (DMR-BZT710) HDD.
- Digital triple Tuner.
- Skype, Act Vila, DNLA.
- 100GB Blu-ray Disc (BDXL)

Panasonic Corporation, AVC Networks Company

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URL http://panasonic.net/csr/

Available in: Japan
Eco-product // Home electric appliances/lighting

EP-1-019

Home electric appliances/lighting

Blu-ray disc/DVD recorder BDZ-AT350S/ AT750W / AT950W / AT770T / AT970T / SKP75 / AX2700T

**Environmental performance**
- Energy-saving Auto Power Off
  Enters standby mode automatically if left unused for a specific period.
  Avoids wasting electricity if users forget to turn the unit off.
- Energy-efficient design reduces power consumption
  Display tubes are also deactivated when the unit is turned off-another example of energy-efficient design.
- Low power consumption in standby mode

**Product performance**
- Instant start-up (0.5 sec)
- Can be used with an external hard disk
- Records up to three programs at once
- Intelligent Encoder 3 ensures superb picture quality
- Blu-ray 3D™ playback supported

**Sony Corporation**

1-7-1 Konan Minato-ku, Tokyo, 108-0075, Japan
URL http://sony.co.jp/eco/
URL http://sony.jp/bravia/
URL http://sony.co.jp/csr/

Available in: Japan

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EP-1-020

Home electric appliances/lighting

**Ecological recorder : Specialize simple feature**

**Environmental performance**
- Mitigation of climate change: Annual consumed power 21.8 kWh/year with 2.5inch HDD of low power consumption and by the deletion of the display tube.
- Efficient use of resources: 2.2 kg most lightweight in industry. Previous model comparison 35% reduction
  Notes) BD recorder comparison. (Research: October, 2011by Toshiba)
- Management of chemicals: EU RoHS directive suitability

**Product performance**
- USB External HDD for adding even if main HDD become full.
- Fast start less than 1s from pressing power-on switch.
- Import the AVCHD data into high-definition video camera by the use of USB cable

**TOSHIBA CORPORATION Digital Products & Services Company**

1-1, Shibaura 1-Chome, Minato-Ku, Tokyo, 105-8001, Japan
URL http://www.toshiba.co.jp/index.htm

Available in: Japan
### EP-1-021  Home electric appliances/lighting  
#### 3D Blu-ray Disk Home Theater System SC-BDT770/370/270

**Environmental performance**
- Achieved stand-by power consumption of approx. 0.05W. (North America model, Main Unit).
- Achieved power consumption of approx. 85W (North America model, Main Unit) due to low power circuit technology.
- Circuit has been integrated to promote energy saving, and compactness and light weight of circuit boards and fundamental parts have been improved.

*Non-Use of Specific Chemical Substances*

*: Lead, mercury, cadmium, hexavalent chromium, two specific brominated flame retardants, designated by the EU RoHS Directive.*

**Product performance**
- 5.1ch Full HD 3D Blu-ray Disk Home Theater System.
- Stylish design.
- Super Slim Main Unit.
- Digital power Amplifier 1000W (RMS).

#### Panasonic Corporation, AVC Networks Company

1-15 Matsuo-cho, Kadoma City, Osaka, 571-8504, Japan
Tel +81-6-6906-3007
URL http://panasonic.net/
URL http://panasonic.net/csr/

Available in: Oceania, Europe, North America, Central America, South America, Southeast Asia

### EP-1-022  Home electric appliances/lighting  
#### car navigation system

**Reducing fuel consumption by alleviating traffic jams with car navigation systems**

**Environmental performance**
- The 2011 carrozzeria “CYBER NAVI” series not only supports eco driving, but also helps to alleviate traffic jams. When driving on the highway at 70 kilometers per hour, maintaining a driving distance of at least 40 meters from the car in front was theoretically found to significantly alleviate traffic jams. Based on this discovery, the CYBER NAVI series, in augmented reality scouter mode, can measure the distance between cars and recommend a better distance*1 via its on-screen car distance indicator. Traffic jams are alleviated if drivers maintain this recommended distance between vehicles; and driving at a steady speed with infrequent acceleration and deceleration helps improve fuel efficiency according to Eco Drive 10 Recommendations*2.
- The “Eco-route search” function estimates the optimum fuel efficient route from all possible routes in advance, based on the Smart Loop Congestion Information and Pioneer’s proprietary “fuel estimation technology”.
- The “Eco-status” feature employs Pioneer’s proprietary fuel estimation technology, so drivers can enjoy checking their level of eco-driving via user-friendly graphic displays and voice messages.

*1: Supervised by Professor Nishinari of the University of Tokyo
*2: Compiled by the Eco Drive Proliferation Network

#### PIONEER CORPORATION

1-1 Shin-ogura, Saiwai-ku, Kawasaki-shi, Kanagawa, 212-0031, Japan
Tel +81-44-580-3211
URL http://pioneer.jp/index-e.php
URL http://pioneer.jp/carrozzeria/cybernavi/
URL http://pioneer.jp/environment-e/

Available in: Japan
Compact Stereo System SC-HC55/35

**Environmental performance**
Achieved stand-by power consumption of approx. 0.07W (Japan model).
Achieved power consumption of approx. 28W (Japan model) due to low power circuit technology.
Circuit has been integrated to promote energy saving, and compactness and light weight of circuit boards and fundamental parts have been improved.

**Non-Use of Specific Chemical Substances**
(*: Lead, mercury, cadmium, hexavalent chromium, two specific brominated flame retardants, designated by the EU RoHS Directive.)

**Product performance**
The slim design of the Compact Stereo System.
Slim Flat Design, which is only 69mm depth design.
Digital power Amplifier 40W (RMS).

Panasonic Corporation, AVC Networks Company
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URL http://panasonic.net/
URL http://panasonic.net/csr/

Available in: Japan, Oceania, Europe, North America, Central America, South America, Southeast Asia

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Digital Camera IXUS 1100 HS

**Environmental performance**
(1) VOC-free coating line at mass production using water-based paint, which is a groundbreaking in the camera manufacturing industry and Canon products.
(2) Compact and light body of only 183g contributes to resource savings.
(3) Compliance with the RoHS Directive.
(4) Lead-free glass is utilized as the environmentally sound lenses.

**Product performance**
(1) The world's slimmest 12x optical zoom lens model with only 21.9mm body depth.*
(2) Intelligent IS detects optimal image stabilization automatically based on scenes.
(3) HS SYSTEM and full HD movie function enable you to shoot beautiful images based on scenes with reduced blur or noise even in low-light conditions.
(4) Touch Shutter can release the shutter just by lifting your finger from LCD screen.

*According to our research as of September 12, 2011 on compact digital cameras featuring 12x optical zoom lens with 28mm wide angle.

Canon Inc.
30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, 146-8501, Japan
Tel +81-3-3758-2111
URL http://www.canon.com/environment/

Available in: Worldwide
Eco-product // Home electric appliances/lighting

**EP-1-025**

**DIGITAL SLR CAMERA EOS 550D**

**Environmental performance**
1. Compact and light body of only 475g contributes to resource savings.
2. Compliance with the RoHS Directive.
3. Lead-free glass is utilized as the environmentally sound lenses.

**Product performance**
1. CMOS Sensor of approximately 18 mega pixels and DIGIC 4 Image Processor.
2. High sensitivity: ISO 100 - 6400 (normal) up to 12800.
3. EOS movie mode enables you to achieve gorgeous full HD movie shooting.

**Canon Inc.**
30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, 146-8501, Japan
Tel +81-3-3758-2111
URL http://www.canon.com/environment/

Available in: Worldwide

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**EP-1-026**

**Casio Digital Camera: EXILIM EX-H20G**

**Environmental performance**
*Advanced low-power technology suited for the various situations enables to realize the highly precise and speedy position tracking.
*Complete with a wide range of functions useful for traveling, “Feel the nature” will foster a kindness to nature.
*Enables users to take up to 600 shots with a single battery charge.
*Contains no particular chemicals. (lead, mercury, cadmium, chromium hexavalent, flame retardant polybrominated biphenyls directed by EU RoHS/No PBDE)

**Product performance**
*World’s first digital camera with autonomic indoor positioning through Hybrid GPS combining GPS with Motion-Sensor Driven Autonomic Positioning.
*Premium Auto function produces beautiful photos with just a press of the shutter button.
*New Engine Enabling accurately capture the photo subjects with high-speed and advanced image processing.
*Premium zoom that maintains high-resolution image quality through 15x.

**CASIO COMPUTER CO. LTD**
6-2, Hon-machi 1-chome, Shibuya-ku, Tokyo, 151-8543, Japan
Tel +81-3-5334-4111
URL http://world.casio.com/
URL http://www.exilim.com/
URL http://world.casio.com/csr/

Available in: Worldwide
**Eco-product // Home electric appliances/lighting**

### Case Digital Camera: EXILIM EX-H30

**Environmental performance**

*The combination of the high-capacity battery and energy-saving performance of the computer circuitry and movement control ensures that single battery charge allows users to take up to 1,000 photos.*

*Compact travel camera, making it ideal for travel, "Feel the nature" will foster a kindness to nature.*

*Contains no particular chemicals. (lead, mercury, cadmium, chromium hexavalent, flame retardant polybrominated biphenyls directed by EU RoHS/No PBDE)*

**Product performance**

*Premium zoom that maintains high-resolution image quality through 18.8x.*

*Super-Resolution Image reproduces exceptional clarity and resolution.*

*Premium Auto function produces beautiful photos with just a press of the shutter button.*

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**Nikon Digital SLR Camera D5100**

**Environmental performance**

(1) **Reduction of weight**

- Reduces 39% of the parts compared to "D7000"
- Reduces 28% of the weight, compared to "D7000", while equipping a CMOS image sensor with the same number of pixels as "D7000" and installing Vari-angle LCD monitor, so contributes to waste reduction and resource saving.

(2) **Reduction of hazardous substances**

- Meets the Nikon Green Procurement Standards and the criteria of EU RoHS Directive
- Lead-free solder: Used on all circuit boards
- Eco-Glass (lead and arsenic-free) usage: 100%

**Product performance**

"D5100" installs a Vari-angle LCD monitor, which gives you abilities to shoot from nearly any angle and improves the conveniences of live-view and D-Movie shooting. "D5100" is a high cost-effective digital camera, inheriting the high quality and high performance of the upper grade model D7000 and condensing easy uses and the stunning image effecting function, "special effects mode".

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**CASIO COMPUTER CO. LTD**

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URL http://www.exilim.com/
URL http://world.casio.com/csr/

Available in: Worldwide

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**NIKON CORPORATION**

Shin-Yurakucho Bldg., 12-1, Yurakucho 1-chome, Chiyoda-ku, Tokyo, 100-8331, Japan
Tel +81-3-3214-5311
URL http://www.nikon.com/
URL http://imaging.nikon.com/lineup/dslr/d5100/
URL http://www.nikon.com/about/csr/nikon-csr/index.htm

Available in: Worldwide
Eco-product // Home electric appliances/lighting

EP-1-029  Home electric appliances/lighting

digital cameras

Nikon Digital Compact Camera  COOLPIX S1200pj

Environmental performance

(1) Resource saving
   The suppression of photo print, by using a built-in projector, saves paper resource
(2) You can also project data stored on PC at the presentation or meeting. This will be some sort of "Eco" at the business situations, instead of using the conventional data projectors
(3) Power consumption efficiency: 50% increases the projector brightness over its predecessor "COOLPIX S1100PJ"
(4) Reduction of hazardous substances
   - Meets the Nikon Green Procurement Standards and the criteria of EU RoHS Directive
   - Lead-free solder: Used on all circuit boards
   - Eco-Glass (lead and arsenic-free optical glass) usage: 100%

Product performance

"COOLPIX S1200pj" is the compact digital camera with a built-in projector. You can start up the projector only by opening projector cover and enjoy projecting pictures on the spot they taken. "COOLPIX S1200pj" is a highly cost-effective camera with advanced functions, such as Optical 5x zoom from wide angle 28mm, VR image stabilization, Easy Auto Mode and Smart Portrait System etc.

NIKON CORPORATION

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Tel  +81-3-3214-5311
URL  http://www.nikon.com/
URL  http://imaging.nikon.com/lineup/coolpix/style/s1200pj/
URL  http://www.nikon.com/about/csr/nikon-csr/index.htm

Available in: Worldwide

EP-1-030  Home electric appliances/lighting

digital cameras

Digital Interchangeable Lens Camera: LUMIX DMC-GF3

Environmental performance

Achieved Main Product weight  (w/o battery) of approx.222g due to low resource use technology.
Power saving performance realizing about 340 continuous shots (with 14mm lens unit).
Circuits have been integrated to promote energy saving, and compactness and light weight of circuit boards and fundamental parts have been improved.
Non-Use of Specific Chemical Substances *
 (*: Lead, mercury, cadmium, hexavalent chromium, two specific brominated flame retardants, designated by the EU RoHS Directive.)

Product performance

Micro Four Thirds Camera System.
Ultra Compact System Camera Body with Built-in Flash.
12.1-megapixel Live MOS sensor
3.0-inch Touch Enabled LCD monitor.
Full High Definition AVCHD Movie Recording.

Panasonic Corporation, AVC Networks Company

1-15 Matsuo-cho, Kadoma, Osaka, 571-8504, Japan
Tel  +81-6-6906-3007
URL  http://panasonic.net/
URL  http://panasonic.net/csr/

Available in: Worldwide
## Digital Interchangeable Lens Camera: LUMIX DMC-G3

**Environmental performance**
Achieved Main Product weight (w/o battery) of approx. 336g due to low resource use technology.
Power saving performance realizing about 270 continuous shots (with 14-42mm lens unit).
Circuits have been integrated to promote energy saving, and compactness and light weight of circuit boards and fundamental parts have been improved.
Non-Use of Specific Chemical Substances *
(∗: Lead, mercury, cadmium, hexavalent chromium, two specific brominated flame retardants, designated by the EU RoHS Directive.)

**Product performance**
Micro Four Thirds Camera System.
16-megapixel Live MOS sensor.
Mirror-less Compact System with LVF.
3.0-inch Free Angle LCD monitor with Touch Control.
Full High Definition AVCHD Movie Recording.

### Panasonic Corporation, AVC Networks Company
1-15 Matsuo-cho, Kadoma, Osaka, 571-8504, Japan
Tel +81-6-6906-3007
URL http://panasonic.net/
URL http://panasonic.net/csr/

Available in: Worldwide

## Digital Movie Camera HX-WA10/DC15/DC10

**Environmental performance**
Achieved power consumption of approx. 2.2W (Japan model) due to low power circuit technology.
Circuit has been integrated to promote energy saving, and compactness and light weight of circuit boards and fundamental parts have been improved.
Non-Use of Specific Chemical Substances *
(∗: Lead, mercury, cadmium, hexavalent chromium, two specific brominated flame retardants, designated by the EU RoHS Directive.)

**Product performance**
Upright compact Full-HD movie camera.
Full-HD movie & 16-Megapixel Still Picture Recording.
5x Optical Zoom.
12x Advanced Zoom.

### Panasonic Corporation, AVC Networks Company
1-15 Matsuo-cho, Kadoma City, Osaka, 571-8504, Japan
Tel +81-6-6906-3007
URL http://panasonic.net/
URL http://panasonic.net/csr/

Available in: Japan, Asia, Oceania, Europe, North America, Southeast Asia, Thailand, Malaysia, Republic of Korea, Taiwan (Rep. of China), China, South Africa
Digital High Definition Video Camera HDC-TM25/TM40/SD40

**Environmental performance**
Achieved Main Product weight (w/o Battery) of approx. 169g.
Circuit has been integrated to promote energy saving, and compactness and light weight of circuit boards and fundamental parts have been improved.
Non-Use of Specific Chemical Substances *
(∗: Lead, mercury, cadmium, hexavalent chromium, two specific brominated flame retardants, designated by the EU RoHS Directive.)

**Product performance**
Full-HD Video Camera.
Compact Body.
16.8x Optical Zoom.
New Optical Image Stabilization.

Panasonic Corporation, AVC Networks Company
1-15 Matsuo-cho, Kadoma City, Osaka, 571-8504, Japan
Tel +81-6-6906-3007
URL http://panasonic.net/
URL http://panasonic.net/csr/

Available in: Worldwide

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**Mirror Ducts**

**Environmental performance**
A mirror duct is a piece of equipment that contributes to the reduction of CO₂ emissions by lowering electric power usage for lighting, as well as creating an environment more comfortable than that of artificial lighting.

**Product performance**
This system brings daylight indoors for lighting purposes, and its thorough diffusion and control of light during the receiving and conducting processes makes it easy to use. It was adopted by Toyako Summit held in July, 2008, and this prominent technology was introduced for the whole world.
1. simple structure allowing the economical utilization of abundant light;
2. high energy efficiency due to its direct use of natural light;
3. collection and diffusion of light without the consumption of kinetic energy due to the absence of driving parts such as sun-trucking devices;
4. low maintenance due to a simple, sealed structure that protects it from failure and deterioration.

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1-19-3, Naka-ikegami, Ota-ku, Tokyo, 146-0081, Japan
Tel +81-3-3751-5158 Fax +81-3-3755-0065
E-mail h.arai@materialhouse.co.jp
URL http://www.materialhouse.jp/
**EP-1-035**

**Home electric appliances/lighting**

**electric lighting fixtures**

**LED Canopy Light**

**Environmental performance**

1. LED lamps provide the same high luminance as a conventional traditional HID lamp.
2. Long lifetime (60,000 hours) * 3 to 5 times less maintenance compared to HID lamp.

*Design life is regarded as the time until total luminous flux declines to 70% of the initial level. However, product service life cannot be guaranteed.

**Product performance**

1. Low operation temperature -30 to 40°C for using original power supply unit
2. Instant ON/OFF
3. Less UV and less attract bugs, fine sight is held over a long period of time.

**Sharp Corporation**

22-22 Nagaike-cho, Abeno-ku, Osaka, 545-8522, Japan
Tel +81-6-6625-0438 Fax +81-6-6625-0153
E-mail eco-info@sharp.co.jp
URL http://sharp-world.com/
URL http://sharp-world.com/corporate/eco/

Available in: Japan

**EP-1-036**

**Home electric appliances/lighting**

**electric lighting fixtures**

**Energy-saving and environment-friendly LED Ceiling Lights with long service life**

**Environmental performance**

1. Achieves high energy saving performance by leveraging LED technology and efficient direct back lighting system for LCD TV back light.
2. Two eco-functions allow energy savings of up to 67%*.
   - The Eco Dimmer function (all models) gently reduces brightness so the eyes can easily adjust to the change.
   - The Eco Sensor function detects natural light and other lighting fixtures and reduces the unnecessary light accordingly.

*Sharp measurements. When two eco-functions (Eco Dimmer, Eco Sensor) are turned on versus turned off.

**Product performance**

Adjustable color function and dimmer function combine for a total of 103 different levels of color and brightness.

**Sharp Corporation**

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URL http://sharp-world.com/corporate/eco/

Available in: Japan

DL-C503V/303V/203V (Image figure)
Eco-product // Home electric appliances/lighting

EP-1-037  Home electric appliances/lighting electric lighting fixtures

**LED High-bay Light**

**Environmental performance**

1. LED lamps provide the same high luminance as conventional 400W mercury lamps. Approximately 40% energy reduction compared with 400W mercury lamps.
2. Long lifetime (60,000 hours)*. Heat diffuser used for controlling inside temperature in summer.

*Design life is regarded as the time until total luminous flux declines to 70% of the initial level. However, product service life cannot be guaranteed.

**Product performance**

1. Lightweight (weight 4.5kg)
2. Wide spread type and middle spread type by using original unit of optical lens and LED.

**Sharp Corporation**

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EP-1-038  Home electric appliances/lighting fluorescent lamp stabilizers

**SAVEe**

**Environmental performance**

The product contributes effectively to greenhouse gas reduction by saving 30% higher-power saving rate compared with conventional products. It also contributes to energy saving and reduction in the use of oil and other power generation resources.

This products has extended service life of 20 years. (usual: 10 Yrs) Due to the complete recycle, effective utilization of materials and the striking reduction of waste material are done.

**Product performance**

High power-saving rate : 30%.

The generation of high frequency wave is faint (verified by public institution).

It prevents from Jamming, Irregular operation of Computer and Robot, Radio-noise, Short-circuit and Fire-risk.

**Ohdensha Inc. Tokyo Branch**

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E-mail ohdentok@kmf.biglobe.ne.jp
URL  http://ohdensha.com
**EP-1-039**

**Screw-in Fluorescent Lamp **"spiraLUPICA mini"

**Environmental performance**

1. **Energy saving**
   - Consumption power is one fifth compared to an incandescent lamp (40W, 60W).

2. **Long lifetime**
   - The lifetime of "spiraLUPICA mini" is 10 times longer than that of an incandescent lamp. (EFA15)

**Product performance**

- SpiraLUPICA mini is a compact screw base fluorescent lamp. Its small spiral shaped inner bulb and compact inverter give it its compact size.
- Consumption power is one fifth compared to an incandescent lamp (40W, 60W). Therefore, it enables energy saving and a reduction of greenhouse gas.
- In addition, the lifetime of "spiraLUPICA mini" is 10 times longer than that of an incandescent lamp. (EFA15)
- Run-up speed is fast, so it's bright even right after switching on a light.
- The ON-OFF cycle is up to 20,000 times. (Cycle is 10 seconds on and 170 seconds off.)
   - This product is also suitable for places where you frequently repeat switching on and off.

**MITSUBISHI ELECTRIC OSRAM Ltd.**

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Tel +81-45-323-5187    Fax +81-45-323-5156
URL http://www.mol-oml.co.jp

Available in: Japan

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**EP-1-040**

**Compact fluorescent lamp"FHP Platinum""DULUX T/E Platinum"**

**Environmental performance**

Long lifetime
- Long lifetime of 20000 hours leads reduction of maintenance cost and discarded lamp.

**Product performance**

The lifetime of "FHP Platinum" is 1.6 times and "DULUX" T/E PLATINUM" is twice longer than conventional products. They enable users to reduce maintenance cost and lead to the efficient use of resources.

Other specification such as lighting color variation and lumen are the same as conventional products.

**MITSUBISHI ELECTRIC OSRAM Ltd.**

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URL http://www.mol-oml.co.jp

Available in: Japan
### EP-1-041  Home electric appliances/lighting

**OHILITE40w watt-saver34w**

**Environmental performance**

The minimal lamp wattage contributes to reduction of greenhouse gas. No tin coat as ignition-aid.

*(usual: all inner surface of the glass tube is coated with tin.)*

Complete recycling of mercury and glass-tube due to no tin coat.

Disposal: Complete due to complete recycle.

*(usual: mercury oxide adhered to inner-surface of glass-tube and glass are buried.)*

**Product performance**

Minimal lamp wattage34w.

*(usual: 36w)*

Rated lamp life 24000H is twice as long as usual.

No tin-coat contribute to saving of resource, favorable environment and tin and mercury pollution.

**Ohdensha Inc. Tokyo Branch**

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E-mail ohdentok@kmf.biglobe.ne.jp

URL http://ohdensha.com

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### EP-1-042  Home electric appliances/lighting

**Self-ballasted Fluorescent Lamp Offering Energy-saving Performance and Long Life**

**Environmental performance**

- Mitigation of climate change: About 30% reduction in power consumption compared with 2000's model, and 15% reduction in power consumption compared with the previous year's model.

- Efficient use of resources: Rated life has been doubled to 12,000 hours, which means a reduction in waste lamps. Weight has also reduced.

- Management of chemicals: Lead-free glass and soldering.

**Product performance**

- Easy replacement: Replacement of an incandescent lamp with this lamp is simple because it is virtually the same size and shape as an incandescent lamp.

- UV-cut: 99% ultraviolet protection. Less attraction of bugs. 58% reduction of color fading.

- Plastic globe: Plastic globe means no scattering of glass if the lamp gets broken.

**TOSHIBA LIGHTING & TECHNOLOGY CORPORATION**

1-201-1, Funakoshi-Cho, Yokosuka-Shi, Kanagawa, 237-8510, Japan

Tel +81-46-862-2153    Fax 046-861-5164

URL http://www.tlt.co.jp/tlt/index_e.htm


Compact Self-ballasted Fluorescent Lamp "NeoBall Z Real PRIDE" EFA15EL/10-PD and two other models
Eco-product // Home electric appliances/lighting

EP-1-043  Home electric appliances/lighting

fluorescent light bulb with hidden ballast-electronic

Self-Ballasted Fluorescent Lamps JTS-23EXD

Environmental performance
1. Average light beam maintenance rate is 90% or above when lit continuously for 1000 hours, and 85% when lit for 2000 hours, conforming to the specifications of Taiwan's Energy Label.
2. Saves at least 10% of electricity when compared with products of the same output power. Has a long service life, avoids over-production, and reduces carbon dioxide emissions.

Product performance
1. Uses the world's top-end photocatalyst from Japan.
2. High color rendering index (Ra > 82), 10%-15% higher than CNS-14125, Taiwan's national verification standard.
3. Directly applicable to common household lamp sockets (E27).

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No.216, Guangming Rd., Wuri Dist., Taichung City, Taiwan, 414, Republic of China
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URL http://jiutai.myweb.hinet.net

Available in: Taiwan (Rep. of China)

EP-1-044  Home electric appliances/lighting

fluorescent light bulb with hidden ballast-electronic

Self-Ballasted Fluorescent Lamps JTS-23EXL

Environmental performance
1. Average light beam maintenance rate is 90% or above when lit continuously for 1000 hours, and 85% when lit for 2000 hours, conforming to the specifications of Taiwan's Energy Label.
2. Saves at least 10% of electricity when compared with products of the same output power. Has a long service life, avoids over-production, and reduces carbon dioxide emissions.

Product performance
1. Uses the world's top-end photocatalyst from Japan.
2. High color rendering index (Ra > 82), 10%-15% higher than CNS-14125, Taiwan's national verification standard.
3. Directly applicable to common household lamp sockets (E27).

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Available in: Taiwan (Rep. of China)
EP-1-045  
**Home electric appliances/lighting**

**LED Bulbs that Can Replace Incandescent Lamps Directly**

**Environmental performance**
- Mitigation of climate change: Power consumption and CO₂ emissions slashed to 1/8 – 1/6 of those of incandescent lamps.
- Management of chemicals: Mercury-free LED light source.

**Product performance**
- Industry’s No.1 energy-saving performance: 10.6W type LED lamp with small type incandescent bulb shape has 1000 lm and 93.4 lm/W.
- Long life and maintenance saving: Long life of 40,000 hours (40 times longer than an incandescent lamp) greatly reduces the need for replacement.
- Easy replacement: Replacement of an incandescent lamp with this low-power consumption LED lamp is simple because this lamp’s cap is the same as that of an incandescent lamp.

**TOSHIBA LIGHTING & TECHNOLOGY CORPORATION**

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EP-1-046  
**Home electric appliances/lighting**

**LED Lamp "PARATHOM"**

**Environmental performance**
1. Energy saving
   - This lamp is more efficient than incandescent lamp.
   Consumption energy is 6.9W and the illuminance on the floor or desk is the same as 60W incandescent lamp. (6.9W E26 base type)

2. Long lifetime
   - The lifetime is 40000 hours.
   It’s 40 times of incandescent lamp. (General lamp type)

3. Mercury free
   - LED lamp doesn’t contain mercury.

**Product performance**
Run-up speed and on-off cycle is the same level as incandescent lamp.
In PARATHOM series, krypton mini lamp type, halogen lamp type and so on are lined up.

**MITSUBISHI ELECTRIC OSRAM Ltd.**

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URL http://www.mol-oml.co.jp

Available in: Japan
## EP-1-047
### Longer Lamp Life & Eco Lighting: Digital Starter Pro

### Environmental performance
Have you got the problem of frequent fluorescent lamp/starter replacement in your building?

Longer lamp life directly leads to protecting the environment by minimizing the amount of toxic mercury contained inside fluorescent lamp waste. Moreover, Digital Starter Pro facilitates the diligent turn on/off of lamps to achieve greater energy saving.

### Product performance
Digital Starter Pro has a built-in microcomputer chip for minimization of emitter diffusion in starting the fluorescent lamp. It provides maintenance-free benefits by extending lamp service life up to 30 times longer than a glow starter.

**Features**
1. Advanced digital ASIC assures the best optimized lamp start sequence for longer lamp life
2. Longer starter life
3. Multiple pulse lighting system for reliable lighting performance
4. Quick lamp start
5. Automatic re-start function
6. Safety protection system

**DCT Co., Ltd.**
3-15-6, Higashi, Shibuyaku, Tokyo, 150-0011, Japan
Tel 03-5468-7131 Fax 03-5468-7399
E-mail info@dct-web.co.jp
URL http://www.dct-web.co.jp

Available in: Worldwide

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## EP-1-048
### PM Sensor Digital Starter Pro/ Sensor lighting realized by fluorescent lamp starter

### Environmental performance
PM Sensor Digital Starter Pro is the world-first revolutionary technology that realizes photo/motion sensor lighting by fluorescent lamp starter. Photo/Motion sensor embedded Digital Starter is driven by the cutting-edge technology that combines fluorescent lamp starter function and photo/motion sensor driver in one ASIC.

DCT ASIC receives signal from sensor part and automatically turn on/off the lamp accordingly without physical switching; proprietary Quenching Technology. Combined with the longer lamp life benefit of Digital Starter, sensor Digital Starter overcomes the problems of conventional sensor lighting such as shorter lamp life and shorter fixture life especially in out-door applications.

### Product performance
**Features**
1. Easy to install: just replace starter to DCT in existing magnetic ballast based fixtures.
2. PM Digital starter controls the turn on/off the lamp by sensor without physical switching.
3. Longer lamp life even under frequent turn on/off by sensors.

**DCT Co., Ltd.**
3-15-6, Higashi, Shibuyaku, Tokyo, 150-0011, Japan
Tel 03-5468-7131 Fax 03-5468-7399
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URL http://www.dct-web.co.jp

Available in: Worldwide

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**Available in**: Worldwide

**FDS-PM series**

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### EP-1-049 Home electric appliances/lighting

**Halogen Lamp "Halogen Energy Saver"**

**Environmental performance**
1. Energy saving
   - 25% energy saving compared with an incandescent lamp (Our white bulb lamp 60 W)
2. Long lifetime
   - Twice the life time compared with an incandescent lamp (Our white bulb lamp 40 W, 60 W)

**Product performance**
This halogen lamp is our original product which has outer glass and an E26 base like an incandescent lamp. It is more energy saving and has a longer lifetime than an incandescent lamp. It can be used in dimming fixtures. It also has the same quality of light, shape and size as an incandescent lamp.

**MITSUBISHI ELECTRIC OSRAM Ltd.**

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### EP-1-050 Home electric appliances/lighting

**MR16 LED SPOTLIGHT YLR601**

**Environmental performance**
The MR16 LED energy-saving projection light is of an environmentally friendly product intended to replace the conventional halogen lamps, and provides the following yield to the environment in extended use:
1. Lead free.
2. Mercury free.
3. Power saving, conserving over 90% of power when compared with the conventional halogen lamps.
4. Extended operating life.
5. Free of ultraviolet ray.
6. Low operating temperature relatively saves the air-conditioning bills.

**Product performance**
* Replacing the traditional MR16 halogen spotlight without changing original transformers.
* Save up to 90% electricity than MR16 halogen spotlight.
* High brightness. Low temperature.
* Work well with various AC/DC 12V electron transformers and magnetic transformers.
* Single light source; good light distribution; no multi shadow.
* Lead-free. Mercury-free.
* No UV light.
* Can be used in most fixtures designed for MR16 lamps.
* Beautiful external appearance with light transparency design.
* Plastic parts made from fireproof materials.

**YOULIGHT TECHNOLOGY INC.**

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E-mail sharonliu@youlight.com.tw
URL http://www.youlight.com.tw

Available in: Taiwan (Rep. of China)
**EP-1-051**

**Home electric appliances/lighting**

**Electric lighting fixtures**

**Epoch-making LED Downlight with the Industry's top level efficiency and total luminous flux.**

**Environmental performance**
- Mitigation of climate change: Compared with current products using fluorescent lamp or incandescent light bulb, power consumption and CO₂ emissions slashed to 2/3~1/6.
- Management of chemicals: Mercury-free LED light source

**Product performance**
- Increased illuminance: 8000 lumen series has top level luminous flux of 8,600lm and integrated efficiency of 75lm/W.
- Long life and maintenance saving: Long life of 40,000 hours greatly reduces the need for replacement.
- Dimming function: 5-100% continuous dimming function to suit user preference.

**TOSHIBA LIGHTING & TECHNOLOGY CORPORATION**

1-201-1, Funakoshi-Cho, Yokosuka-Shi, Kanagawa, 237-8510, Japan
Tel +81-46-862-2153 Fax +81-46-860-1200
URL http://www.tlt.co.jp/tlt/index_e.htm

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**EP-1-052**

**Home electric appliances/lighting**

**Electric lighting fixtures**

**Ceramic Metal Halide Lamp, Giving an Energy-saving High-grade Illumination Space**

**Environmental performance**
- Mitigation of climate change: Power consumption slashed by about 64% from 400W to 145W.
- Efficient use of resources: External tube diameter is reduced from 116mm to 40mm; the slimmer tube saves resources.
- Management of chemicals: Mercury content cut to less than one fifth.

**Product performance**
- Beautiful and bright: Dramatic improvement in efficiency from 55lm/W to 130lm/W, the industry's best performance. Color rendering index (Ra) doubled from 40 to 80 for higher color performance.
- Quick start-up: Start-up time slashed from around 4 minutes to 2 minutes.

**TOSHIBA LIGHTING & TECHNOLOGY CORPORATION**

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Tel +81-46-862-2153 Fax +81-46-860-1200
URL http://www.tlt.co.jp/tlt/index_e.htm
**EP-1-053**  
**Home electric appliances/lighting**

**EP-1-053**
**Home electric appliances/lighting**

**Environmental performance**
- Mitigation of climate change: About 18% reduction in power consumption, compared with current products using fluorescent lamp. Auto dimming control by a sensor allows a maximum of about 60% reduction.
- Management of chemicals: Mercury-free LED light source.

**Product performance**
- Dimming and toning function: 1-100% dimming function and toning function to suit user preference.
- Auto operation for energy saving by a sensor perceives light from windows.
- Various timer functions: Morning timer, night timer, on/off timer can be used.

**TOSHIBA LIGHTING & TECHNOLOGY CORPORATION**
1-201-1, Funakoshi-Cho, Yokosuka-Shi, Kanagawa, 237-8510, Japan
Tel +81-46-862-2153  Fax 046-861-5164
URL http://www.tlt.co.jp/tlt/index_e.htm

**LED Ceiling Light LEDH82100Y-LC**
and 24 more model

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**EP-1-054**  
**Home electric appliances/lighting**

**EP-1-054**
**Home electric appliances/lighting**

**Environmental performance**
- Mitigation of climate change: 70% reduction in power consumption and CO₂ emissions, compared with current products using mercury lamp.
- Efficient use of resources: Optimum design to secure a distance of 35 m between lamps (*) to minimize the number of lamps required.

*Class B illumination recommended by the Japan Security Systems Association -Management of chemicals: Mercury-free light source.

**Product performance**
- Economical: Possible to lower the electricity contract category for greater economy.
- Long life and maintenance saving: Rated life of 60,000 hours means no need for replacement for 15 years. (used 4000 hour per year)
- Compact and lightweight: Easy installation and difficult to break without glass bulbs.

**TOSHIBA LIGHTING & TECHNOLOGY CORPORATION**
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Tel +81-46-862-2153  Fax +81-46-861-5164
URL http://www.tlt.co.jp/tlt/index_e.htm

**LED Security Light with Sufficient Luminance but Minimal Electricity Charge**

**High-efficiency LED Crime Prevention Light “E-CORE Series” LEDG-70942-LS8**
and 6 more models
### EP-1-055  Home electric appliances/lighting

#### Home electric appliances/lighting
electric lighting fixtures

**LED down light, using flat and exchangeable type LED unit with GH76p cap.**

#### Environmental performance
- Mitigation of climate change: Power consumption and CO₂ emissions slashed to 60% compared with current products using incandescent light bulb. (attached the suitable fixture)
- Management of chemicals: Mercury-free LED light source

#### Product performance
- Flat thin-model: LED unit with GH76p-cap, light colors and angles are selected.
- Long life and maintenance saving: Long life of 40,000 hours greatly reduces the need for replacement.

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### EP-1-056  Home electric appliances/lighting

#### Home electric appliances/lighting

**T-BAR T5 Lighting 28W Series (28W*1 28W*2 28W*3 Available)**

**CFA008 28W SERIES**

#### Environmental performance
High energy efficiency with a PF rating of greater than 98% which can reduce energy waste.

#### Product performance
With a PF rating of greater than 98%, it has a light emitting efficiency of greater than 60lm/w and a uniformed light dispersion index of less than 19, excelling the maximum energy-saving effect, with a unique refractive board design that aims to achieve optimal light dispersion effect, and is ideal for use at homes or offices.

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### TOSHIBA LIGHTING & TECHNOLOGY CORPORATION

1-201-1, Funakoshi-Cho, Yokosuka-Shi, Kanagawa, 237-8510, Japan
Tel +81-46-862-2153  Fax +81-46-861-5164
URL http://www.tlt.co.jp/tlt/index_j.htm

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### LIXMA TECH CO., LTD.

No.22, Jingke Central Rd., Nantun Dist., Taichung City, Taiwan, 408, Republic of China
Tel +886-4-35048188-703  Fax +886-4-35009168
E-mail gracewu@lixma.com.tw
URL http://www.lixma.com.tw

Available in: Asia, Taiwan (Rep. of China)
### EP-1-057

**Home electric appliances/lighting**

**EP-1-057**

**T-BAR T5 Lighting 14W*4 CFA0150144F1**

**Environmental performance**
High energy efficiency with a PF rating of greater than 98% which can reduce energy waste.

**Product performance**
With a PF rating of greater than 98%, it has a light emitting efficiency of greater than 60lm/w and a uniformed light dispersion index of less than 19, excelling the maximum energy-saving effect, with a unique refractive board design that aims to achieve optimal light dispersion effect, and is ideal for use at homes or offices.

**LIXMA TECH CO., LTD.**
No.22, Jingke Central Rd., Nantun Dist., Taichung City, Taiwan, 408, Republic of China
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E-mail gracewu@lixma.com.tw
URL http://www.lixma.com.tw

Available in: Asia, Taiwan (Rep. of China)

### EP-1-058

**Home electric appliances/lighting**

**EP-1-058**

**T-BAR T5 Lighting 14W Series (14W*2 14W*3 Available) CFA008 14W SERIES**

**Environmental performance**
High energy efficiency with a PF rating of greater than 98% which can reduce energy waste.

**Product performance**
With a PF rating of greater than 98%, it has a light emitting efficiency of greater than 60lm/w and a uniformed light dispersion index of less than 19, excelling the maximum energy-saving effect, with a unique refractive board design that aims to achieve optimal light dispersion effect, and is ideal for use at homes or offices.

**LIXMA TECH CO., Ltd.**
No.22, Jingke Central Rd., Nantun Dist., Taichung City, Taiwan, 408, Republic of China
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E-mail gracewu@lixma.com.tw
URL http://www.lixma.com.tw

Available in: Asia, Taiwan (Rep. of China)
### EP-1-059  Home electric appliances/lighting

**LED T-Bar Ceiling GZO-T840311**

**Environmental performance**
* LED light tubes
* Long service life
* High light-emission efficiency
* In conformity with RoHS specifications

**Product performance**
T-BAR 4 Feet *3
Light-emission efficiency 73 lm/w

**Guang Zhao Opto Tech Co., Ltd.**
9F., No.225, Zhonghua 1st Rd., Gushan Dist., Kaohsiung City, Taiwan, 804, Republic of China
Tel +886-7-5555059-200  Fax +886-7-5552616
E-mail hank@gzo.com.tw
URL http://www.gzo.com.tw

Available in: Japan, Thailand, Taiwan (Rep. of China)

### EP-1-060  Home electric appliances/lighting

**LED T-Bar Ceiling GZO-40211**

**Environmental performance**
* LED light tubes
* Long service life
* High light-emission efficiency
* In conformity with RoHS specifications

**Product performance**
T-BAR 4 Feet *2
Light-emission efficiency 73 lm/w

**Guang Zhao Opto Tech Co., Ltd.**
9F., No.225, Zhonghua 1st Rd., Gushan Dist., Kaohsiung City, Taiwan, 804, Republic of China
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E-mail hank@gzo.com.tw
URL http://www.gzo.com.tw

Available in: Japan, Thailand, Taiwan (Rep. of China)
### EP-1-061
#### LED T-Bar Ceiling GZO-20411

**Environmental performance**
- *LED light tubes*
- *Long service life*
- *High light-emission efficiency*
- *In conformity with RoHS specifications*

**Product performance**
- T-BAR 2 Feet *4*
- Light-emission efficiency 68 lm/w

#### Guang Zhao Opto Tech Co., Ltd.

9F., No.225, Zhonghua 1st Rd., Gushan Dist., Kaohsiung City, Taiwan, 804, Republic of China  
Tel +886-7-5555059-200  Fax +886-7-5552616  
E-mail hank@gzo.com.tw  
URL http://www.gzo.com.tw

Available in: Japan, Thailand, Taiwan (Rep. of China)

### EP-1-062
#### LED T-Bar Ceiling GZO-T820311

**Environmental performance**
- *LED light tubes*
- *Long service life*
- *High light-emission efficiency*
- *In conformity with RoHS specifications*

**Product performance**
- T-BAR 2 Feet *3*
- Light-emission efficiency 68 lm/w

#### Guang Zhao Opto Tech Co., Ltd.

9F., No.225, Zhonghua 1st Rd., Gushan Dist., Kaohsiung City, Taiwan, 804, Republic of China  
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E-mail hank@gzo.com.tw  
URL http://www.gzo.com.tw

Available in: Japan, Thailand, Taiwan (Rep. of China)
**Eco-product // Home electric appliances/lighting**

### EP-1-063

**Recessed Fluorescent Fixture TL-142099**

**Environmental performance**

With luminaire efficiency (LOR) as high as 89%, this product provides enhanced luminance. FUYU's high-efficiency energy-saving lamp can achieve the same luminance with a smaller number of light tubes, thus relieving the load on the environment.

**Product performance**

The high-efficiency energy-saving T5 14W*2-tube lamp is coated with a high-reflectivity material to provide a mirror-reflective surface. Also, the distribution curve of luminous intensity is optimized by employing applicable optical principles. Thanks to the patented mirror-reflective reflector and the patented 3D curved-surface design, the slender light tubes are turned into a surface light source that takes advantage of all light rays. Therefore, the luminance of the lamp is enhanced, and the total number of light tubes used can be decreased to save electricity.

**FUYU ELECTRIC CO., LTD.**

No. 35, Zhong. Feng Xin Rd., Guan Xi Township, Hsinchu County, Taiwan, 306, Republic of China

Tel +886-3-5170180    Fax +886-3-5170181

E-mail fuyu.light@msa.hinet.net

URL http://fuyulight.myweb.hinet.net

Available in: Taiwan (Rep. of China)

### EP-1-064

**Recessed Fluorescent Fixture TL-143099**

**Environmental performance**

With luminaire efficiency (LOR) as high as 91%, this product provides enhanced luminance. FUYU's high-efficiency energy-saving lamp can achieve the same luminance with a smaller number of light tubes, thus relieving the load on the environment.

**Product performance**

The high-efficiency energy-saving T5 14W*3-tube lamp is coated with a high-reflectivity material to provide a mirror-reflective surface. Also, the distribution curve of luminous intensity is optimized by employing applicable optical principles. Thanks to the patented mirror-reflective reflector and the patented 3D curved-surface design, the slender light tubes are turned into a surface light source that takes advantage of all light rays. Therefore, the luminance of the lamp is enhanced, and the total number of light tubes used can be decreased to save electricity.

**FUYU ELECTRIC CO., LTD.**

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E-mail fuyu.light@msa.hinet.net

URL http://fuyulight.myweb.hinet.net

Available in: Taiwan (Rep. of China)
Recessed Fluorescent Fixture TL-282099

**Environmental performance**
With luminaire efficiency (LOR) as high as 93%, this product provides enhanced luminance. FUYU’s high-efficiency energy-saving lamp can achieve the same luminance with a smaller number of light tubes, thus relieving the load on the environment.

**Product performance**
The high-efficiency energy-saving T5 28W*2-tube lamp is coated with a high-reflectivity material to provide a mirror-reflective surface. Also, the distribution curve of luminous intensity is optimized by employing applicable optical principles. Thanks to the patented mirror-reflective reflector and the patented 3D curved-surface design, the slender light tubes are turned into a surface light source that takes advantage of all light rays. Therefore, the luminance of the lamp is enhanced, and the total number of light tubes used can be decreased to save electricity.

**FUYU ELECTRIC CO., LTD.**
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E-mail fuyu.light@msa.hinet.net
URL http://fuyulight.myweb.hinet.net

Available in: Taiwan (Rep. of China)

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Recessed Fluorescent Fixture TL-283099

**Environmental performance**
With luminaire efficiency (LOR) as high as 94%, this product provides enhanced luminance. FUYU’s high-efficiency energy-saving lamp can achieve the same luminance with a smaller number of light tubes, thus relieving the load on the environment.

**Product performance**
The high-efficiency energy-saving T5 28W*3-tube lamp is coated with a high-reflectivity material to provide a mirror-reflective surface. Also, the distribution curve of luminous intensity is optimized by employing applicable optical principles. Thanks to the patented mirror-reflective reflector and the patented 3D curved-surface design, the slender light tubes are turned into a surface light source that takes advantage of all light rays. Therefore, the luminance of the lamp is enhanced, and the total number of light tubes used can be decreased to save electricity.

**FUYU ELECTRIC CO., LTD.**
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URL http://fuyulight.myweb.hinet.net

Available in: Taiwan (Rep. of China)
**EP-1-067**

**Home electric appliances/lighting**

**Recessed Fluorescent Fixture TL5-283065**

**Environmental performance**

With luminaire efficiency (LOR) as high as 77%, this product provides enhanced luminance. The number of light tubes used can be reduced to alleviate the load on the environment.

**Product performance**

The energy-saving T5 28W*3-tube lamp is coated with a high-reflectivity material to provide a mirror-reflective surface and thereby increase luminance. The total number of light tubes used can be decreased to save electricity.

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**FUYU ELECTRIC CO., LTD.**

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Available in: Taiwan (Rep. of China)

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**EP-1-068**

**Home electric appliances/lighting**

**Mobile solar power station : Violetta Solargear VS01**

**Environmental performance**

A pocket sized solar power station designed for charging AA/AAA batteries, and the batteries of small mobile applications, such as cellular phones, PDAs, digital cameras, portable audio/visual devices, and portable games. A long life and evergreen product awarded GOOD DESIGN AWARD 2001-2002, Small and Medium Enterprises Prize.

**Product performance**

Designed for charging 2 pieces of AA or AAA (sold separately) Violetta Ni-MH rechargeable batteries at the same time by sunlight. The batteries can be charged in shorter time by interconnecting 2 or more units with DC Power Cables (sold separately). Designed for charging the batteries of DC4V-6V appliances, such as cellular phones, PDAs and audio/visual devices with USB Power Adaptors (sold separately) and with widely available USB charger cables, Designed for powering DC3V appliances, such as audio/visual devices with DC Power Cables.

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**STUDIO DEL SOLE INC.**

1-101, City Court Meguro, 2-10-34, Kamiosaki, Shinagawa-ku, Tokyo, 141-0021, Japan
Tel +81-3-5423-6801  Fax +81-3-5423-6802
E-mail info@violetta.com
URL http://violetta.com/

Available in: Worldwide

Violetta Solargear VS01
Mobile solar power station: Violetta Solargear VS12

Environmental performance
IP67 dust and waterproof mobile PV systems with a powerful and robust polycrystalline solar panel with APS (aluminum composite sheet) substrate and UV resistant polymer potting or the world's first* commercial spherical silicon flexible solar panel designed for powering a broad range of appliances. Composed of a combination of a ultra-thin, light and unbreakable solar panel and a compact, lightweight yet rugged battery compartment for the ultimate portability, reliability, safety, impact resistance, weather resistance and ruggedness in business, disaster prevention, leisure and everyday living.

*As of 1/10/2009, source by STUDIO DEL SOLE INC.

Product performance
Charging the built-in 12V batteries by sunlight, and powering a broad range of appliances through AC100V or 220V, DC12V and DC5V output.

STUDIO DEL SOLE INC.
1-101, City Court Meguro, 2-10-34, Kamiosaki, Shinagawa-ku, Tokyo, 141-0021, Japan
Tel +81-3-5423-6801 Fax +81-3-5423-6802
E-mail info@violetta.com
URL http://violetta.com/

Available in: Worldwide

Refrigerator: R-A6800C

Environmental performance
· The energy consumption¹ is reduced by approximately 18%² by adopting our original "Frost Recycling Cooling" technology, with which the coolness of frost sticking to the cooling device when the refrigerator is operated is effectively utilized.
  *1 The annual energy consumption was measured according to GB/T 8059.
  *2 Comparison was made between the new model R-A6800C (1.09kWh/24h) and the previous model R-Y6000C (1.34kWh/24h).

Product performance
· "Vacuum³ Compartment" is equipped, with eliminate oxidation.
  *3 The meaning of Vacuum is the condition which air pressure is lower than the normal atmosphere.

Hitachi Appliances, Inc.
Hitachi Atago Bldg., 15-12, Nishi Shimbashi 2-chome, Minato-ku, Tokyo, 105-8410, Japan
Tel +81-3-3506-1442
URL http://www.hitachi-ap.com/

Available in: China

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Eco-product // Home electric appliances/lighting
Eco-product // Home electric appliances/lighting

**EP-1-071**  
Home electric appliances/lighting  
electric refrigerators

**Energy-saving refrigerator MR-R52T**

*Environmental performance*

Although the recycling of used home electric appliances has been difficult up to now for recycling manufacturers, the development of the company’s original technology has made it possible for the three major kinds of plastics to be automatically sorted from among mixed and crushed waste plastics. That technology has also led to the creation of the nation’s first large-scale high-purity plastic recycling system, which allows recycled plastics to be reused for the plastic parts of this refrigerator, largely increasing the usage ratio of plastics produced under the closed-loop recycle system.

*Energy saving*

A sensor monitors individual spaces to carefully control the temperature in them. Energy-saving operation is also conducted by 'learning' patterns in temperature changes for ideal operation according to each home.

*Toxicity / Chemical substances reduction*

Emits no substances defined in the EU RoHS directive, Japanese Industrial Standards (JIS) or J-Moss.

*Product performance*

Three different kinds of functions, including ECO Mode, Power Saving Mode and ECO Monitor, are operated by touching the power saving button. Under the ECO Mode, electric power is automatically saved. The Power Saving Mode cuts electricity by saving cooling energy for unused spaces and the Eco Monitor shows the condition of operation. The Spinning Shelves are installed on the top of the shelves in the refrigerator and can be rotated while putting foods on them. The Moving Shelves' heights can be changed, and the Rakauki Handle allows you to open the door from both sides. All the functions improve usability and make the refrigerator easier to store.

**Mitsubishi Electric Corporation**

2-7-3, Marunouchi Chiyoda-ku, Tokyo, 100-8310, Japan  
Tel +81-3-3218-9024  
Fax +81-3-3218-2465  
E-mail eqd.eco@pj.MitsubishiElectric.co.jp  
URL http://global.mitsubishielectric.com/index.html  

Available in: Japan

**EP-1-072**  
Home electric appliances/lighting  
electric refrigerators

**Non-freon Inverter refrigerator (+ECONAVI)**

*Environmental performance*

The energy consumption of this refrigerator has been significantly reduced thanks to both the non-freon inverter compressor and the strengthened insulation of door gaskets. This refrigerator has obtained 4 ticks of the energy ranking in Singapore.

*Product performance*

This refrigerator has ECONAVI function, which automatically saves energy according to different user’s lifestyles.

**Panasonic Corporation, Appliances Company**

2-3-1-2 Noji-higashi, Kusatsu City, Shiga, 525-8555, Japan  
Tel +81-77-563-3619  
URL http://panasonic.net/  
URL http://panasonic.net/csr/

Available in: Singapore, Thailand
Refrigerator with Plasmacluster

**Environmental performance**
1. Along with the high performance compressor and the "wide linear" inverter control, a high efficiency freezing cycle and a heat releasing fan provide the basis for the high energy-saving specifications.
2. Use of parts made by recycled plastic material with Sharp original "Self Recycling Material Technology".
3. R600a refrigerant specification.
4. Complies with RoHS (examples are, PWB made of lead-free solder, and removal of specific brominated flame retardants).

**Product performance**
1. The original technology "e-COOL system" achieves high energy saving specification. In addition, the "Energy saving mode" with artificial intelligence saves further the energy, by up to approximately 15%.
2. "Fresh & Crisp" vegetable room, designed with the original high humidity sealed construction with a stainless plate, enables the retaining of moisture in the vegetables up to two times more.
3. Special ice-mode function offers automatically in making big and transparent, a typical "rock ice" at home.
4. The Plasmacluster technology strongly deodorizes and inactivates the airborne molds and adhering germs in the refrigerator compartment.

**Sharp Corporation**
22-22 Nagaike-cho, Abeno-ku, Osaka, 545-8522, Japan
Tel +81-6-6625-0438  Fax +81-6-6625-0153
E-mail eco-info@sharp.co.jp
URL http://sharp-world.com/
URL http://sharp-world.com/corporate/eco/

Available in: Japan

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EP-1-073  Home electric appliances/lighting  electric refrigerators

- Large capacity and energy saving, Equipped function of vegetable freezing.

**Environmental performance**
- Equipped Twin cooling which install cooler is adopted each of two temperature zones, and effect is demonstrated for energy saving in summer.
- About 10% of power-saving effect is acquired by energy saving mode.
- Recycle plastic collected from waste home appliances into parts for new home appliances.

**Product performance**
- Keep freshness by W-twin cooling, and Moist supply vegetable room.
- Keep clean inside by Picoion unit.
- "New Vegetale freezing" can keep tastiness and nutrition of vegetable.
- A refrigerator reduces electric useless by "eco-mode control."

**TOSHIBA HOME APPLIANCES CORPORATION**
991, Anada-Cho, Seto-Shi, Aichi, 489-8610, Japan
URL http://www.toshiba.co.jp/index.htm

Available in: Japan
### EP-1-075  Home electric appliances/lighting  
**Rice Cooker & Warmer**

**Environmental performance**

"Vacuum heat sealed" construction that uses a vacuum container with the inside wall which surrounds the inner pot realizes high energy savings by preventing the heat from escaping from the inner pot and reducing the amount of heating required to cook the rice and keep it warm.

In addition, continued use of the "thermal sprayed thick iron pot" which produces strong heating by iron that matches well with IH heating. And "Steam recycling mechanism" that uses the heat from the steam achieves an annual electricity consumption of 68.97kWh.

**Product performance**

In addition to the "pressure & steam" that cooks the rice at a high pressure of max. 1.3 atmospheres and high temperature of 107°C, a unique "vacuum heat seal" that uses a vacuum container for the inner wall that surrounds the strong heating "thermal sprayed thick iron pot" is used. Maintaining a high temperature while cooking the rice improves its flavor. Further, heat is used efficiently during warm keep to reduce the amount of heating required to keep the rice firm.

**Hitachi Appliances, Inc.**

Hitachi Atago Bldg., 15-12, Nishi Shimbashi 2-chome, Minato-ku, Tokyo, 105-8410, Japan  
Tel +81-3-3502-2111  Fax +81-3-3506-1442  

Available in: Japan

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### EP-1-076  Home electric appliances/lighting  
**The best rice cooked by double vacuum and high heating.**

**Environmental performance**

- Mitigation of climate change: Energy-saving-standard achievement rate of 104%. Annual power consumption of 91.0 kWh/year.

**Product performance**

- Dips in a double vacuum: It can absorb water to the core of rice in 17 minutes with vacuum technology.  
- Keeping rice warm and white in a double vacuum: Cooked rice is kept warm and tasty for up to 40 hours.

**TOSHIBA HOME TECHNOLOGY CORPORATION**

2570-1, Urasuda, Kamo-shi, Niigata, 959-1393, Japan  
Tel +81-256-53-2545  Fax +81-256-53-2776  
URL [http://www.toshiba.co.jp/index.htm](http://www.toshiba.co.jp/index.htm)  

Available in: Japan
Eco-product // Home electric appliances/lighting

EP-1-077 Home electric appliances/lighting
electric rice cookers

IH Rice Cooker & Warmer -Compact body & delicious rice

Environmental performance
The achievement of energy saving standard rate based on the energy saving law: 118%
Annual power consumption of 72.8kWh/year.
Energy saving by high efficient induction heating and thermal insulated special pan.

Product performance
Delicious rice & Compact body
Cooks delicious rice with high power IH "Four IH coils & thermal insulation special pan"
The leftover cooked rice is arranged deliciously "Soup boiled rice course"
It fits in a kitchen exactly "Compact body design"

Panasonic Corporation, Appliances Company
5 Saho, Kato City, Hyogo, 673-1447, Japan
Tel +81-795-42-7000 Fax +81-795-42-7055
E-mail mokubo.kazumitu@jp.panasonic.com
URL http://panasonic.net/
URL http://panasonic.jp/suihan/
URL http://panasonic.net/csr/

Available in: Japan

EP-1-078 Home electric appliances/lighting
electric washing machines

HITACHI Front Loading Automatic Washer and Dryer (Washing 10.5kg Drying 7.0kg)

Environmental performance
- Saves water: Conserves water using "Shower spray rinsing." (Previously water fill rinse)
- Saves energy: Conserves energy using machine operation heat for drying.
- Chemical substance reduction: Complies with RoHS*. Uses steel sheet electroplated without using chrome alloy and lead-less solder is used for the printed circuit board.
- Recycles material: Recycled plastics are used for the outer tub and other parts.*1: Restriction of the use of certain hazardous substances

Product performance
- Hitachi original "Wind Iron" function removes wrinkles using high speed air blowing.
- Hitachi unique "Heat recycling Technology" utilizes machine operation heat to conserve energy.
- BEating effect of the large 61cm diameter drum and dissolving of detergent using a water circulation pump provides more even washing and removes stubborn dirt.
The large drum also dries clothes gently to prevent wrinkling.

Hitachi Appliances, Inc.
Hitachi Atago Bldg., 15-12, Nishi Shimbashi 2-chome, Minato-ku, Tokyo, 105-8410, Japan
Tel +81-3-3502-2111 Fax +81-3-3506-1442
URL http://www.hitachi-ap.com/

Available in: Asia
Eco-product // Home electric appliances/lighting

### EP-1-079  Home electric appliances/lighting
electric washing machines

**BW-105JV: Top Loading Washing Machine (Washing capacity 10.5kg)**

**Environmental performance**
- With a water circulation system, water consumption of this washing machine is 132.1L. (Singapore WELS)
- RoHS* Directive compliant. Lead-free solder is used for printed-circuit board.
  *RoHS: Restriction of the use of certain hazardous substances

**Product performance**
- Water circulation flow and "Beat Wing" pulsator enables water savings and washes thoroughly at the same time.
- "Air Jet Dry" dries up to 4kg clothes in 3 hours with nano titanium filter cleanly and economically.

**Hitachi Appliances, Inc.**
Hitachi Atago Bldg., 15-12, Nishi Shimbashi 2-chome, Minato-ku, Tokyo, 105-8410, Japan
Tel +81-3-3502-2111   Fax +81-3-3506-1442
URL http://www.hitachi-ap.com/

Available in: Singapore, Thailand, Malaysia

### EP-1-080  Home electric appliances/lighting
electric washing machines

**Full Auto Washer Dryer with Heat Pump System**

**Environmental performance**
Heat pump dry system: The heat pump dry system replaces the traditional water-using dryer. It reduces the running cost by 34700 yen per year as well as CO2 emission reduction by 479 kilograms in comparison to the conventional washer and dryer systems which we produced in 2004. The energy-saving performance is the one of the top-level in this industry.

**Product performance**
The "Spin Dancing" wash technology
The machine discharges strong water flow from the whole directions of penetrate the detergent through the fabric.
In addition to traditional tumble washing, "Spin Dancing wash technology" gets your clothes very clean and reduces energy and water.
The "Eco navigation system" is equipped to determine dirt and quantities of the fabric to reduce approx. 9% of energy and approx. 7% of water.
Nanoe tech deodorizer
"Nanoe" is the microscopical particles that can penetrate through the fabric."Nanoe" prevents the unpleasant smell and bacteria, also helps to wash stain away easily.

**Panasonic Corporation, Appliances Company**
2-3-1-2 Noji-higashi, Kusatsu City, Shiga, 525-8555, Japan
Tel +81-77-561-2065   Fax +81-77-561-6749
URL http://panasonic.net/
URL http://panasonic.net/csr/

Available in: Japan
EP-1-082	Home electric appliances/lighting
electric washing machines

Fully Automatic Washer/Dryer Combo with Plasmacluster

Environmental performance
(1) Recycled plastic through Sharp’s “Self Recycling Material Technology” is used for washing tub and bottom stand.
(2) Complies with RoHS (examples are, PWB made of lead-free solder, and removal of specific brominated flame retardants).
(3) Hole-less stainless steel tub enables energy efficiency and water saving from washing to drying. Since water does not pour into the outside of the tub, due to its hole-free design, the amount of water and detergent used is drastically reduced. This tub also keeps heat inside, and the temperature of the inner tub rises in a shorter time, thus achieving energy saving.
(4) Stand by power consumption is 0W.

Product performance
(1) The Sharp original air purification technology “Plasmacluster” technology is installed. After washing, Plasma discharge automatically generates and emits the same kind of positive and negative ions that exist in nature, into the place where the washing machine is set which suppress the effects of viruses and removes airborne mold. Using this technology you can also get rid of the smell of the laundry that is hard to be washed.
(2) This machine adopts the “wide mouth” design with no inner lid which has been necessary in order to seal the heat air during drying. This makes the opening for laundry about 1.2 times as wide as the former one and makes it easier to put in and out large pieces of laundry such as blankets.
(3) The wide open space of this machine can dry the hanging shirts, which contributes the speedy, less wrinkled, and uniformly dried laundry.

Sharp Corporation
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Tel +81-6-6625-0438 Fax +81-6-6625-0153
E-mail eco-info@sharp.co.jp
URL http://sharp-world.com/
URL http://sharp-world.com/corporate/eco/

Available in: Japan

Eco-product // Home electric appliances/lighting
Eco-product // Home electric appliances/lighting

**EP-1-083**

**Home electric appliances/lighting**

**electric washing machines**

**Environmental performance**
- Mitigation of climate change: 78% reduction in power consumption by the variable magnetic flux motor and the optimized control of heat pump unit. 74% reduction in CO₂ emissions in comparison to the conventional model TW-F70 ('00 model).
- Efficient use of resources: 67% reduction in water consumption to wash & dry 6kg of laundry by the high-pressure double shower, centrifugal wash and heat pump unit in comparison to the conventional model TW-F70 ('00 model).
- Recycle plastic collected from waste home appliances into parts for new home appliances.

**Product performance**
- Water-saving "ZABOON" washing: By the centrifugal wash and high-pressure double shower, it washes firmly and can rinse with fewer water.
- Speedy: Reduction washing time by new active-suspension.
- Eco mode: Eliminate futility and water saving that detected cloth quantity, type and temperature by three sensors.
- Disinfection and deodorization: It is possible to prevent both unpleasant smells and bacteria by "pico ion", so that the drum and tub can be kept clean.

**TOSHIBA HOME APPLIANCES CORPORATION**

991, Anada-Cho, Seto-Shi, Aichi, 489-8610, Japan
URL http://www.toshiba.co.jp/index.htm

Available in: Japan

**EP-1-084**

**Home electric appliances/lighting**

**electronic ovens**

**Microwave Oven**

**Environmental performance**
The oven is equipped with an "eco" shutter that closes the oven during heating to keep in the heat to shorten the preheating time and save electricity, and a "Double Kosoku Heater" that contains "Kosoku Heaters" to increase the oven heating speed and achieve an energy conservation standard rate of 111%. In addition, the initial setting that has the oven light on at all times other than during preheating to allow the user to see into the oven during cooking can be changed so that the light is off during cooking. Using this setting will save 1,170 Wh of electricity per year.

**Product performance**
This oven uses triple weight sensors to control the temperature and heating time in accordance with the weight of the food. The "ventilated double grill" and "steaming lid" can be used steam cook such foods as gyoza. Further, easy operation is provided by touching the LCD panel to select from 371 automatic cooking menus.

**Hitachi Appliances, Inc.**

Hitachi Atago Bldg., 15-12, Nishi Shimbashi 2-chome, Minato-ku, Tokyo, 105-8410, Japan
Tel +81-3-3502-2111 Fax +81-3-3506-1442
URL http://www.hitachi-ap.com/

Available in: Japan
**Eco-product // Home electric appliances/lighting**

**EP-1-085**

**Home electric appliances/lighting**

**Electronic ovens**

New Oven with curved ceiling and side hot air system make delicious cooking and “Torechau Coat” that was new item improves cleaning performance.

**Environmental performance**

- Microwave performance is improved by Doom antenna and best impedance matching.
- Energy-saving-standard achievement rate of 115%. Annual power consumption of 63.9 kWh/year.

**Product performance**

- Temperature rising in Oven is only 5 minutes to reach 200 degrees C by rapid and even supply of Hot Air with new system, and Delicious Cooking is acquired by 350 degrees C Hot Oven.
- Ishikama tornade engine: Supply Hot Air by Heater with fin and double plate fan brake system
- Dome Stone Oven: Curved ceiling of Oven make effective Convection of Hot Air
- Side Hot Air: Supply Hot Air also from side of Oven By this system, High Temperature Hot Air supplied to Foods even.

**TOSHIBA HOME TECHNOLOGY CORPORATION**

2570-1, Urasuda, Kamo-shi, Niigata, 959-1393, Japan

URL [http://www.toshiba.co.jp/index.htm](http://www.toshiba.co.jp/index.htm)


Available in: Japan

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**EP-1-086**

**Home electric appliances/lighting**

**Steam microwave oven**

**Energy saving Highly efficient Steam microwave oven : NE-R3300**

**Environmental performance**

About 20% energy saving has been achieved compared with FY2005 model, NE-SS30.

Input power consumption is changed from 82.4kWh/y to 65.5kWh/y.

It have new function, “Grilling from frozen”.

It is grilling from frozen condition and 30% time saving achieved compared to grilling after defrosting.

It conforms to the EU RoHS directive.

**Product performance**

The food bottom is baking while defrosting by combining the controls that effectively heat “Bistro grill plate” while increasing the amount of the micro wave that hits food directly by controlling “3D antenna” that discharges microwave and new hape “Bistro grill plate”.

**Panasonic Corporation, Appliances Company**

2-3-1-3 Noji-higasi, Kusatsu City, Shiga, 525-0058, Japan

Tel +81-77-561-3199  Fax +81-77-561-4312

URL [http://panasonic.net/](http://panasonic.net/)

URL [http://panasonic.net/csr/](http://panasonic.net/csr/)

Available in: Japan

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Plasmacluster Ion Generator (mobile type)

**Environmental performance**

1. Plasmacluster ion generating unit with low power consumption is installed.
2. Maximum power consumption 3.3W (when AC adapter is in use)
3. No specified brominated flame retardants which may produce harmful gas when burned.

**Product performance**

1. High density Plasmacluster 25000 is installed. It can remove airborne bacteria* and adhering odor. In addition, Plasmacluster ion has 3 skin beautifying effects (brings moisture, elasticity, texture).
2. Palm-sized, compact design. Rechargeable battery (last for approx. 4 hours) allows you to use it when you are out or travelling in shinkansen (bullet train). It can also be easily recharged as it is chargeable from any USB port in the office or by AC adapters in the home.

* Airborne bacteria: Effect after approx. 38 minutes in an approx. 40m³ test room. Sharp does not guarantee the same results under actual operating conditions.

**Sharp Corporation**

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URL http://sharp-world.com/
URL http://sharp-world.com/corporate/eco/

Available in: Japan

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**32" TFT-LCD TV Panel T315XW02 VQ**

**Environmental performance**

The plastic components of this product are made of the self-developed material AU2000, which is a GP-certified halogen-free high-strength composite material of polycarbonate (PC) and glass fiber that can be used to reduce the use of plastics. All the metal components are SECC (Steel - Electrogalvanized - ColdRolled-Coil) and 100% recyclable. The front metal frame can be installed without screws and, thanks to its small number of parts, is easily detachable. Power consumption of this product meets the Energy Star 4.0 Standard.

**Product performance**

This liquid crystal module is a 32" TFT active matrix liquid crystal display of 1366x768 pixels, featuring high brightness, wide viewing angle, high color saturation, high color depth, and low power consumption (about 78W). It also shows a 40% increase in optical transmittance (compared with other 32" LCD module).

**AU Optronics Corporation**

No.1, Lixing 2nd Rd., East Dist., Hsinchu City, Taiwan, 300, Republic of China
Tel +886-3-500-8800 -3629 Fax +886-3-577-2658
E-mail yilin.wei@auo.com
URL http://auo.com

Available in: Asia, Europe, U.S.A.
EP-1-089  Home electric appliances/lighting

**LCD Video Monitor: BT-LH910G**

**Environmental performance**
- Achieved lowest power consumption in the industry due to Energy Efficiency technology.
- Non-Use of Specific Chemical Substances. (EU RoHS Directive.)
- Non-use of vinyl chloride (PVC) resin for internal wires

**Product performance**
- The 23 cm (9 inches) New IPS LCD Panel Produces High-Resolution, High-Quality Images.
- High Brightness, Superb Contrast, Wide Viewing Angle
- High-performance Image Processing Engine for Superb Moving Image Quality
- Gradation and RGB Manual Adjustment
- Outstanding Display Performance, Extensive Recording Assist Functions and a Wealth of Interfaces for Broadcasting Use.
- Cine-gamma and New Black Mode
- WFM (Y/R/G/B) and Vector Scope Display
- Closed Caption and Time Code Display
- Versatile Input Terminals, Including 3G-SDI and HDMI
- 3D Assist Functions Supported by Various Formats

**Panasonic Corporation, AVC Networks Company**
1-15 Matsuo-cho, Kadoma City, Osaka, 571-8504, Japan
Tel +81-6-6905-8356  Fax +81-6-6905-4755
URL http://panasonic.net/
URL http://panasonic.net/csr/

Available in: Worldwide

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EP-1-090  Home electric appliances/lighting

**Portable TV  SV-ME970**

**Environmental performance**
Achieved stand-by power consumption of approx. 0.07W.
Achieved power consumption of approx. 4W due to low power circuit technology.
Circuit has been integrated to promote energy saving, and compactness and light weight of circuit boards and fundamental parts have been improved.
Non-Use of Specific Chemical Substances *
(*: Lead, mercury, cadmium, hexavalent chromium, two specific brominated flame retardants, designated by the EU RoHS Directive.)

**Product performance**
7 inch wide display.
One segment digital Terrestrial TV tuner.
Web browser.
Wire-less LAN.
Waterproof (IPX6/IPX7).

**Panasonic Corporation, AVC Networks Company**
1-15 Matsuo-cho, Kadoma City, Osaka, 571-8504, Japan
Tel +81-6-6906-3007
URL http://panasonic.net/
URL http://panasonic.net/csr/

Available in: Japan
**EP-1-091**

**Home electric appliances/lighting**

**LCD Television**

**Environmental performance**

* "Slim Block LED panel" saves the power consumption by controlling the black light for the dark portion of the pictures.
  * "Low power consumption mode" decreases power consumption by appropriately adjusting brightness.
  * "Automatic power off" automatically turns off the power after a certain period of no operation or no signal.
  * "Intelligent sensor" detects the brightness and color of lighting in the room, produces suitable pictures and decreases power consumption.
  * "Human detector for saving energy" detects the viewer's state and if necessary, sets power saving mode automatically.
  * "Small size screen mode for saving energy" makes screen size small from 46" to 32" or 20" and saves power consumption.

**Product performance**

* Fine and high contrast picture by "Slim Block LED panel"
* "Smooth cinema" function produces smooth, natural pictures.

**Hitachi Consumer Electronics Co., Ltd.**

Shin-Otemachi Bldg. 2-1, Otemachi 2-chome, Chiyod-ku, Tokyo, 100-0004, Japan
Tel: 0120-3121-11  Fax: 0120-3121-34
URL: [http://av.hitachi.com/](http://av.hitachi.com/)

*Available in: Japan*

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**EP-1-092**

**Home electric appliances/lighting**

**The Viera C-series hi-vision LCD-TV (19/32-inch models)**

**Environmental performance**

Energy & resource saving:
Annual power consumption (kWh/year) reduced by approx. 39% due to energy saving design (compared with the TH-L32C2)
Chemical substances & recycling:
Non-use of specific chemical substances (compliant with the EU RoHS directive)
Non-use of lead-solder circuit boards
Non-use of vinyl chloride (PVC) resin for internal wires

**Product performance**

IPS-alpha panels with LED backlight system (TH-L32C3)
IPS panels with LED backlight system (TH-L19C3)
Wide viewing angle with high-quality images
Viera Link, enabling remote control of Panasonic BDs and AV amps using control signals from HDMI cables
SD card slot

**Panasonic Corporation, AVC Networks Company**

1-15 Matsuo-cho, Kadoma, Osaka, 571-8504, Japan
Tel: +81-6-6905-8356  Fax: +81-6-6905-4755
URL: [http://panasonic.net/](http://panasonic.net/)
URL: [http://panasonic.net/avc/viera/](http://panasonic.net/avc/viera/)
URL: [http://panasonic.net/csr/](http://panasonic.net/csr/)

*Available in: Japan, Asia*
Eco-product // Home electric appliances/lighting

EP-1-093  Home electric appliances/lighting

The Viera G-series full hi-vision LCD-TV (42-inch models)

**Environmental performance**

Energy & resource saving:
- Annual power consumption (kWh/year) reduced by approx. 5% due to energy saving design (compared with the TH-L42D2)
- Chemical substances & recycling:
  - Non-use of specific chemical substances (compliant with the EU RoHS directive)
  - Non-use of lead-solder circuit boards
  - Non-use of vinyl chloride (PVC) resin for internal wires

**Product performance**

IPS-alpha panels with LED back light system
- Dynamic Contrast 2,000,000:1
- Viera Link, enabling remote control of Panasonic BDs and AV amps using control signals from HDMI cables
- SD card slot

Panasonic Corporation, AVC Networks Company

1-15 Matsuo-cho, Kadoma, Osaka, 571-8504, Japan
Tel +81-6-6905-8356  Fax +81-6-6905-4755
URL http://panasonic.net/
URL http://panasonic.net/avc/viera/
URL http://panasonic.net/csr/

Available in: Japan, Asia

EP-1-094  Home electric appliances/lighting

The Viera DT-series full hi-vision 3D LCD-TV (32/37-inch models)

**Environmental performance**

Energy & resource saving:
- Annual power consumption (kWh/year) reduced by approx. 32% due to energy saving design (compared with the TH-L32G1)
- Chemical substances & recycling:
  - Non-use of specific chemical substances (compliant with the EU RoHS directive)
  - Non-use of lead-solder circuit boards
  - Non-use of vinyl chloride (PVC) resin for internal wires

**Product performance**

FULL HD 3D
- IPS-alpha panels with LED back light system
- Dynamic Contrast 5,000,000:1
- Viera Link, enabling remote control of Panasonic BDs and AV amps using control signals from HDMI cables
- SD card slot

Panasonic Corporation, AVC Networks Company

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URL http://panasonic.net/
URL http://panasonic.net/avc/viera/
URL http://panasonic.net/csr/

Available in: Japan, Asia
Eco-product // Home electric appliances/lighting

**EP-1-095**  
Home electric appliances/lighting  
televisions

The Viera R-series full hi-vision LCD-TV (37-inch models)

### Environmental performance
- Energy & resource saving:
  - Annual power consumption (kWh/year) reduced by approx. 6% due to energy saving design (compared with the TH-L37R2)
  - Chemical substances & recycling:
    - Non-use of specific chemical substances (compliant with the EU RoHS directive)
    - Non-use of lead-solder circuit boards
    - Non-use of vinyl chloride (PVC) resin for internal wires

### Product performance
- IPS-alpha panels with LED back light system
- Internal 1TB hard disk drive
- Viera Link, enabling remote control of Panasonic BDs and AV amps using control signals from HDMI cables
- SD card slot

Panasonic Corporation, AVC Networks Company

1-15 Matsuo-cho, Kadoma, Osaka, 571-8504, Japan  
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URL http://panasonic.net/avc/viera/  
URL http://panasonic.net/csr/

Available in: Japan, Asia

**EP-1-096**  
Home electric appliances/lighting  
televisions

Terrestrial/BS/CS110° Digital High-Definition LCD TV (60/52/46/40V-inch)

### Environmental performance

1. Achieves both high image quality and high energy efficiency by combining an LCD panel that uses high-speed UV/A technology*1 and four-color technology*2 with an LED backlight that offers precise, efficient control of light. Reduction in power consumption by more than 25% compared to previous models*3.
2. Backlight longevity is about 60,000 hours.
3. Resource conservation by reduction of the amount of materials.
4. Recycling paper is used for the operation manuals.

*1 Abbreviation of ultraviolet induced Multi-domain Vertical Alignment. Photo-alignment technology that can precisely control the alignment of liquid crystal molecules using a manufacturing method based on UV light exposure.
*2 Sharp’s four-color concept was designed for use with LCDs; it differs from the conventional three-primary-color concept of light and color.
*3 LV3 series
*4 Based on comparison of LC-60L5 and LC-60LV3.

### Product performance

1. High-speed UV/A LCD panel and 240Hz scanning LED backlight.
2. ARSS*2 eight-speaker system*3 integrates video and audio, plus Duo Bass low-vibration woofer*4.
3. Impressive 3D images with screen brightness approximately 1.8 times*5 higher than previous models.

*1 The maximum contrast level a TV set is capable of achieving.
*2 Abbreviation of “Around Speaker System” – Audio technology in which speakers are arranged around the screen.
*3 Featured in 60V/52V/46V-inch models. 40V-inch models use a 7-speaker system.
*4 Featured in 60V/52V/46V-inch models.
*5 Comparing light utilization efficiency with Sharp’s previous technology (which does not incorporate FRED technology)

Sharp Corporation

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URL http://sharp-world.com/  
URL http://sharp-world.com/corporate/eco/

Available in: Japan

AQUOS Quattron 3D (LC-60L5)
**Eco-product // Home electric appliances/lighting**

### EP-1-097

**Home electric appliances/lighting**

#### BRAVIA HX820 Series LCD TVs: Higher Picture Quality, Lower Power Consumption

**Environmental performance**

BRAVIA HX820 series feature an array of power-saving features, including an Intelligent Presence Sensor.

- Dynamic Edge LED technology optimizes the television screen's LED backlight for a superior picture and superb contrast while power consumption is significantly reduced.
- Intelligent Presence Sensor detects motion and faces to determine whether people are in front of the television and watching, so that the screen can be dimmed or turned off.

**Product performance**

Full HD 3D TV with Dynamic Edge LED, Motionflow XR 480/400, Wi-Fi. Innovations such as Dynamic Edge LED backlighting and an Intelligent Presence Sensor contribute to superior picture quality while saving energy. The series also embodies Monolithic Design, ensuring both a beautiful appearance and a beautiful picture.

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**Sony Corporation**

1-7-1 Konan Minato-ku, Tokyo, 108-0075, Japan
URL http://sony.co.jp/eco/
URL http://sony.jp/bravia/
URL http://sony.co.jp/csr/

Available in: Japan, Asia, Oceania, Europe, North America, South America, Taiwan (Rep. of China), China

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### EP-1-098

**Home electric appliances/lighting**

#### Digital high-definition LCD TV REGZA 19P2

**Environmental performance**

- Mitigation of climate change: 27% reduction in annual power consumption by adopting LED panel of low consumption.
- Efficient use of resources: Usage of recycled plastic. Mark the material name for a plastic parts that greater than or equal 25g

**Product performance**

- Power peak-shift: Switch the power source in use from AC to the battery at times of a day of the peak power demand
- Energy saving: 18% energy saving mode embarkation.
- High quality 19 inch LED LCD: Look and listen

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**TOSHIBA CORPORATION Digital Products & Services Company**

1-1, Shibaura 1-chome, Minato-ku, Tokyo, 105-8001, Japan
URL http://www.toshiba.co.jp/index.htm

Available in: Japan
Eco-product // Home electric appliances/lighting

### EP-1-099

**Home electric appliances/lighting**

**speaker**

#### High-Fidelity and eco-friendly loudspeaker with cabinets made from used whiskey barrels

**Environmental performance**

The cabinets of the “Pure Malt Speaker” series are made from used whiskey barrels (virgin white oak) that produce rich sounds. Pioneer promotes the 3Rs (Reduce, Reuse, Recycle) aggressively, by not using new wood, preventing forest destruction, and preserving bio-diversity.

Oak trees grow for 100 years before serving as whiskey casks for another 50 to 70 years. After that, the wood is recycled into speaker cabinets that produce warm, rich sounds for many more years.

By using heat from natural spas, energy is saved during the wood processing from barrels; efforts in using lower VOCs (Volatile Organic Compounds) in adhesives and paint are used; and pulp molded material is adopted as shock absorbing material for packaging.

Pioneer’s original efforts to reduce harmful chemical substances through stricter in-house standards than those of the EU RoHS Directive are also implemented.

A portion of the revenues from product sales is donated to the Green Fund of the National Land Afforestation Promotion Organization as a contribution to government-led promotion of afforestation.

**PIONEER CORPORATION**

1-1 Shin-ogura, Saiwai-ku, Kawasaki-shi, Kanagawa, 212-0031, Japan

Tel +81-44-580-3211

URL http://pioneer.jp/index-e.php

URL http://pioneer.jp/components/puremalt/index.html?cl=200903_main_puremalt

URL http://pioneer.jp/environment-e/

Available in: Japan, Europe, Southeast Asia, China

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### EP-1-100

**Home electric appliances/lighting**

**speaker system**

#### 2.1-Channel SoundBar Speaker System SC-HTB15

**Environmental performance**

Achieved stand-by power consumption of approx. 0.05W (North America model). Achieved power consumption of approx. 40W (North America model) due to low power circuit technology. Circuit has been integrated to promote energy saving, and compactness and light weight of circuit boards and fundamental parts have been improved.

Non-Use of Specific Chemical Substances:

- Lead, mercury, cadmium, hexavalent chromium, two specific brominated flame retardants, designated by the EU RoHS Directive.

**Product performance**

2.1-Channel SoundBar Speaker System.

With Powerful Down-Firing Subwoofer system.

Setting up is possible install Horizontal style or Vertical style as Soundbar system.

Digital power Amplifier 240W.

**Panasonic Corporation, AVC Networks Company**

1-15 Matsuo-cho, Kadoma City, Osaka, 571-8504, Japan

Tel +81-6-6906-3007

URL http://panasonic.co.jp/

URL http://panasonic.net/csr/

Available in: Japan, Oceania, Europe, North America, Central America, South America, Southeast Asia
### EP-1-101  
**Home electric appliances/lighting**  
vacuum machines  

**Vacuum Cleaner**

**Environmental performance**
- Lead-free solder for power control board.

**Product performance**
- Easy to use and high power bagless type cleaner.
- This Cyclone type vacuum cleaner was awarded the Allergy UK* Seal of Approval in recognition of its proven ability to reduce exposure to allergens.

*Tested by Allergy UK (The British Allergy Foundation)

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**Hitachi Appliances, Inc.**

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URL http://www.hitachi-ap.com/

Available in: Thailand, Malaysia

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### EP-1-102  
**Home electric appliances/lighting**  
vacuum machines  

**Cyclone type vacuum cleaner MC-SS310GX**

**Environmental performance**
* Infrared ray sensor detects minute house dust of about 20 μm. Power is controlled in four levels depending on quantity of dust. The new "Floor Detective Sensor" also detects the load of a rotation brush by recognizing the type of floor which is carpet or flooring. Power is automatically changed to Energy Saving Mode on the flooring and where there is little dust. And it is additionally reduced in two steps when nozzle is away from the floor surface. 56% of energy can be saved with these functions as compared with other models not using them.  
* Suction power of more than 99% can be maintained by "Power Press Cyclone System" that reduces power loss.

**Product performance**

More than 99% of power can be maintained with the industry’s first "Power Press Cyclone", and 56% of energy can be saved by the "House Dust Detective Sensor" equipped with the idling function and the new "Floor Detective Sensor".

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**Panasonic Corporation, Appliances Company**

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URL http://panasonic.net/csr/

Available in: Japan
**Eco-product // Home electric appliances/lighting**

**EP-1-103**

**Home electric appliances/lighting**

**Vacuum machines**

Equipped with Dual Tornado System and Quiel Construction. A Cleaner of the Energy Saving and Low Noise

**Environmental performance**

- Mitigation of climate change: Because continue strong power of absorption in Dual Tornado System, Don’t use useless electricity. A maximum of about 60% reduction in power consumption in Eco Automatic Mode compared with High Mode.
- Recycle plastic collected from waste home appliances into parts for new home appliances.

**Product performance**

- Long-lasting: Power lasts by Dual Tornado System.
- Low noise: Vibration control structure is strengthened with using a spring for keep of motor.
- Self-propelled head: Ease cleaning with the grip which easy to use.

**TOSHIBA HOME APPLIANCES CORPORATION**

991, Anada-Cho, Seto-Shi, Aichi, 259-1393, Japan

URL http://www.toshiba.co.jp/index.htm


Available in: Japan

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**EP-1-104**

**Home electric appliances/lighting**

**Watches**

**Casio Wristwatch: Radio Wave Solar Watch PROTOREK**

**Environmental performance**

* Uses a solar-power battery as the power source.
* An originally-designed solar system is utilized to transform even low amounts of light into power.
* Advanced measurement functions benefiting from miniaturized sensor technologies monitor the constant changes in natural phenomena with reliable accuracy, “Feel the field” will foster a kindness to nature.

**Product performance**

* The latest auto radio-wave receiving function, Multi-Band 6, receives time calibration radio signals up to six times per day (Japan[2], US, UK, Germany and China).

**CASIO COMPUTER CO. LTD**

6-2, Hon-machi 1-chome, Shibuya-ku, Tokyo, 151-8543, Japan

Tel +81-3-5334-4111

URL http://world.casio.com/

URL http://world.casio.com/csr/

Available in: Worldwide
## Eco-JOES - Highly-efficient Central Heating Boiler

### Environmental performance

Employing a latent heat recovery-type heat exchanger, the system utilizes the thermal energy of exhaust gas which was previously wasted, achieving a high thermal efficiency of 95%* in hot water supply and 89%* in space heating.

*1: 235-N060 hot water supply capacity

*2: 235-N060 at low temperature combustion

With its smaller energy consumption, Eco-JOES has reduced annual CO₂ emissions by 240kg, which is equal to the amount of CO₂ absorbed by 24 eucalyptus trees.*

*3: 235-N060 data compared to conventional systems. CO₂ emission factor of gas: 2.29kg-CO₂/m³ (Osaka Gas data)

### Product performance

It produces enough hot water for the bathroom and kitchen. It is equipped with an automatic control system for hot water supply and additional boiling and its boiling capacity is sufficient for floor heaters and/or bathroom heaters/dryers.

**Osaka Gas Co., Ltd.**

4-1-2, Hirano-machi, Chuo-ku, Osaka-shi, Osaka, 541-0046, Japan

Tel +81-6-6205-4605  Fax +81-6-6202-1040

URL [http://www.osakagas.co.jp/indexe.html](http://www.osakagas.co.jp/indexe.html)


Available in: Japan

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## HOT KING KK-20 Heat Pump Water Heater

### Environmental performance

During operation, it costs few energy and generates low CO₂. When calculated with comparable fuel consumption, it conserves 38.7% to 78.4% energy.

When calculated by CO₂ discharge volume, it helps to reduce 38.3% to 78.4% of CO₂ emissions.

### Product performance

High safety: The adoption of a heat pump system does not generate waste gas and is free of any fuel leak poisoning hazard.

Convenience: Utilizing the existing hot water system circuit in a parallel connection, it features fully automated control with the operating life cycle extending to as long as 10 to 15 years.

**ETERNAL ENERGY INC.**

No.1-47, Sec.3, Wuquan W. Rd., Nantun Dist., Taichung City, Taiwan, 408, Republic of China

Tel +886-4-23806721  Fax +886-4-23806728

E-mail geoshine@ms19.hinet.net


Available in: Taiwan (Rep. of China)
Eco-product // Home electric appliances/lighting

EP-1-107  Home electric appliances/lighting

HOT KING KK-30 Heat Pump Water Heater

**Environmental performance**
During operation, it costs few energy and generates low CO\(_2\). When calculated with comparable fuel consumption, it conserves 38.7% to 78.4% energy. When calculated by CO\(_2\) discharge volume, it helps to reduce 38.3% to 78.4% of CO\(_2\) emissions.

**Product performance**
High safety: The adoption of a heat pump system does not generate waste gas and is free of any fuel leak poisoning hazard. Convenience: Utilizing the existing hot water system circuit in a parallel connection, it features fully automated control with the operating life cycle extending to as long as 10 to 15 years.

ETERNAL ENERGY INC.
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Available in: Taiwan (Rep. of China)

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EP-1-108  Home electric appliances/lighting

HOT KING KK-50 Heat Pump Water Heater

**Environmental performance**
During operation, it costs few energy and generates low CO\(_2\). When calculated with comparable fuel consumption, it conserves 38.7% to 78.4% energy. When calculated by CO\(_2\) discharge volume, it helps to reduce 38.3% to 78.4% of CO\(_2\) emissions.

**Product performance**
High safety: The adoption of a heat pump system does not generate waste gas and is free of any fuel leak poisoning hazard. Convenience: Utilizing the existing hot water system circuit in a parallel connection, it features fully automated control with the operating life cycle extending to as long as 10 to 15 years.

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Available in: Taiwan (Rep. of China)
Eco-product // Home electric appliances/lighting

EP-1-109
Home electric appliances/lighting

HOT KING KK-100 Heat Pump Water Heater

Environmental performance
During operation, it costs few energy and generates low CO₂. When calculated with comparable fuel consumption, it conserves 38.7% to 78.4% energy. When calculated by CO₂ discharge volume, it helps to reduce 38.3% to 78.4% of CO₂ emissions.

Product performance
High safety: The adoption of a heat pump system does not generate waste gas and is free of any fuel leak poisoning hazard.
Convenience: Utilizing the existing hot water system circuit in a parallel connection, it features fully automated control with the operating life cycle extending to as long as 10 to 15 years.

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E-mail geoshine@ms19.hinet.net

Available in: Taiwan (Rep. of China)

EP-1-110
Home electric appliances/lighting

HOT KING KK-150 Heat Pump Water Heater

Environmental performance
During operation, it costs few energy and generates low CO₂. When calculated with comparable fuel consumption, it conserves 38.7% to 78.4% energy. When calculated by CO₂ discharge volume, it helps to reduce 38.3% to 78.4% of CO₂ emissions.

Product performance
High safety: The adoption of a heat pump system does not generate waste gas and is free of any fuel leak poisoning hazard.
Convenience: Utilizing the existing hot water system circuit in a parallel connection, it features fully automated control with the operating life cycle extending to as long as 10 to 15 years.

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Available in: Taiwan (Rep. of China)
### EP-2-001  Carriers/automobiles

**TOYOTA Prius with hybrid power**

**Environmental performance**
The new Prius model is equipped with THS II, a new-generation Toyota Hybrid System known as Hybrid Synergy Drive, which refers to the simultaneous evolution of ecology and power. It has achieved world-beating fuel economy of 38.0 km/L* and low exhaust emissions. The drive has been dramatically improved by the development of hybrid power. 10-15 mode drive. *Ministry of Land, Infrastructure, and Transport figure.

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**Toyota Motor Corporation**

1, Toyota-cho, Toyota-shi, Aichi, 471-8571, Japan  
Tel +81-565-23-1341  Fax +81-565-23-5754  
E-mail satoshi_aida@mail.toyota.co.jp  
URL http://www.toyota.co.jp

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### EP-2-002  Carriers/automobiles

**TOYOTA FCHV-adv**

**Environmental performance**
The Toyota FCHV-adv achieved 25% better fuel economy and 60% higher pump-to-wheel efficiency in the Japanese 10-15 test cycle (Toyota test data) due to improvements made to the Toyota FC Stack and a redesigned fuel cell control system.

**Product performance**
From the start of the fuel cell vehicle effort in 1992, Toyota has pursued the development of its own fuel cell stack, the core component of any fuel cell vehicle. This high-performance fuel cell-the Toyota FC Stack-is a performance leader among vehicular fuel cells worldwide. In addition to the fuel cell, the FCHV has a secondary battery which stores energy regenerated during braking. When combined with the hybrid system which was first put to large-scale application in the Prius, the FCHV achieves highly efficient operation through sophisticated energy management.

- **Fuel type:** Hydrogen  
- **Max cruising range:** 330 km  
- **Max speed:** 155 km/h  
- **Weight:** 1880 kg  
- **Seating capacity:** 5 people

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**Toyota Motor Corporation**

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**EP-2-003**

**TOYOTA Prius α with hybrid power**

**Environmental performance**

The new Prius model is equipped with THS, a new-generation Toyota Hybrid System known as Hybrid Synergy Drive, which refers to the simultaneous evolution of ecology and power. It has achieved world-beating fuel economy of 31.0 km/L* and low exhaust emissions. The drive has been dramatically improved by the development of hybrid power. 10-15 mode drive. *Ministry of Land, Infrastructure, and Transport figure.

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**EP-2-004**

**TOYOTA PRIUS PLUG-IN HYBRID**

**Environmental performance**

TOYOTA has extended the cruising range of the electric-motor-only driving mode (EV mode). In addition to reducing CO2 emissions and gasoline consumption as well as contributing to air pollution control.

**Product performance**

The new Prius PULUG-IN HYBRID is a hybrid vehicle which can also recharge batteries directly from household electricity as an electric vehicle. It is an evolution through integration of hybrid and electric vehicles.

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**Toyota Motor Corporation**

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Eco-product // Carriers/automobiles

EP-2-005  Carriers/automobiles

TOYOTA SAI with hybrid power

**Environmental performance**
The SAI is equipped with THS, a new-generation Toyota Hybrid System known as Hybrid Synergy Drive, which refers to the simultaneous evolution of ecology and power. It has achieved world-beating fuel economy of 24.0 km/L* and low exhaust emissions. The drive has been dramatically improved by the development of hybrid power. 10-15 mode drive. *Ministry of Land, Infrastructure, and Transport figure.

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URL http://www.toyota.co.jp

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EP-2-006  Carriers/automobiles

TOYOTA CROWN HYBRID

**Environmental performance**
Automobile hybrid systems combine two motive power sources, namely an internal combustion engine and an electric motor, to take advantage of the benefits provided by both these power sources while compensating for each other’s shortcomings, resulting in highly efficient driving performance. Although hybrid systems use an electric motor, they do not require external charging as do all-electric vehicles.

**Product performance**
Toyota Crown Hybrid has cleared the 2010 Fuel Efficiency Standards, and has also achieved an exhaust emission level that is 75% lower than the 2005 Exhaust Emission Standards of the Ministry of Land, Infrastructure and Transport.

1) Specific fuel consumption (10-15 Japanese test cycle): 15.8 km/liter
2) Technology to reduce fuel consumption
   - Variable valve timing
   - Electric power steering system
   - Direct injection 4 stroke gasoline engine
   - Idling stop system

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URL http://www.toyota.co.jp
### EP-2-007
**TOYOTA HARRIER HYBRID**

**Environmental performance**
Toyota Harrier Hybrid has cleared the 2010 Fuel Efficiency Standards, and has also achieved an exhaust emission level that is 75% lower than the 2005 Exhaust Emission Standards of the Ministry of Land, Infrastructure, and Transport.  
(1) Specific fuel consumption (10-15 Japanese test cycle): 17.8 km/liter  
(2) Technology to reduce fuel consumption: Hybrid system -- Continuously variable transmission, Variable valve timing, Electric power steering system

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### EP-2-008
**TOYOTA ESTIMA HYBRID**

**Environmental performance**
Toyota ESTIMA Hybrid has cleared the 2010 Fuel Efficiency Standards, and has also achieved an exhaust emission level that is 75% lower than the 2005 Exhaust Emission Standards of the Ministry of Land, Infrastructure, and Transport.  
(1) Specific fuel consumption (10-15 Japanese test cycle): 20.0 km/liter  
(2) Technology to reduce fuel consumption: Hybrid system -- Continuously variable transmission, Variable valve timing, Electric power steering system

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URL http://www.toyota.co.jp
### EP-2-009  Carriers/automobiles

#### Lexus LS600h with hybrid power

**Environmental performance**
The Lexus 600h is equipped with the Toyota Hybrid System. It has achieved fuel economy of 12.2 km/L and low exhaust emissions.

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### EP-2-010  Carriers/automobiles

#### Lexus GS450h with hybrid power

**Environmental performance**
The Lexus GS450h is equipped with the Toyota Hybrid System. It has achieved fuel economy of 14.2 km/L and low exhaust emissions.

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URL http://www.toyota.co.jp
### EP-2-011

**Lexus HS250h with hybrid power**

**Environmental performance**
The Lexus HS250h is equipped with the Toyota Hybrid System. It has achieved fuel economy of 23.0 km/L and low exhaust emissions.

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URL http://www.toyota.co.jp

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### EP-2-012

**Lexus CT200h with hybrid power**

**Environmental performance**
The Lexus CT200h is equipped with the Toyota Hybrid System. It has achieved fuel economy of 34.0 km/L and low exhaust emissions.

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URL http://www.toyota.co.jp
### EP-2-013  
**Eco-product // Carriers/automobiles**

#### Environmental performance

**Lexus RX450h with hybrid power**

The Lexus RX450h is equipped with the Toyota Hybrid System. It has achieved fuel economy of 19.4 km/L and low exhaust emissions.

**Toyota Motor Corporation**

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### EP-2-014  
**Eco-product // Carriers/automobiles**

#### Environmental performance

**FCX Clarity**

Cruising range: 620km

**Product performance**

Length: 4,845mm  
Width: 1,845mm  
Height: 1,470mm

**Honda motor Co., Ltd**

2-1-1 Minami-aoyama, minato-ku, Tokyo, Japan

Available in: Japan
## Insight

**Environmental performance**

Further support fuel-efficient driving, the Insight features the Ecological Drive Assist System (Eco Assist) as standard equipment on all models.

- **JC08 mode:** 27.2 km/h
- **10-15 mode:** 31.0 km/h

**Product performance**

- **Length:** 4,390 mm
- **Width:** 1,695 mm
- **Height:** 1,425 mm

**Honda motor Co., Ltd**

2-1-1 Minami-aoyama, Minato-ku, Tokyo, Japan

Available in: Japan

## CR-Z

**Environmental performance**

Further support fuel-efficient driving, the Insight features the Ecological Drive Assist System (Eco Assist) as standard equipment on all models.

- **JC08 mode:** 22.8 km/h
- **10-15 mode:** 25.0 km/h

**Product performance**

- **Length:** 4,080 mm
- **Width:** 1,740 mm
- **Height:** 1,395 mm

**Honda motor Co., Ltd**

2-1-1 Minami-aoyama, Minato-ku, Tokyo, Japan

Available in: Japan, Europe
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<th>EP-2-017</th>
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<td><strong>Environmental performance</strong></td>
<td>further support fuel-efficient driving, the Insight features the Ecological Drive Assist System (Eco Assist) as standard equipment on all models.</td>
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<td>10-15 mode: 24.5km/h</td>
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<td><strong>Environmental performance</strong></td>
<td>further support fuel-efficient driving, the Insight features the Ecological Drive Assist System (Eco Assist) as standard equipment on all models.</td>
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<td>JC08 mode: 25.0km/h 10-15 mode: 30.0km/h</td>
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<td><strong>Product performance</strong></td>
<td>Lenght: 4,410mm Width: 1,695mm Height: 1,540mm</td>
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<td><strong>Freed hybrid</strong></td>
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<td><strong>Environmental performance</strong></td>
<td>ECON mode and the Ecological Drive Assist System (Eco Assist), which is designed to help the driver develop and maintain a fuel-efficient driving style, are both standard.</td>
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<td>JC08 mode: 21.6km/h</td>
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<td>10-15 mode: 24.0km/h</td>
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<tr>
<td><strong>Product performance</strong></td>
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<td>Width: 1,695mm</td>
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<td><strong>Environmental performance</strong></td>
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<td><strong>Honda motor Co.,Ltd</strong></td>
<td>2-1-1 Minami-aoyama, minato-ku, Tokyo, Japan</td>
</tr>
</tbody>
</table>

*Available in: Japan*
**EV-neo**

**Environmental performance**
On top of the excellent environmental performance offering a clean and quiet ride worthy of an electric scooter with zero CO₂ emissions while riding, the EV-neo leverages a motor that, even with cargo loaded, generates high torque even in the low-speed range to achieve a powerful starting and hill-climbing performance.

**Product performance**
Length: 1.830m
Width: 0.695m
Height: 1.065m

**Honda motor Co., Ltd.**
2-1-1 Minami-aoyama, minato-ku, Tokyo, Japan

Available in: Japan

**Nissan LEAF**

**Environmental performance**
Nissan LEAF is a zero emission car which doesn’t produce CO₂ or exhaust gas. As a uniquely designed mass production EV, it has a roomy 5 passenger seating capacity and features a laminated lithium-ion battery (90kW) manufactured by AESC, a Nissan and NEC joint venture that give it a driving range of 200km (under JC08 mode). The inverter and small high-powered motor which gives the Nissan LEAF its powerful and linear driving are also assembled by Nissan. A full 100% charge takes about 8 hours with a normal charging outlet (200V) and when depleted can be powered up to 80% in just 30 minutes using the Quick Charger. Special features also include a unique Zero Emission IT support system that guide drivers to the nearest charging spots while traveling and a timed charging system that automatically charges, to take advantage of cheaper electricity rates at night time when plugged in. Nissan LEAF reduced CO₂ emissions by approximately 40% compared with a comparable gasoline vehicle on the basis of LCA.

**Nissan Motor Co., Ltd.**
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URL http://www.nissan-zeroemission.com

Available in: Japan, Europe, North America
Nissan Clean Diesel X-TRAIL 20GT

**Environmental performance**
Nissan Clean Diesel X-TRAIL 20GT meets most stringent emissions regulation and also achieves excellent fuel economy such as 15.2km/l (manual transmission) / 14.2km/l (automatic transmission) in 10/15 mode by featuring advanced technologies for emission reduction.

- Common rail fuel injection system
- Re-circulated exhaust gas cooler
- Diesel particulate filter
- New Lean NOx trap catalyst
- Double swirl port

Nissan Clean Diesel X-TRAIL 20GT highly reduced typical diesel noise and vibrations and also provides superior quietness in the cabin.

**Nissan Motor Co., Ltd.**
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URL http://www.nissan-global.com

Available in: Japan

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Nissan Fuga Hybrid

**Environmental performance**
The Fuga Hybrid’s Intelligent Dual Clutch Control system connects the high-response electric motor and engine directly to the transmission, without the use of a torque converter. This highly efficient and lightweight hybrid system contributes to fuel efficiency of 19.0km/L (10-15 mode) - comparable to that of a compact car, while also providing the direct feel and exhilarating driving performance.

Since one of the two clutches completely disconnects the motor from the engine, quiet and highly efficient EV mode driving is realized. The EV mode is frequently applied, helping the Fuga Hybrid achieve best-in-class* fuel economy.

The Fuga Hybrid’s compact, high-output lithium-ion battery is able to charge/discharge quickly. Also the Fuga Hybrid’s electronic 7-speed hybrid transmission with manual shift mode features optimized shift performance according to the motor’s output characteristics.

*Four-door sedan with 3.0 liter engine or above. (As of October 2010, according to Nissan)

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Available in: Japan, North America
Eco-product // Carriers/automobiles

EP-2-025

Economical & Ecological Crane U-can ECO

Carriers/automobiles

Cranes for trucks

Environmental performance

The electronically-controlled double pump mechanism, Eco Pump System, halves the number of revs during the operation of a crane (*1). In addition, the fuel consumption rate has been improved by up to 40% (*1), cutting CO₂ emissions while realizing a high economic effect. Furthermore, the decrease in revs contributes to the creation of a soundproofed working environment and improvement of noise issues.

*1: Compared with the company's product U-can (for middle-sized trucks)

Product performance

(1) Thanks to the improvement of the fuel consumption rate by approximately 40% (*2), fuel expenses are saved by approximately 196,000 yen (*3) per year and roughly 4,000 kg (*3) of CO₂ emissions can be cut annually.

(2) The 50% reduction in the number of revs (*2) realizes a lower noise by nearly -4dB (*4).

*2: Compared with the company's Unic Crane, U-can (for middle-sized trucks)

*3: Light oil price: 125 yen/L, CO₂ emission coefficient: 2.62 kg-CO₂/L (in case of being operated three hours per day, 250 days a year)

*4: Comparing the maximum when a crane is operated. Average within 7m on each side of the crane

FURUKAWA UNIC CO., LTD.

1-5-3, NIHONBASHI, CHUO-KU, TOKYO, Japan
 Tel +81-3-3231-8611  Fax +81-3-3231-8261
URL http://www.furukawaunic.co.jp/

Available in: Japan

EP-2-026

Energy storage systems for rolling stock

An Accumulating System for Rolling Stock which Recycles Discharged Thermal Energy

Carriers/automobiles

Environmental performance

- Mitigation of climate change: 8% of inverter regenerated energy (energy generated during braking) is absorbed and recycled, amounting to 2% of the rolling stock acceleration energy.

Product performance

- Improvement in brake energy consumption: 50% of the energy previously consumed by the mechanical brakes of a motor-powered train is recycled.

- Increased brake life: Reduced brake abrasion lengthens the life of parts.

*EDLC: Electric double-layer capacitor

TOSHIBA CORPORATION Social Infrastructure Systems Company

1-1, Shibaura 1-Chome, Minato-Ku, Tokyo, 105-8001, Japan
 Tel +81-3-3457-4573  Fax +81-3-5444-9267
URL http://www.toshiba.co.jp/index.htm
**EP-2-027**

### Internal combustion lift truck "GENEO (8FG/D)"

**Environmental performance**

The newest model internal combustion lift truck "GENEO (8FG/D)" now comes equipped as standard with an electronically controlled fuel injection system and a three-way catalytic muffler. Compared to our previous model lift truck, CO emissions have been cut by nearly 57%, and NOx and HC emissions have been reduced nearly 99%. Thanks to these improvements the exhaust gasses are cleaner and they already meet the new exhaust gas emissions standards for gasoline powered vehicles.

Also, operating noise has been reduced through the adoption of sound insulation and absorption measures, as well as a mechanism to prevent fork operating noise. Improvements to the paints used and the use of lead-free solder have lead to huge reductions in lead and hexavalent chromium.

---

**Toyota Industries Corporation**

2-1, Toyoda-cho, Kariya-shi, Aichi, 448-8671, Japan

Tel +81-566-22-2511  Fax +81-566-27-5650

URL http://www.toyota-industries.com/


URL http://www.toyota-industries.com/csr/library/

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**EP-2-028**

### Hydraulic crawler drill equipped with super economy mode HCR910-DS

**Environmental performance**

The new Super Economy Mode, the improved version of the Auto Throttle System, which automatically makes an engine shift into full speed during drilling, allows users to operate drilling with an adequate number of engine revs by selecting one of four speeds according to the rock condition. The new mode reduces energy consumption by up to 30% and reduces greenhouse gas emissions when compared to conventional models. The engine of this crawler drill meets the US EPA Tier3 and Euro Stage-3 emission regulations, contributing to reduce particulates and nitrogen oxide contained in exhaust gas.

**Product performance**

Super Economy Mode allows users to set the maximum revolutions of the engine to four speeds (1,600 RPM, 1,800 RPM, 2,000 RPM and 2,200 RPM in Power Mode) with the Power Economy Select Switch and the Maximum Speed Revolution Select Switch on the control panel. When cleaning the hole, automatically change to the maximum revs (maximum air flow) at any speed to set, a blast hole will be clean without residual dust.

---

**FURUKAWA ROCK DRILL CO., LTD.**

1-5-3, NIHONBASHI, CHUO-KU, TOKYO, Japan

Tel +81-3-3231-6982  Fax +81-3-3231-6994

URL http://www.furukawarockdrill.co.jp/

Available in: Worldwide
### EP-2-029 Carriers/automobiles

#### SuperCub50

**Environmental performance**
Reliable starter.
Super Cub 50 equipped with Programmed Fuel Injection (PGM-FI) for great performance in all traffic conditions.

Fuel economy: 110.0 km/h

**Product performance**
Length: 1.800m  
Width: 0.660m  
Height: 1.010m

#### Honda motor Co., Ltd

2-1-1 Minami-aoyama, minato-ku, Tokyo, Japan

Available in: Worldwide

### EP-2-030 Carriers/automobiles

#### Natural Gas Truck

**Environmental performance**
The natural gas vehicle (NGV) is environmentally friendly as it emits no PM / black exhaust and less NOx / CO2 than gasoline or diesel vehicles.

Because of its environmentally-friendly features, NGV plays an important role in reducing the world's dependency on oil. Osaka Gas promotes broader use of NGVs in Japan by spreading it in the network of intercity transportation.

**Product performance**
(1) Mileage per filling: 450 km (Tank capacity: 721 l)  
(2) Displacement: 9,900 cc  
(3) Maximum output: 350 Ps  
(4) Maximum load: 13.3 t

#### Osaka Gas Co., Ltd.

4-1-2, Hirano-machi, Chuo-ku, Osaka-shi, Osaka, 541-0046, Japan  
Tel +81-6-6205-4605  
Fax +81-6-6202-1040  
URL http://www.osakagas.co.jp/indexe.html  
URL http://www.osakagas.co.jp/csr_e/index.html

Available in: Japan

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**Eco-product // Carriers/automobiles**
**Clean Diesel Truck “TOYOTA DYNA & TOYOCACE Hybrid”**

**Environmental performance**

This truck equipped with a hybrid system is the first of its kind in the world and was jointly developed with Hino Motors, Ltd. This truck has achieved a PM & NOx emission level that is 10% lower than the standard levels for 2005, qualifying it as a low emission diesel vehicle. The truck’s fuel efficiency has also been improved by 30%. Max payload: 2-3 tons; Fuel type: low-sulfur diesel at 50 ppm max.

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**Toyota Motor Corporation**

1, Toyota-cho, Toyota-shi, Aichi, 471-8571, Japan
Tel +81-565-23-1341 Fax +81-565-23-5754
E-mail satoshi_aida@mail.toyota.co.jp
URL http://www.toyota.co.jp
**Hitachi Storage Solutions**

### Environmental performance
- Power consumption is reduced by 7 to approx. 50 percent compared with the previous model.
- Lead-free solder (paste and flow) is used in circuit board.
- Fully compliant with RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment) regulation, which limits the use of hazardous materials in electronic equipment.

### Product performance
- The storage solution unifies your storage infrastructure in optimal consolidation of and provides top-level availability and performance in the class to meet your business needs.

**Hitachi, Ltd.**

6-26-2 Minami-ooi, Shinagawa-ku, Tokyo, 140-8573, Japan  
Tel +81-3-5471-2201  Fax +81-3-5471-2549  
E-mail www-info-hss@ml.itg.hitachi.co.jp  
URL http://www.hitachi.com/  
URL http://www.hitachi.co.jp/storage/  
URL http://www.hitachi.com/csr/  

Available in: Worldwide (Except for Iran)

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**ETERNUS DX400series: Disk array with throughput, operability improvement and power saving**

### Environmental performance
1. Power saving  
   - Power saving of 54% (DX410 S2) is achieved with high efficiency power supply and 2.5inch drives.  
   - Utilizing MAID technology, “eco-mode” is supported. Power consumption is reduced by stopping the disk rotation when not accessed.  
   - Management of “eco-mode” and watch of power consumption and temperature become possible with storage management software “ETERNUS SF V19”.  
2. Miniaturization  
   - Miniaturization of 58% from the preceding product is achieved by high density packaging design and reduction of number of parts.  
3. Green Purchasing Law compliant

### Product performance
1. Great throughput improvement by adoption of the latest technology  
   - 4.2 times (in maximum) improvement is achieved from the preceding product, with high-speed CPU and speed-up of internal bus.  
2. Improvement of operability with storage management software and new function

**Fujitsu Limited**

Shiodome City Center, 1-5-2 Higashi-Shimbashi, Minato-ku, Tokyo, 105-7123, Japan  
Tel +81-03-5568-1170  
URL http://www.fujitsu.com/global/  
URL http://www.fujitsu.com/global/about/environment/communication/report/  

Available in: Worldwide
**EP-3-003**

**OA/IT equipment**

**mid-range computers**

PRIMERGY TX120 S3: Compact server delivering low noise, space saving, and energy saving

### Environmental performance

1. **Energy saving**
   - Target in energy consumption based on Act on the Rational Use of Energy 2011 is achieved.
   - Power consumption when operating is reduced by 47% from the preceding product.
   - Adoption of power supply unit of excellent conversion efficiency (Certified “80PLUS PLATINUM”).

2. **Miniaturization**
   - This product is miniaturized by 63% in mass, by 76% in volume, by 29% in number of parts, from the preceding product.

3. **Green Purchasing Law compliant**

### Product performance

1. **Space saving of top level in the industry**
   - This product is miniaturized to 1/3 in space, to 1/4 in volume, from the preceding product. It can be installed in the office.
2. **Many kinds of CPU is available.**
   - Intel Xeon E3-1200 series is installed. Also Intel Corei3/Pentium processor can be selected for use.
3. **Built-in storage can be selected according to the usage.**

**Fujitsu Limited**

Shiodome City Center, 1-5-2 Higashi-Shimbashi, Minato-ku, Tokyo, 105-7123, Japan

Tel +81-03-5568-1170

URL http://www.fujitsu.com/global/


URL http://www.fujitsu.com/global/about/environment/communication/report/

Available in: Worldwide

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**EP-3-004**

**OA/IT equipment**

**mid-range computers**

**Hitachi Compute Rack family, Hitachi Compute Tower family**

### Environmental performance

Hitachi Compute Rack/Tower family are the high performance PC servers use the Intel Xeon Processor and are available in rack-mounted and tower configurations that have superb capabilities for memory and I/O (input/output) expansions. They have a wide range of uses in datacenters and corporate IT systems extending from file servers and mail servers to application servers and database servers. Hitachi Compute Rack/Tower family support energy saving functions such as power capping and use energy-efficient components including low power-consumption processors, memory, SSDs (solid state drives), and a highly efficient power supply with 80 PLUS certification.

For example, Hitachi Compute Rack 220 with the energy-efficient components is 28.5% power-saving compared with the one without the energy-efficient components. Hitachi Compute Rack/Tower family comply with EU RoHS Directive.

### Product performance

- **Hitachi Compute Rack 110**
  - 1U (the number of units according to EIA standards), a power supply module: The 80PLUS GOLD certified

- **Hitachi Compute Rack 210**
  - 1U, a power supply module: The 80PLUS GOLD certified

- **Hitachi Compute Rack 220**
  - 2U (the number of units according to EIA standards), a power supply module: The 80PLUS GOLD certified

- **Hitachi Compute Rack 440**
  - 4U (the number of units according to EIA standards), a power supply module: The 80PLUS GOLD certified

- **Hitachi Compute Tower 10**
  - Small tower, a power supply module: The 80PLUS GOLD certified

- **Hitachi Compute Tower 20**
  - Tower, a power supply module: The 80PLUS Bronze certified

- **Hitachi Compute Slim Tower 10**
  - Slim tower, a power supply module: The 80PLUS Silver certified

**Hitachi, Ltd.**

1, Horiyamashita, Hadano-shi, Kanagawa-ken, 259-1392, Japan

Tel +81-463-87-6786  Fax +81-463-87-4714

E-mail shinichi.matsumura.es@hitachi.com

URL http://www.hitachi.com/

URL http://www.hitachi.co.jp/HA8000

URL http://www.hitachi.com/csr/

Available in: Worldwide (Except for Iran)
Hitachi Compute Blade 2000/320

Environmental performance
Hitachi Compute blade family has two powerful, flexible and reliable models available.
*“Compute Blade 2000” is the high-end model focused on core computing system and
“Compute Blade 320” is small-space and highly-integrated model.
*“Compute Blade 320” is 24% power-saving, 40% space-saving, and 50% lightweight
compared with the rack mount server.(comparison with Hitachi PC server: at the time of
November, 2009)
Moreover, Compute Blade 320 possesses Hitachi logical partition feature and long life
support service (maximum 10 years) is provided. Compute Blade comply with EU RoHS
Directive.

Product performance
*“Compute Blade 2000”
8 blades/10 U (the number of units according to EIA standards), a power supply module:
The 80PLUS® GOLD certified
*“Compute Blade 320”
10 blades/6 U (the number of units according to EIA standards), a power supply module:
The 80PLUS® SILVER certified

Hitachi, Ltd.
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E-mail shinichi.matsumura.es@hitachi.com
URL http://www.hitachi.com/
URL http://www.hitachi.co.jp/products/bladesymphony_global/index.html
URL http://www.hitachi.com/csr/

Available in: Worldwide (Except for Iran)

Halogen- and antimony-free 2.5-type HDD with 1 TB Capacity

Environmental performance
- Mitigation of climate change: Improvement of the energy consumption efficiency to 1/63
  compared with the benchmark model.
- Efficient use of resources: Weight is less than about 1/4 that of a 3.5-type HDD with the
  same capacity.
- Management of chemicals: Bromine-, chlorine- and antimony-free* HDD.
  *Benchmark model: MK2016GAP
  *Self standard value
  Chlorine : less than 900ppm
  Bromine : less than 900ppm
  Chlorine + Bromine : less than 1500ppm
  Antimony : less than 1000ppm

Product performance
- Large capacity: Storage capacity of 1 TB (1000 GB) is realized by improvement of the
  magnetic head and disk. This large capacity is suitable for the storage of video and
  photos on a notebook PC, TV and game machine.
- Low noise: Reduction of acoustic noise in idle mode by 2dB compared with the previous
  model (MK7559GSXP).

TOSHIBA CORPORATION Semiconductor & Storage Products Company
1-1, Shibaura 1-Chome, Minato-Ku, Tokyo, 105-8001, Japan
URL http://www.toshiba.co.jp/index.htm
URL http://www3.toshiba.co.jp/storage/index.htm

Available in: Worldwide
Eco-product // OA/IT equipment

EP-3-007

Network Camera VB-C500D

Environmental performance
(1) Compliance with the RoHS Directive.
(2) Lead-free glass is utilized as the environmentally sound lenses.

Product performance
(1) An image compression and transmission engine, DIGIC NET, achieves high image quality.
(2) Smart Shade Control to make easier to see the subject even if the background of the subject is too bright.
(3) Shutter Priority AE to achieve blur-free images of fast-moving subjects.
(4) Compact and adaptable to a wide variety of environments, the VB-C500D can easily be placed in an upright, ceiling-mounted, or wall-mounted position.

Canon Inc.
30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, 146-8501, Japan
Tel +81-3-3758-2111
URL http://www.canon.com/environment/

Available in: Worldwide

EP-3-008

Ultra Compact Full HD Camera with USB and DVI output

Environmental performance
- Mitigation of climate change: 2.5 inch HDD of the low consumption
- Efficient use of resources: Adoption of recycle plastic to C mount lens cap.
- Management of chemicals: Halogen-free printed circuit board

Product performance
- FULL HD (1920x1080) output. Smallest and lightest CMOS remote head color camera in this field.
- 1/3 type 2.2 million pixel (effective pixel) progressive scanning CMOS is adopted.
- To obtain the best image quality, various function such as photometry are area setting, 6 color matrix setting etc. are abundantly installed.
- DVI-I output enables us to connect with a commercial FULL HD monitor by 60 frames per second.
  (as of August 2009)

TOSHIBA CORPORATION Network & Solution Control Center
1-1, Shibaura 1-Chome, Minato-Ku, Tokyo, 105-8001, Japan
URL http://www.toshiba.co.jp/index.htm
URL http://www.toshibacameras.com/products/prod_detail_ikhr2d.jsp

Available in: Japan, North America

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<td>Ultra Compact Full HD Camera with USB and DVI output</td>
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203
**EP-3-009**  
**OA/IT equipment**  
**terminal units**

**Mobile POS with built-in printer where battery operation is achieved**

**Environmental performance**
- Mitigation of climate change: To reduce power consumption around half compared with current touch POS model (ST-A10)
- Efficient use of resources: Space saving with printer integrated “all-in-one” design
- Silent fan-less design increases the reliability of the product by eliminating moving parts

**Product performance**
- Battery operation allows the C10 to be used outside of the standard setting; such as, transportation, flea markets and stands at local fairs where conventional A/C power is not always available
- With their Integrated battery option and thermal receipt printer, the C10 allows greater flexibility of settings
- The C10 is designed with fan-less and drip-proof operation to maximize this reliability and the low cost of ownership
- This multi-purpose solution is ideal for use in applications not normally suitable for traditional POS solutions such as kiosks and information terminal

**TOSHIBA TEC CORPORATION**

Oval Court Ohsaki Mark East 2-17-2, Higashi Gotanda, Shinagawa-ku, Tokyo, 141-8664, Japan  
Tel +81-3-6422-7164    Fax +81-3-6422-7121  
URL http://www.toshibatec.co.jp/index.html

Available in: Worldwide

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**EP-3-010**  
**OA/IT equipment**  
**personal computers**

**Endeavor ST150E ---Eco-friendly desktop PC that achieved high performance.**

**Environmental performance**
1) Energy saving  
Compliant with International ENERGY STAR Program, it achieves power consumption as low as 16W in idle state using MoDT (Mobile on Desk-Top) technology devices.
2) Space saving  
Compact body of 195mm in width, 185mm in depth, and 75mm in height have high resource saving efficiency. It also makes it possible to be placed anywhere either vertically or horizontally.

**Product performance**
1) High performance  
Comes with HM55 chipset where Intel Core i series processor can be installed. Endeavor ST150E achieves both high performance and lower cost operation.
2) Silent  
System achieves less than 22dB idle state noise using an efficient cooling design. Silent, same as a notebook PC, providing comfortable working environment.
3) Multi monitor  
This system is equipped with a DVI-D and VGA port, supports multi monitor function to extend working area on your display.

**EPSON DIRECT CORPORATION**

2-21-45 Muraimachi Minami, Matsumoto-shi, Nagano-ken, 399-8703, Japan  
Tel +81-50-2000-3700    Fax +81-263-85-6100  
URL http://shop.epson.jp  
URL http://shop.epson.jp/st150e  
URL http://www.epson.jp/csr

Available in: Japan
## EP-3-011
### All-in-one, tough mobile with built-in optical drive: CF-S10 series

#### Environmental performance
- "Prevention of Global Warming" : Compliant with International Energy Star Program standards adopting long-life backlight to achieve low power consumption
- "Effective use of resources" : Lightweight machine equipped with unique shell drive and thin-wall molding with Magnesium Alloy case

#### Product performance
- Easily portable, lightweight design : 1340g weight including a battery pack
- Designed to withstand rugged mobile : Free fall test at 76 cm height at development stage
- 12.1 inches Large wide screen for efficient operations : WXGA/1280X800 pixels

### Panasonic Corporation, AVC Networks Company
1-15 Matsuo-cho, Kadoma City, Osaka, 571-8504, Japan
Tel +81-6-6905-8356  Fax +81-6-6905-4755
URL http://panasonic.net/
URL http://panasonic.net/avc/toughbook/
URL http://panasonic.net/csr/

Available in: Japan, Oceania, North America, Singapore, Taiwan (Rep. of China), China

## EP-3-012
### Lightweight Mobile PC with high-speed CPU: CF-J10 series

#### Environmental performance
- "Prevention of Global Warming" : Compliant with International Energy Star Program standards adopting long-life backlight to achieve low power consumption
- "Effective use of resources" : Lightweight machine equipped with thin-wall molding with Magnesium Alloy case

#### Product performance
- Easily portable, lightweight design: 990g weight including a battery pack (*)
- Designed to withstand rugged mobile : Free fall test at 76 cm height at development stage
- Wide and High-definition screen which improves business efficiency (*) CF-J10CWHDS

### Panasonic Corporation, AVC Networks Company
1-15 Matsuo-cho, Kadoma City, Osaka, 571-8504, Japan
Tel +81-6-6905-8356  Fax +81-6-6905-4755
URL http://panasonic.net/
URL http://panasonic.net/avc/toughbook/
URL http://panasonic.net/csr/

Available in: Japan
Eco-product // OA/IT equipment

EP-3-013  OA/IT equipment
personal computers

World top class eco PC with high energy saving performance

Environmental performance
- Global Warming Mitigation: LED backlight LCD, SSD (Solid State Drive) in some models, Toshiba eco utility which you can change to optimized power saving mode through one touch operation, eco report viewer which a degree of contribution to power saving is indicated by score, and so on.
- Resource Saving: Thin magnesium casing, long life by robust design, etc.
- Chemical Substance Management: mercury-free PC, halogen and antimony compound-free materials in the main printed circuit board, PVC-free main body, etc.

Product performance
- Thin & light, robust design, secured carrying for mobile use.
- Robust design: HDD Protection, SSD (No HDD), spill resistant keyboard
- Long operation secured by long battery life

TOSHIBA CORPORATION Digital Products & Services Company
1-1, Shibaura 1-Chome, Minato-Ku, Tokyo, 105-8001, Japan
URL http://www.toshiba.co.jp/index.htm

Available in: Worldwide

EP-3-014  OA/IT equipment
personal computers

World top class eco PC with high energy saving performance

Environmental performance
- Global Warming Mitigation: LED backlight LCD, SSD (Solid State Drive) in some models, Toshiba eco utility which you can change to optimized power saving mode through one touch operation, eco report viewer which a degree of contribution to power saving is indicated by score, and so on.
- Resource Saving: long life by robust design, etc.
- Chemical Substance Management: mercury-free PC, halogen and antimony compound-free materials in the main printed circuit board, PVC-free main body, etc.

Product performance
- Thin & light, robust design, secured carrying for mobile use.
- Robust design: HDD Protection, SSD (No HDD), spill resistant keyboard
- Long operation secured by long battery life

TOSHIBA CORPORATION Digital Products & Services Company
1-1, Shibaura 1-Chome, Minato-Ku, Tokyo, 105-8001, Japan
URL http://www.toshiba.co.jp/index.htm

Available in: Worldwide
Eco-product // OA/IT equipment

EP-3-015

World top class eco PC with high energy saving performance

Environmental performance
- Global Warming Mitigation: LED backlight LCD, SSD (Solid State Drive) in some models, Toshiba eco utility which you can change to optimized power saving mode through one touch operation, eco report viewer which a degree of contribution to power saving is indicated by score, and so on.
- Resource Saving: long life by robust design, etc.
- Chemical Substance Management: mercury-free PC, halogen and antimony compound-free materials in the main printed circuit board, PVC-free main body, etc.

Product performance
- 15.6”large display in thin & light body with long battery operation
- Robust design realizes secured carrying for mobile use
- Robust design: HDD Protection, SSD (No HDD), spill resistant keyboard, etc.
- Good for presentation by full open display (180 degree open)

TOSHIBA CORPORATION Digital Products & Services Company
1-1, Shibaura 1-Chome, Minato-Ku, Tokyo, 105-8001, Japan
Tel +81-3-3457-4340
URL http://www.toshiba.co.jp/index.htm

Available in: Worldwide

Tecra R850

EP-3-016

World top class thin & light PC with high energy saving performance

Environmental performance
- Global Warming Mitigation: LED backlight LCD, SSD (Solid State Drive) in some models, Toshiba eco utility which you can change to optimized power saving mode through one touch operation, eco report viewer which a degree of contribution to power saving is indicated by score, and so on.
- Resource Saving: Thin magnesium casing, long life by robust design, etc.
- Chemical Substance Management: mercury-free PC, halogen and antimony compound-free materials in the main printed circuit board, PVC-free main body, etc.

Product performance
- Ultra thin & light PC
- Robust design and long battery operation for handy carrying
- Robust design: HDD protection, SSD (No HDD), spill resistant keyboard

TOSHIBA CORPORATION Digital Products & Services Company
1-1, Shibaura 1-Chome, Minato-Ku, Tokyo, 105-8001, Japan
URL http://www.toshiba.co.jp/index.htm

Available in: Worldwide

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<thead>
<tr>
<th>EP-3-017</th>
<th>OA/IT equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GP-O GL888</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Environmental performance</strong></td>
<td>Energy saving, low pollution, low noise so can reduce the impact to the earth.</td>
</tr>
<tr>
<td><strong>Product performance</strong></td>
<td>The Genuine GL888 is of a commercial computer designed for general small offices, and is equipped with the official Windows 7 Professional 64bit (OEM) operating system, Celeron Dual Core E3500 processor, 2GB DDRIII memory cache, 500GB large hard disk, multiple-in-one card reader, DVD burner and the like, offering high efficiency, good stability, and also at a low cost. All parts have undergone comprehensive compatibility testing, and the operating system has already been installed.</td>
</tr>
</tbody>
</table>

**Genuine C&C INC**
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E-mail bill.fan@gcnc-group.com
URL http://www.gcnc-group.com

Available in: Taiwan (Rep. of China)

<table>
<thead>
<tr>
<th>EP-3-018</th>
<th>OA/IT equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plain Paper FAX  KX-PD301 / KX-PD701</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Environmental performance</strong></td>
<td></td>
</tr>
<tr>
<td>Stand-by power consumption (main unit)</td>
<td>Stand-by power consumption (main unit)</td>
</tr>
<tr>
<td>KX-PD301</td>
<td>0.5W</td>
</tr>
<tr>
<td>Compare with the model of 2005</td>
<td>Compare with the model of 2007</td>
</tr>
<tr>
<td>KX-PW605</td>
<td>0.9W</td>
</tr>
<tr>
<td>Stand-by power consumption reduction</td>
<td>Stand-by power consumption reduction</td>
</tr>
<tr>
<td>(main unit) 44%</td>
<td>(main unit) 58%</td>
</tr>
<tr>
<td><strong>Product performance</strong></td>
<td>[KX-PD701]</td>
</tr>
<tr>
<td>1. Handset with 1.8 inch LCD</td>
<td>1. 4.9” LCD (main unit)</td>
</tr>
<tr>
<td>2. One-touch dial</td>
<td>2. Full Touch Panel screen</td>
</tr>
<tr>
<td>3. Recording beforehand</td>
<td>3. Handset with 2.1” LCD</td>
</tr>
</tbody>
</table>

**Panasonic System Networks Co.,Ltd.**
4-1-62, Minosima Hakata-ku Fukuoka, 812-8531, Japan
URL http://panasonic.net/
URL http://panasonic.net/csr/

Available in: Japan
### Digital Cordless Phone VE-GD21 / VE-GD51

**Environmental performance**

<table>
<thead>
<tr>
<th>Feature</th>
<th>VE-GD21</th>
<th>VE-GD51</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stand-by power consumption (main unit)</td>
<td>0.6W</td>
<td>1.1W</td>
</tr>
<tr>
<td>Stand-by power consumption reduction (main unit)</td>
<td>65%</td>
<td>35%</td>
</tr>
</tbody>
</table>

**Product performance**

- VE-GD21
  1. New wireless "DECT" system
  2. Handset with 1.8 inch LCD
  3. One-touch dial
  4. Ringtone of comfortable tone

- VE-GD51
  1. New wireless "DECT" system
  2. Handset with 2.1 inch LCD
  3. One-touch dial
  4. Ringtone of comfortable tone

---

### DocuCentre-IV C2263

**Environmental performance**

With enhanced power saving performance and quiet operation, it can be used comfortably even at your desk side. Quiet design utilizes natural air flow, it has achieved low noise levels of 6.4B during operation and in power saving mode, and 3.3B during standby mode. Smart power saving technology only supplies power to the functions that are being used. For example, power is not supplied to the printing output components during scanner/fax, which conserves energy. Also, the control panel can be used after just 3 seconds when recovering from sleep mode. By enhanced power consumption, TEC value (Typical Energy Consumption value over a one-week period) has been improved by about 39% over past models.

Biomass plastic parts with a plant-derived component ratio of 50% by weight or higher are used. CO₂ emissions were reduced by 32% over past biomass plastics.

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**Fuji Xerox Co., Ltd.**

9-7-3 Akasaka, Minato-ku, Tokyo, 107-0052, Japan
Tel +81-3-6271-5111
URL http://www.fujixerox.com/eng/

Available in: Japan, Asia, Oceania
Eco-product // OA/IT equipment

EP-3-021

OA/IT equipment

multifunctional copy machines/printers

ApeosPort-IV C5575/C4475/C3375/C3373/C2275

Environmental performance

To achieve new environmental performance that couples energy conservation with ease of use, it is loaded with three new technologies: Smart WelcomEyes, Smart power saving and Rapid sleep recovery. These allow energy conservation with zero wait times when the device is used. This device has achieved both comfort and energy conservation. SmartWelcomEyes is our company’s proprietary human sensor technology that allows device to automatically recover from power saving mode when a user approaches the device. Smart power saving technology only supplies power to the functions that are being used. This, for example, cuts 54% of the energy on scanner/fax transmission. Due to automatic recovery via Smart WelcomEyes, users can begin using the device with almost no waiting. By Rapid sleep recovery technology, the output unit recovers from sleep mode in 3.9 seconds.

Fuji Xerox Co., Ltd.

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URL http://www.fujixerox.com/eng/

Available in: Japan, Asia, Oceania

EP-3-022

OA/IT equipment

multifunctional copy machines/printers

ApeosPort-IV 7080/6080 DocuCentre-IV 7080/6080

Environmental performance

With improvements in environmental performance and ease of use, this is our company’s top-class monochrome digital multifunction device. It helps keep the office quiet and reduce CO₂ emissions through the introduction of a technology that only supplies power to parts as they are needed for the functions being used. In addition, by introducing this technology, the control panel display comes on after only about three seconds once the power saving mode release button is pressed, and screen operation becomes immediately available. Its TEC value (Typical Energy Consumption value over a one-week period) has also improved by approximately 11% compared to past models, and power consumption has also been reduced.

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Tel +81-3-6271-5111
URL http://www.fujixerox.com/eng/

Available in: Japan, Asia, Oceania
A monochrome digital multifunction device that was designed with our customers' operability and environment in mind.
It contributes to reduced CO₂ emissions through the introduction of a technology that only supplies power to parts as they are needed for the functions being used. Furthermore, during fax reception and when print order has been given, no power is supplied to the unused output equipment or scanning equipment, which vastly cuts down the level of noise in the office. Also, through the introduction of this technology, the control panel display comes on after only about three seconds once the power saving mode release button is pressed, and screen operation becomes immediately available.

Its TEC value (Typical Energy Consumption value over a one-week period) has been improved by approximately 7.5% over past models, and power consumption has also been reduced.

**Eco-product // OA/IT equipment**

**EP-3-023**

**ApeosPort-IV 5070/4070/3070**

**DocuCentre-IV 5070/4070**

**Environmental performance**

- Eco-learning function capable of automatically adjusting the time of auto power shutoff.
- Energy-saving design with power-saving button/ auto power shutoff mode.
- “BP-mark” certification as biomass plastic product containing some substances coming from organic resources above certain criteria.
- Meets International Energy Star program requirements.
- Meets Japan Law Concerning the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities.
- Meets European RoHS regulation.
- PVC-free AC cord.

**Product performance**

- Touch panel-support 10.1-inch large-size color LCD capable of intuitive operation.
- Industry top-class light and compact body.
- High quality images due to our own developed technologies such as Mycrostoner HG2.

**Sharp Corporation**

22-22 Nagaike-cho, Abeno-ku, Osaka, 545-8522, Japan
Tel +81-6-6625-0438  Fax +81-6-6625-0153
E-mail eco-info@sharp.co.jp
URL http://sharp-world.com/
URL http://sharp-world.com/corporate/eco/

**EP-3-024**

**Digital Full Color Multifunctional System (MX-3610N/3110N/2610N)**

- Touch panel-support 10.1-inch large-size color LCD capable of intuitive operation.
- Industry top-class light and compact body.
- High quality images due to our own developed technologies such as Mycrostoner HG2.

**Sharp Corporation**

22-22 Nagaike-cho, Abeno-ku, Osaka, 545-8522, Japan
Tel +81-6-6625-0438  Fax +81-6-6625-0153
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URL http://sharp-world.com/corporate/eco/
Eco-product // OA/IT equipment

**EP-3-025**

**OA/IT equipment**

multifunctional copy machines/printers

**imageRUNNER ADVANCE C2020/C2030**

**Environmental performance**

1. Energy saving and quick start with Canon’s original On-Demand fixing technology, achieving the power consumption of less than 1W in sleep mode and less than 10 seconds for recovery (warm-up time).
2. Comply with EU RoHS Directive, and further lead-free in anticipation of RoHS exemptions review.
3. Biomass plastic with more than 25% plant-derived constituents used for operation buttons.

*This product is manufactured by CANON INC. and is sold by Canon Marketing Japan Inc. The party to the Eco Mark utilization contract for this product is Canon Marketing Japan Inc.*

**Product performance**

1. Compact body and space-saving design with internal finishing configuration.
2. High definition color screen with user-friendly icons making operation ever so easy and customizable menu to improve operation efficiency.
3. Auto-duplex which reduces the cost for paper.

**CANON INC.**

30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, 146-8501, Japan
Tel +81-3-3758-2111
URL http://www.canon.com/environment/

Available in: Worldwide

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**EP-3-026**

**OA/IT equipment**

multifunctional copy machines/printers

**Color Laser Printer, imageCLASS LBP7010C/7018C**

**Environmental performance**

1. Both energy saving and quick wake-up has been achieved with Canon’s original On-Demand fixing technology. The power consumption is average approx 1.1W in sleep mode, with recovery time of approx 10 seconds from sleep.
3. Compact body of 223mm high.
4. EU RoHS (restriction of the use of hazardous substances) compliant.

**Product performance**

1. A4 print speed: 16ppm (monochrome) and 4ppm (color).
2. Easy toner cartridge replacement.
3. Space-saving compact design. Lightweight of 10.7kg (not includes a cartridge) makes it easy to carry and move.

Note: The white colored model, imageCLASS LBP7010C is not introduced in some countries.

**CANON INC.**

30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, 146-8501, Japan
Tel +81-3-3758-2111
URL http://www.canon.com/environment/

Available in: Japan, Asia, Oceania, Europe
Eco-product // OA/IT equipment

EP-3-027

**iR 6570N**

**Environmental performance**

1. The used machines collected from the customers are disassembled and remanufactured. Only the parts complying with the remanufacturing quality standards are selected and cleaned. An average 91% of parts are reused by weight with Canon’s original recycling technology for cleaning the exterior parts. The high rate of reused parts reduces environmental burden (converted to CO2 emissions) up to the manufacturing stage.

2. Canon’s original IH fixing technology is equipped, which achieves great reduction of energy consumption.

*This product is manufactured by CANON INC. and is sold by Canon Marketing Japan Inc. The party to the Eco Mark utilization contract for this product is Canon Marketing Japan Inc.*

**Product performance**

1. 65 ppm

2. Standard LIPS LX is incorporated which shortens data processing time and improves printing performance

**Canon Inc.**

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Tel +81-3-3758-2111
URL http://www.canon.com/environment/

Available in: Japan, Republic of Korea

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EP-3-028

**Black and White Multifunctional Printer iR 3245/3245N**

**Environmental performance**

1. Energy saving with Canon’s original On-Demand fixing technology, resulting in the power consumption of 1.5W in sleep mode and 10 sec or less recovery time.

2. Comply with the EU RoHS Directive which restricts and prohibits the use of chemical substances

3. Standard automatic duplexing

*This product is manufactured by CANON INC. and is sold by Canon Marketing Japan Inc. The party to the Eco Mark utilization contract for this product is Canon Marketing Japan Inc.*

**Product performance**

1. Copy/Print speed 45 ppm (A4 size)

2. Compact body of 565 mm (same as with optional Finisher-S1)

3. Providing with color scanning. With the optional Color Universal Send Technology, users can distribute scanned documents to multiple network destinations such as e-mail addresses and network folders.

4. Control panel designed with a new TFT touch-screen, providing a wider viewing angle and greater contrast to facilitate easier operation.

**Canon Inc.**

30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, 146-8501, Japan
Tel +81-3-3758-2111
URL http://www.canon.com/environment/

Available in: Worldwide
Eco-product // OA/IT equipment

EP-3-029

**imageRUNNER ADVANCE C5051/C5045/C5035/C5030**

**Environmental performance**

1. Energy saving with Canon's original On-demand fixing technology and less than 1.5W power consumption in sleep mode.
2. CO₂ emissions in product life cycle (the stages of producing, use and transportations) are reduced, using original new design system.
3. Biomass plastic with highest levels of flame retardance is used in exterior plastic parts. Biomass plastic is also used in a touch pen and operation buttons.
4. Comply with the EU RoHS Directive, and further lead-free in anticipation of RoHS exemptions review.

*This product is manufactured by CANON INC. and is sold by Canon Marketing Japan Inc. The party to the Eco Mark utilization contract for this product is Canon Marketing Japan Inc.*

**Product performance**

1. A large screen with user-friendly icons making operation ever so easy and customizable menu to improve operation efficiency
2. Security options to ensure that your documents stay safe and confidential
3. Compact body and space-saving design

**Canon Inc.**

30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, 146-8501, Japan
Tel +81-3-3758-2111
URL http://www.canon.com/environment/

Available in: Worldwide

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EP-3-030

**PIXUS MG5330/PIXMA MG5370, A4 Inkjet Photo All-In-One Printer**

**Environmental performance**

1. Energy saving: The MG5330 has achieved an approx. 55% reduction in power consumption, or approx. 16% with Wi-Fi (wireless LAN) enabled, compared with the Canon's previous MP520 through technology to save energy during operation/standby and at power-off.
2. Resource saving: While realizing enhanced functions, the MG5330 in its compact body is approx. 8% less in volume than the conventional MP520. The packaging volume is also reduced by approx. 13%.
3. Certified by Eco Mark and various other eco-labels

**Product performance**

1. High-definition photo printing at a resolution of 9600 dpi with ink droplets as small as one picoliter, fast printing of a 4"x6" borderless photo in approx. 20 seconds, and data scanning at a high resolution of 4800 dpi
2. Standard Wi-Fi capability to enable wireless printing & scanning
3. Wireless printing from an iPhone, an iPad, or an Android mobile device
4. PIXUS Cloud Link enables online connectivity and direct printing without a PC.
5. The "ECO Setting" function allows users to set automatic two-sided printing and Auto Power-Off on the printer's LCD monitor.

**Canon Inc.**

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URL http://www.canon.com/environment/

Available in: Worldwide
Eco-product // OA/IT equipment

**EP-3-031**

**multifunctional copy machines/printers**

**Large Format Inkjet Printer "ImagePROGRAF iPF6300S/iPF8300S"**

**Environmental performance**
1. Energy-saving: iPF6300S reduces about 13% and iPF8300S reduces about 26% power consumption in a year in comparison with iPF6000S (released in 2008) and iPF8000S (released in 2007), respectively.
2. These products support Economy printing that can reduce ink consumption about 50% from a standard mode.
3. These models meet EU RoHS directive, which limits use of lead, mercury, cadmium, hexavalent chromium and PBB/PBDE.
4. These products have EcoMark certification. (No.08122039)

**Product performance**
1. Poster solutions including poster-creation software, folded duplex printing function and easy enlargement printing on a copier are available as standard.
2. By the adoption of the new print process, iPF6300S can print A1-sized document in about 35 seconds, while iPF8300S is capable of printing B0-sized output in about 1.3 minutes, up to about double in speed performance over the former models.
3. By the adoption "LUCIA EX" eight-color pigment ink system, these products have about 20% wider color gamut in comparison with iPF6000S/8000S and reproduce black with the depth.

**Canon Inc.**

30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, 146-8501, Japan
Tel +81-3-3758-2111
URL http://www.canon.com/environment/

Available in: Japan, Asia, Europe, North America

**EP-3-032**

**multifunctional copy machines/printers**

**Multi-Function Product (Copier, Printer, Scanner and Facsimile)**

**Environmental performance**
Ricoh's Philosophy - "...to achieve a sustainable society where environmental impact is limited to a level that the Earth can deal with."
Like all Ricoh products, the awarded models reflects Ricoh's commitment to the environment through:
- Life Cycle Management - striving to reduce all environmental impact systematically, including business partners, in every environmental aspect of the total life cycle.
- Total Green Office Solution - Ricoh has developed tools to help you better compare, assess and monitor your organization's carbon footprint.

Ricoh provides all levels of technical support to address any issue, ranging from basic break/fix support to questions related to Ricoh software and solutions.

**Product performance**
High Quality & Eco-friendly Products & Services at its finest!
Ricoh's Managed Document Services is a global service that goes way beyond printing. We can help improve your document workflow and office processes as well as manage and optimize your information. You will see increased productivity and reduced TCO. This means that all you have to do is focus on the job.

**RICOH Philippines, Incorporated**

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1200, 1200, Philippines
Tel (+632) 7507383 Fax (+632) 8950896
E-mail sales@rph.ricoh.com.ph
URL http://www.ricoh.com.ph
Eco-product // OA/IT equipment

EP-3-033

OA/IT equipment

multifunctional copy machines/printers

Aficio MP 5001

Environmental performance
Energy Star compliance, complied with EU RoHS directive, complied with Ricoh original standards for environmentally sensitive substance, complied with chemical emissions and sound level requirements of GL, reduce paper consumption, non use of CFCs, HCFCs, 1,1,1 trichoro-ethane, carbon-tetrachloride, use recycled materials, non use PBB, PBDE and chloroparafins, take back toner cartridges and drum from the customer.

Product performance
- Productive : 50 papers per minute.
- Efficient : application for personalized settings.
- Time-saving : (colour) scan and distribute in a single step.
- Secure and flexible : data protection and handling of various media types.

RICOH (THAILAND) LIMITED
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E-mail siriprom.san@ricoh.co.th
URL http://www.ricoh.com
URL http://www.ricoh.co.th

Available in: Thailand

EP-3-034

OA/IT equipment

multifunctional copy machines/printers

Aficio MP 2851

Environmental performance
Energy Star compliance, complied with EU RoHS directive, complied with Ricoh original standards for environmentally sensitive substance, complied with chemical emissions and sound level requirements of GL, reduce paper consumption, non use of CFCs, HCFCs, 1,1,1 trichoro-ethane, carbon-tetrachloride, use recycled materials, non use PBB, PBDE and chloroparafins, take back toner cartridges and drum from the customer.

Product performance
- Productive : 28 pages per minute.
- Efficient : applications for personalized settings.
- Time-saving : (colour) scan and distribute in a single step.
- Secure and flexible : data protection and handling of various media types.

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Eco-product // OA/IT equipment

**EP-3-035**

**Aficio MP 3351**

**Environmental performance**

Energy Star compliance, complied with EU RoHS directive, complied with Ricoh original standards for environmentally sensitive substance, complied with chemical emissions and sound level requirements of GL, reduce paper consumption, non use of CFCs, HCFCs, 1,1,1 trichloro-ethane, carbon-tetrachloride, use recycled materials, non use PBB, PBDE and chloroparafins, take back toner cartridges and drum from the customer.

**Product performance**

- Productive: 33 pages per minute.
- Efficient: applications for personalized settings.
- Time-saving: (colour) scan and distribute in a single step.
- Secure and flexible: data protection and handling of various media types.

**RICOH (THAILAND) LIMITED**

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**EP-3-036**

**Aficio MP 4000**

**Environmental performance**

Energy Star compliance, complied with EU RoHS directive, complied with Ricoh original standards for environmentally sensitive substance, complied with chemical emissions and sound level requirements of GL, reduce paper consumption, non use of CFCs, HCFCs, 1,1,1 trichloro-ethane, carbon-tetrachloride, use recycled materials, non use PBB, PBDE and chloroparafins, take back toner cartridges and drum from the customer.

**Product performance**

- Productive: 40 pages per minute.
- Exceptional productivity.
- Unique colour scanning & distribution.
- Multifunctional wizards.
- Professional faxing.
- Essential security.
- Expert finishing.
- East operation.
- Wide media versatility.
- At the forefront of.

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Eco-product // OA/IT equipment

EP-3-037

multifunctional copy machines/printers

EP-804A (Epson Stylus Photo PX730WD/TX730WD, Epson Artisan730), All-in-One Printer

Environmental performance

<Resource saving>
The EP-804A is 45% smaller and 24% lighter than the PM-A920 (FY2006). Reduced size has resulted in a 33% increase in the number of units that can be loaded on pallets for delivery.

<Products that are focused on the effective use of resources>
Unpainted housing: Reduces the impact of painting and improves plastic recyclability
Use of recycled materials: Uses recycled plastic for internal printer parts
Effective use of paper: Save up to 50% on paper with automatic, two-sided printing

<Elimination of hazardous substances>
RoHS compliant

*This product is manufactured by Seiko Epson Corporation and is sold by Epson Sales Japan Corporation. The party to the Eco Mark utilization contract for this product is Epson Sales Japan Corporation.

Product performance

This product gives you all the tools you need with a smart touch panel and 2.5” LCD. Print, scan, and access memory card slots from any room in the house with Wi-Fi CERTIFIED® wireless networking and built-in Ethernet networking. Or, use Epson Connect to print directly from your smartphone, tablet and more.

Seiko Epson Corporation

3-3-5 Owa, Suwa-shi, Nagano-ken, 392-8502, Japan
Tel +81-266-52-3131
URL http://www.epson.com/

Available in: Japan, Asia, Oceania, Europe, North America, Central America, South America, Southeast Asia, Middle and Near East, Republic of Korea, China

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EP-3-038

multifunctional copy machines/printers

PX-434A (Epson ME OFFICE 570W, Epson Stylus TX430W), All-in-One Printer

Environmental performance

<Global warming impact>
Material manufacturing and transport contributions to global warming (expressed as a CO2 equivalent) were reduced by 13% compared to the PX-403A (FY2010) by reducing product size and packaging.

<Resource saving>
- Approximately 35% smaller and 11% lighter than the PX-403A
- The smaller design enables 35% more units to be packed per shipping container.

<Products that are focused on the effective use of resources>
- Unpainted housing: Reduces the impact of painting and improves plastic recyclability
- Use of recycled materials: Uses recycled plastic for internal printer parts

<Elimination of hazardous substances>
RoHS compliant

*This product is manufactured by Seiko Epson Corporation and is sold by Epson Sales Japan Corporation. The party to the Eco Mark utilization contract for this product is Epson Sales Japan Corporation.

Product performance

- Built-in Wi-Fi for wireless printing and scanning
- Epson Print enabler enables printing directly from a smartphone
- Instant-drying pigment ink for beautiful prints

Seiko Epson Corporation

3-3-5 Owa, Suwa-shi, Nagano-ken, 392-8502, Japan
Tel +81-266-52-3131
URL http://www.epson.com/

Available in: Japan, Asia, Oceania, Europe, North America, Central America, South America, Southeast Asia, Middle and Near East, Republic of Korea, Taiwan, South Africa
### EP-3-039

**OA/IT equipment**

**multifunctional copy machines/printers**

**Business All-in-One Inkjet Printer, WorkForce 7520/7521/7525**

**Environmental performance**

- Use of recycled materials: Uses recycled plastic for internal printer parts
- Paper-saving features include automatic two-sided printing and ability to print or copy multiple pages per sheet

**Product performance**

An A3+ all-in-one machine that meets every business need and comes standard with automatic two-sided printing, copying, scanning, and facsimile functions and with two high-capacity, front-loaded paper trays.

**Seiko Epson Corporation**

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Tel +81-266-52-3131

Available in: Japan, Oceania, Europe, North America, Middle and Near East, Republic of Korea, Taiwan (Rep. of China), China

### EP-3-040

**OA/IT equipment**

**multifunctional copy machines/printers**

**High-Capacity Ink Tank Printer, Epson L100**

**Environmental performance**

- **Global warming impact**
  The L100 generates some 46% fewer CO₂ emissions across the product life cycle than the Epson Stylus T13, a similar printer with replaceable ink cartridges, largely because ink is supplied by high-capacity bottles instead of cartridges.

- **Products that are focused on the effective use of resources**
  - Unpainted housing: Reduces the impact of painting and improves plastic recyclability
  - Use of recycled materials: Uses recycled plastic for internal printer parts

- **Elimination of hazardous substances**
  RoHS compliant

**Product performance**

A new business printer equipped with high-capacity ink tanks.
- Highly reliable genuine ink tank system
- High-capacity ink tanks for high-volume printing

**Seiko Epson Corporation**

3-3-5 Owa, Suwa-shi, Nagano-ken, 392-8502, Japan
Tel +81-266-52-3131

Available in: Southeast Asia, Middle and Near East, Republic of Korea, Taiwan (Rep. of China), China
## Digital Multifunctional System (AR-181G)

### Environmental performance
- Warm-up time reduced by approximately 44% compared with the existing machine (AR-164G, released in 2009). Moreover, Pre-heat mode / Auto power shutoff mode included.
- Meets International Energy Star program requirements.
- Meets Japan Law Concerning the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities.
- Use of non-halogen resin in its exterior parts and some interior parts. PVC resin -free AC cord.

### Product performance
- 3 functions - copying, printing and color-scanning - equipped in its compact body.
- A3-size full-color scanner as standard equipment. In addition, the installation of an option allows scanned data to be directly saved into USB memory.
- Extensible network function.

### Sharp Corporation
22-22 Nagaike-cho, Abeno-ku, Osaka, 545-8522, Japan
Tel +81-6-6625-0438  Fax +81-6-6625-0153
E-mail eco-info@sharp.co.jp
URL http://sharp-world.com/
URL http://sharp-world.com/corporate/eco/

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## EP-3-042

### Multifunction Peripheral which is superior compatibility with networks with its newly designed architecture.

### Environmental performance
- Mitigation of climate change: Conforms to the newest test criteria set forth in Energy Star version 1.1, reduced sleep mode power consumption from about 25W to a mere 5W with System-on-a-Chip (SoC) technology.
- Adopted biomass plastics as material for their power-switch covers.
- Efficient use of resources: It is used recycled plastics for the efficient use of resources.

### Product performance
- Touch panel: Large color LCD with touch panel enables easy operation
- Comprehensive management: A diverse range of account/user management functions streamline management efficiency and reduce output costs.
- e-BRIDGE Open Platform: Various System Interface is prepared to be able to use it more easily as input/output terminal of user system.
- Remote interface: Make it possible to operate one unit of MFP and external system by readout of internal information of MFP or operate it from external system.
- Bluetooth Connection Support: Supported Bluetooth which is easy connect. It is useful when you use MFP from PC is not connect to LAN, temporarily. Because you able to connect it without complex setup

### TOSHIBA TEC CORPORATION
Oval Court Ohsaki Mark East 2-17-2, Higashi Gotanda, Shinagawa-ku, Tokyo, 141-8664, Japan
Tel +81-3-6422-7164  Fax +81-3-6422-7121
URL http://www.toshibatec.co.jp/index.html.html

Available in: Japan
### DEVELOP ineo 501

**Environmental performance**
- Saving energy, reducing waste
- Clean Planet Recycling
- Resource saving

**Product performance**
- High-speed printing
- High-speed scanning (up to 70 opm)
- Sophisticated scanning features
- Proven and reliable hardware
- Reassuring security functions
- Max. 5,650-sheet paper supply

**Ub Office Systems Inc.**

5F., No.2, Wuquan 5th Rd., Wugu Dist., New Taipei City 248, Taiwan (R.O.C.), 248, Republic of China
Tel 02-2299-6666    Fax 02-2299-4807
E-mail ivylin@ubos.com.tw
URL http://www.ubos.com.tw
URL http://greenliving.epa.gov.tw/GreenLife

Available in: Taiwan (Rep. of China)

### DEVELOP ineo 423 (Type series: DEVELOP ineo 363/DEVELOP ineo 283)

**Environmental performance**
- Saving energy, reducing waste
- Clean Planet Recycling
- Resource saving

**Product performance**
- Sophisticated scanning capabilities in colour and black and white
- Fast copying and printing at professional standards
- Various finishing capabilities for inhouse document production
- Workflow software solutions
- Smart add-ons with i-Options

**Ub Office Systems Inc.**

5F., No.2, Wuquan 5th Rd., Wugu Dist., New Taipei City 248, Taiwan (R.O.C.), 248, Republic of China
Tel 02-2299-6666    Fax 02-2299-4807
E-mail ivylin@ubos.com.tw
URL http://www.ubos.com.tw
URL http://greenliving.epa.gov.tw/GreenLife

Available in: Taiwan (Rep. of China)
Eco-product // OA/IT equipment

EP-3-045

OA/IT equipment

multifunctional copy machines/printers

DEVELOP ineo 213 (Type series: DEVELOP ineo 163/DEVELOP ineo 163v)

Environmental performance
- Saving energy, reducing waste
- Clean Planet Recycling
- Resource saving

Product performance
- Efficient performance in essential office functions
- Optional networking and communication capabilities
- Improved information workflow
- Greater productivity
- Ease of use
- Economical performance

Ub Office Systems Inc.

5F., No.2, Wuquan 5th Rd., Wugu Dist., New Taipei City 248, Taiwan (R.O.C.), 248, Republic of China
Tel 02-2299-6666  Fax 02-2299-4807
E-mail ivylin@ubos.com.tw
URL http://www.ubos.com.tw
URL http://greenliving.epa.gov.tw/GreenLife

Available in: Taiwan (Rep. of China)

EP-3-046

OA/IT equipment

multifunctional copy machines/printers

DEVELOP ineo+360 (Type series: DEVELOP ineo+280/DEVELOP ineo+220)

Environmental performance
- Saving energy, reducing waste
- Clean Planet Recycling
- Resource saving

Product performance
- Colours that really stand out
- Fast and economical production of office documents in colour & b/w
- Economical b/w and colour document production
- Good environmental and security record

Ub Office Systems Inc.

5F., No.2, Wuquan 5th Rd., Wugu Dist., New Taipei City 248, Taiwan (R.O.C.), 248, Republic of China
Tel 02-2299-6666  Fax 02-2299-4807
E-mail ivylin@ubos.com.tw
URL http://www.ubos.com.tw
URL http://greenliving.epa.gov.tw/GreenLife

Available in: Taiwan (Rep. of China)
**EP-3-047**

**80mm Thermal Receipt Printer WP-T800**

**Environmental performance**
Energy saving and low pollution.

**Product performance**
It is suitable for the ECR systems, electronic equipment, computer equipment peripherals, the F&B industry’s kitchen printers and so on. It has ultra high-speed printing of 220mm/second, and is compatible with RS-232C, Parallel, USB and the Ethernet interface card, for paper widths up to 80mm, with a built-in cash register output function, and it supports graphic and barcode printing.

**Winpos System Co., Ltd.**

4F., No. 5, Alley 6, Lane 45, Pao-Hsin Road, Hsin Tien District, New Taipei City, Taiwan, 231, Republic of China
Tel +886-2-86657955-171    Fax +886-2-86659446
E-mail patrick@winpos.com.tw
URL http://www.winpos.com.tw

Available in: Taiwan (Rep. of China)

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**EP-3-048**

**Environmentally-friendly double-sided label printer Scantronics® GN412T**

**Environmental performance**
Bar-code printer that simultaneously prints on both sides of the label. Non-Sepa Combination Labels can be used as two separate labels by peeling the bonded sticky side. Since there is no liner waste, paper is saved and CO₂ emissions are reduced.

**Product performance**
The automatic document feeder requires no label indicators to show the position when setting the labels for printing, and labels can be printed clearly from the beginning, so no labels are wasted. The ability to print all labels clearly eliminates waste. Sato’s Ecomatch promotes the 3Rs (Reduce, Reuse, Recycle) to support the environmental conservation activities of customers.

For any query, send inquiry to the contact mentioned below.

**SATO CORPORATION**

7-1, Shimomeguro 1-chome, Meguro-ku, Tokyo, 153-0064, Japan
URL http://www.sato.co.jp

Available in: Japan
Eco-product // OA/IT equipment

EP-3-049
OA/IT equipment

Color Page Printer, Epson AcuLaser CX17NF

**Environmental performance**

- **<Resource saving>**
  - The Epson AcuLaser CX17NF is 62% smaller and 59% lighter than the Epson AcuLaser CX11F/CX11F/N (FY2005) by space-saving design.
  - Compact toner cartridges help save space and resources.
  - Prints or copies multiple pages per sheet to save paper

- **<Elimination of hazardous substances>**
  - RoHS compliant

*This product is manufactured by Seiko Epson Corporation and is sold by Epson Sales Japan Corporation. The party to the Eco Mark utilization contract for this product is Epson Sales Japan Corporation. For more information.*

**Product performance**

- Among the smallest and lightest A4 color multifunction laser printers in Japan
- Choice of small- or medium-sized toner cartridges, depending on use
- Inlet cooling mechanism eliminates distracting exhaust for a quiet and pleasant office environment.

Seiko Epson Corporation

3-3-5 Owa, Suwa-shi, Nagano-ken, 392-8502, Japan
Tel +81-266-52-3131

Available in: Japan, Asia, Oceania, Europe, Southeast Asia, Middle and Near East, Republic of Korea

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EP-3-050
OA/IT equipment

Thermal Receipt Printer, TM-T88V

**Environmental performance**

- **<Global warming impact>**
  - Generates 10% fewer life cycle CO₂ emissions than the previous model (TM-T88IV).

- **<Energy savings>**
  - The TM-T88V uses 14% less total power than the TM-T88IV from 2006.
  - The move to a high-efficiency AC adapter and the use of a low-power ASIC chip that controls power so that it is supplied only when and where needed, help minimize power usage.

- **<Resource saving>**
  - Paper-saving functions
    - Top Margin-less function: Through printing the top logo of receipts before cutting, the top margin has been reduced by 12mm.
    - Automatic paper reduction function: The amount of receipt margin reduction is specified and memorized on the printer side, and actual receipt length is reduced without altering the printing data.

- **<Elimination of hazardous substances>**
  - RoHS compliant

**Product performance**

High-speed, silent printing enables smooth output. With support for Asian and European languages, graphics and barcodes, this printer can be used for a wide variety of applications including receipts, coupons and tickets.

Seiko Epson Corporation

3-3-5 Owa, Suwa-shi, Nagano-ken, 392-8502, Japan
Tel +81-266-52-3131

Available in: Worldwide
Eco-product // OA/IT equipment

**EP-3-051**

**OA/IT equipment**

**Inkjet Digital Label Press, SurePress L-4033A**

**Environmental performance**

- Not necessary the pre-treatments of standard label stock, SurePress AQ ink has good adhesion on variety of standard label stocks.
- Resource-saving, reduced pre-press process like plate making, eliminated use of developer and films.
- Less-wasteful, easy color-matching and the plate-replacing is unnecessary, these enables SurePress to reduce standard label stock and the ink consuming.
- Reduction in waste, the specific wash is unnecessary and eliminates waste fluid emissions for maintenance.

**Product performance**

The SurePress L-4033A is a short-run, digital label press. This highly versatile narrow-web press has been designed to print labels efficiently and profitably to meet the growing global demand for fast turnaround, low volume, and multiple version label jobs.

**Seiko Epson Corporation**

3-3-5 Owa, Suwa-shi, Nagano-ken, 392-8502, Japan
Tel +81-266-52-3131
URL http://www.epson.com/

Available in: Japan, Oceania, Europe, North America, U.S., Indonesia, Singapore, Thailand, Philippines, Malaysia, Taiwan (Rep. of China)

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**EP-3-052**

**OA/IT equipment**

**"Apply new Energy star High speed thermal printer"**

**Environmental performance**

- Mitigation of climate change: To Reduce off mode electric power consumption around half.
- Efficient use of resources: To have function to save ribbon.
- Management of chemicals: Adoption of halogen-free material for printed circuit board.

**Product performance**

- High speed (14ips)
- Easy operation: Utilizing the Graphic LCD.

**TOSHIBA TEC CORPORATION**

Oval Court Ohsaki Mark East 2-17-2, Higashi Gotanda, Shinagawa-ku, Tokyo, 141-8664, Japan
Tel +81-3-6422-7164 Fax +81-3-6422-7121
URL http://www.toshibatec.co.jp/index.html

Available in: Worldwide
**Eco-product // OA/IT equipment**

**EP-3-053**  
**OA/IT equipment**  
printer toner cartridge  

### Remanufactured Cartridge

**Environmental performance**

In recent years, the growth of new technology has helped to develop innumerable new toner cartridge that has been rushed into the market enormously. However, they result in large amount of waste that would damage to the earth. It is a big environmental trouble.

Green Device understands the harms and damages caused by waste pollution; she has developed the high quality remanufactured toner cartridges to reduce the waste by produce. From product development to manufacturing, Green Device’s design not only focuses on satisfying customers but also cares seriously to make a good use of the resulting waste material and avoid causing damage to the environments.

**Product performance**

100% made in Taiwan with qualtiy guaranteed! Using G-Liquid as wiper blades lubricant.

**Taiwan Green Device Co., Ltd.**

No. 108, Sec. 2, Chang-An Rd., Lujhu, Taoyuan, Taiwan, 33843, Republic of China  
Tel +886-3-353-0954  Fax +886-3-353-0964  
E-mail service@greendevice.com.tw  
URL http://www.greendevice.com.tw

Available in: Worldwide

**EP-3-054**  
**OA/IT equipment**  
printer toner cartridge

### Recycled and Refilled Toner Cartridge for Printer

**Environmental performance**

With recycled toner cartridges from the original factory, after cleaning and refilling we have the product. Based on the empirical data, the weight of each cartridge is around 1200 grams. 25%~30% is metals (steel/alumina), which can be recycled and reused. Other 50%~60% is plastic material, which can also be reused. Thus the goal of low pollution and waste reduction can be accomplished.

**Product performance**

1. With recycled toner cartridges from the original factory, the printer can work well with the product under our refilling process.  
2. We replace consumptive parts of the recycled toner cartridges and conduct 100% inspection before shipment so that the printing quality is above standard.  
3. No over packaging, and the packing materials are mainly recycled paper.  
4. Human-based after-care service can help the user in trouble shooting.

**Aaprotech Enterprise Co., Ltd.**

No. 3, Aly. 37, Ln. 392, Fude 1st Rd., Xizhi Dist., New Taipei City, Taiwan, 221, Republic of China  
Tel +886-2-2694-2266-109  Fax +886-2-2694-8576  
E-mail fj@aaprotech.com.tw  
URL http://www.aaprotech.com.tw

Available in: Taiwan (Rep. of China)
EP-3-055

NEWEAST Eco-Friendly Toner Cartridge NE-9730

Environmental performance
Using recycled materials. Free of the controlled substances of the Montreal Protocol, heavy metals, or hazardous chemicals.

Product performance
Certified by the Green Mark system of Taiwan's Environmental Protection Administration. Print darkness/print yield reaching 95% or more that of new products. Free of heavy metals or other toxic substances that are hazardous to human health. Manufactured with a production and management system conforming to international standards to ensure high product quality.

Neweast Technology Co., Ltd.
No. 26, Ln. 62, Baozhong 3rd St., East Dist., Chiayi City, Taiwan, 600, Republic of China
Tel +886-5-2786660 Fax +886-5-2785705
E-mail newneweast@yahoo.com.tw
URL http://www.new-east.com.tw

Available in: Taiwan (Rep. of China)

EP-3-056

NEWEAST Eco-Friendly Toner Cartridge NE-9731

Environmental performance
Using recycled materials. Free of the controlled substances of the Montreal Protocol, heavy metals, or hazardous chemicals.

Product performance
Certified by the Green Mark system of Taiwan's Environmental Protection Administration. Print darkness/print yield reaching 95% or more that of new products. Free of heavy metals or other toxic substances that are hazardous to human health. Manufactured with a production and management system conforming to international standards to ensure high product quality.

Neweast Technology Co., Ltd.
No. 26, Ln. 62, Baozhong 3rd St., East Dist., Chiayi City, Taiwan, 600, Republic of China
Tel +886-5-2786660 Fax +886-5-2785705
E-mail newneweast@yahoo.com.tw
URL http://www.new-east.com.tw

Available in: Taiwan (Rep. of China)
**Eco-product // OA/IT equipment**

<table>
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<th>EP-3-057</th>
<th>OA/IT equipment</th>
<th>NEWEAST Eco-Friendly Toner Cartridge NE-9732</th>
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<td><strong>Environmental performance</strong></td>
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<td><strong>Neweast Technology Co., Ltd.</strong></td>
<td>No. 26, Ln. 62, Baozhong 3rd St., East Dist., Chiayi City, Taiwan, 600, Republic of China Tel +886-5-2786660 Fax +886-5-2785705 E-mail <a href="mailto:newneweast@yahoo.com.tw">newneweast@yahoo.com.tw</a> URL <a href="http://www.new-east.com.tw">http://www.new-east.com.tw</a></td>
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<th>EP-3-058</th>
<th>OA/IT equipment</th>
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</tr>
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<td>No. 26, Ln. 62, Baozhong 3rd St., East Dist., Chiayi City, Taiwan, 600, Republic of China Tel +886-5-2786660 Fax +886-5-2785705 E-mail <a href="mailto:newneweast@yahoo.com.tw">newneweast@yahoo.com.tw</a> URL <a href="http://www.new-east.com.tw">http://www.new-east.com.tw</a></td>
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<td>Available in: Taiwan (Rep. of China)</td>
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</tbody>
</table>
**Eco-product // OA/IT equipment**

**EP-3-059**

Recharge Printer Toner Cartridge GD-HP-505A

**Environmental performance**
- Reduce energy and resource consumption.
- Prevent pollution attributable to the manufacturing process of new toner cartridges.
- 85% or more of their components are reusable to lower the amount of wastes to be processed.
- Waste plastic components are recyclable for reuse.

**Product performance**
1. High printout quality.
2. Lower clerical costs significantly.
3. Reduce industrial wastes substantially.

Taiwan Green Device Co., Ltd.

No. 108, Sec. 2, Chang-An Rd., Luzhu Township, Taoyuan County, Taiwan, 338, Republic of China
Tel +886-3-353-0954 Fax +886-3-353-0964
E-mail lucy@greendevice.com.tw
URL http://www.greendevice.com.tw

Available in: Japan, U.S.A., Taiwan (Rep. of China)

**EP-3-060**

Recharge Printer Toner Cartridge Green-C5550(B)/(C)/(M)/(Y)

**Environmental performance**
- Reduce energy and resource consumption.
- Prevent pollution attributable to the manufacturing process of new toner cartridges.
- 85% or more of their components are reusable to lower the amount of wastes to be processed.
- Waste plastic components are recyclable for reuse.

**Product performance**
1. High printout quality.
2. Lower clerical costs significantly.
3. Reduce industrial wastes substantially.

Taiwan Green Device Co., Ltd.

No. 108, Sec. 2, Chang-An Rd., Luzhu Township, Taoyuan County, Taiwan, 338, Republic of China
Tel +886-3-353-0954 Fax +886-3-353-0964
E-mail lucy@greendevice.com.tw
URL http://www.greendevice.com.tw

Available in: Japan, U.S.A., Taiwan (Rep. of China)
### EP-3-061

**OA/IT equipment**

**Recharge Printer Toner Cartridge Green-16A**

**Environmental performance**
- Reduce energy and resource consumption.
- Prevent pollution attributable to the manufacturing process of new toner cartridges.
- 85% or more of their components are reusable to lower the amount of wastes to be processed.
- Waste plastic components are recyclable for reuse.

**Product performance**
1. High printout quality.
2. Lower clerical costs significantly.
3. Reduce industrial wastes substantially.

**Taiwan Green Device Co., Ltd.**

No. 108, Sec. 2, Chang-An Rd., Luzhu Township, Taoyuan County, Taiwan, 338, Republic of China

Tel +886-3-353-0954  Fax +886-3-353-0964

E-mail lucy@greendevice.com.tw

URL http://www.greendevice.com.tw

Available in: Japan, U.S.A., Taiwan (Rep. of China)

### EP-3-062

**OA/IT equipment**

**Recharge Printer Toner Cartridge Green-12A**

**Environmental performance**
- Reduce energy and resource consumption.
- Prevent pollution attributable to the manufacturing process of new toner cartridges.
- 85% or more of their components are reusable to lower the amount of wastes to be processed.
- Waste plastic components are recyclable for reuse.

**Product performance**
1. High printout quality.
2. Lower clerical costs significantly.
3. Reduce industrial wastes substantially.

**Taiwan Green Device Co., Ltd.**

No. 108, Sec. 2, Chang-An Rd., Luzhu Township, Taoyuan County, Taiwan, 338, Republic of China

Tel +886-3-353-0954  Fax +886-3-353-0964

E-mail lucy@greendevice.com.tw

URL http://www.greendevice.com.tw

Available in: Japan, U.S.A., Taiwan (Rep. of China)
EP-3-063

Power Projector LV-7390

Environmental performance
(1) Extended lamp life up to 6,000 hours contributes to resource savings.
(2) Compact and light body of only 2.98kg contributes to resource savings.
(3) Compliance with the RoHS Directive.

Product performance
(1) Projection of large 80 inch image from 2.8m short-throw distance.
(2) A powerful built-in 10W speaker and a line-out terminal enable you to deliver a presentation through a microphone while projecting images without external audio equipment.

Canon Inc.
30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, 146-8501, Japan
Tel +81-3-3758-2111
URL http://www.canon.com/environment/

Available in: Worldwide

EP-3-064

Power Projector LV-7290

Environmental performance
(1) Extended lamp life up to 6,000 hours contributes to resource savings.
(2) Compact and light body of only 2.98kg contributes to resource savings.
(3) Compliance with the RoHS Directive.

Product performance
(1) Projection of large 80 inch image from 2.8m short-throw distance.
(2) A powerful built-in 10W speaker and a line-out terminal enable you to deliver a presentation through a microphone while projecting images without external audio equipment.

Canon Inc.
30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, 146-8501, Japan
Tel +81-3-3758-2111
URL http://www.canon.com/environment/

Available in: Worldwide
## EP-3-065
### Power Projector LV-8225

**Environmental performance**
1. Extended lamp life up to 6,000 hours contributes to resource savings.
2. Compact and light body of only 2.98kg contributes to resource savings.
3. Compliance with the RoHS Directive.

**Product performance**
1. Projection of large 80 inch image from 2.8m short-throw distance.
2. A powerful built-in 10W speaker and a line-out terminal enable you to deliver a presentation through a microphone while projecting images without external audio equipment.

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### Canon Inc.
30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, 146-8501, Japan  
Tel +81-3-3758-2111  

Available in: Worldwide

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## EP-3-066
### Power Projector LV-7490

**Environmental performance**
1. Extended lamp life up to 5,000 hours contributes to resource savings.
2. Intelligent Lamp Dimming System reduces power consumption up to 62%*.
3. Compliance with the RoHS Directive.

* By comparison between “Normal” and “Auto” of lamp modes at image mode: Dynamic.

**Product performance**
1. High brightness of 4,000 lumens for real XGA.
2. Projection of large 80 inch image from 2.8m short-throw distance.
3. A powerful built-in 10W speaker and a line-out terminal enable you to deliver a presentation through a microphone while projecting images without external audio equipment.

---

### Canon Inc.
30-2, Shimomaruko 3-chome, Ohta-ku, Tokyo, 146-8501, Japan  
Tel +81-3-3758-2111  

Available in: Worldwide
Casio Mercury-free high bright Projector : Green Slim XJ-A256

Environmental performance
*Realizing World First High-Brightness, 3000 ANSI lm, thanks to an original Mercury-free Hybrid Light Source which combines Laser and LED technology.
*Adopting a new semiconductor-based system has enabled to realize 10 times of longer light source life of approximately 20,000 hours, and cuts the running and maintenance cost dramatically.
*8 seconds quick startup to maximum brightness and immediate shutdown without warm-up and cool-down, will make you feel so comfortable.
*The new integrated brightness sensors automatically adapt the brightness to different lighting conditions, this means further reduction of energy consumption.

Product performance
*It measures just thickness 43 mm and 2.3 kg in an A4-size, slim and mobile size with advanced feature, will make your travels easier.
*Thanks to the Hybrid Light Source which combines Laser and LED technology, Color Purity is amazingly increased realizing a consistent brightness and superior color.
*Optimum adjustment of pictures to the size of the projection screen to match distance from the screen: the wide angle 2x optical zoom make this possible.

CASIO COMPUTER CO. LTD
6-2, Hon-machi 1-chome, Shibuya-ku, Tokyo, 151-8543, Japan
Tel +81-3-5334-4111
URL http://world.casio.com/
URL http://world.casio.com/csr/

Available in: Worldwide

Casio Mercury-free high bright Projector : Signature Models XJ-M150 / 250 series

Environmental performance
*Realizing World First High-Brightness, 3000 ANSI lm, thanks to an original Mercury-free Hybrid Light Source which combines Laser and LED technology.
*Adopting a new semiconductor-based system has enabled to realize 10 times of longer light source life of approximately 20,000 hours, and cuts the running and maintenance cost dramatically.
*5 seconds quick startup to maximum brightness and immediate shutdown without warm-up and cool-down, will make you feel so comfortable.
*The new integrated brightness sensors automatically adapt the brightness to different lighting conditions, this means further reduction of energy consumption.

Winning “Product of the Year” in Eco Mark Award 2011.

Product performance
*Thanks to the Hybrid Light Source which combines Laser and LED technology, Color Purity is amazingly increased realizing a consistent brightness and superior color.
*Optimum adjustment of pictures to the size of the projection screen to match distance from the screen: the wide angle 1.5 x optical zoom make this possible.

CASIO COMPUTER CO. LTD
6-2, Hon-machi 1-chome, Shibuya-ku, Tokyo, 151-8543, Japan
Tel +81-3-5334-4111
URL http://world.casio.com/
URL http://world.casio.com/csr/

Available in: Worldwide

Signature Model XJ-M255
EP-3-069  

**Ultra-short throw projector**

**Environmental performance**
- Compliance with the RoHS Directive.
- Contributing to resource-saving through reduction of resources, reduction of CO₂ emission during distribution, and annual power consumption reduction.
- Saving-energy by using recycled materials for packing.
- Saving time at disposal by using easily dismantled structure.

**Product performance**
- High performance lens with adjustable-shaped surface.
- Ultra short can expand the picture size up to 80" only at 23cm distance.
- Optical mechanism that corrects the distortion of screen image by adjustable-shaped mirror.

**Hitachi Consumer Electronics Co., Ltd.**

Shin-Otematchi Bldg. 2-1, Otemachi 2-chome, Chiyod-ku, Tokyo, 100-0004, Japan  
Tel 0120-3121-19  
URL http://av.hitachi.com/  

Available in: Japan, Oceania, South America, Europe, U.S.A., Indonesia, Singapore, Thailand, Philippines, Mexico, Republic of Korea, Taiwan, Rep. of China, South Africa (Except for Iran)

EP-3-070  

**Scanner DT-0603H (FB6000U Series)**

**Environmental performance**
- Energy Saving: International ENERGY STAR compliant, sleep mode power consumption 4.2W.
- Chemical Substances Control: Compliant with European Union RoHS, WEEE and Taiwan Green Mark requirements.

**Product performance**
- * Support A3-sized document.
- * Hi-speed USB 2.0 interface (USB 1.1 compatible), TWAIN driver included.
- * One-button functionality allows you to assign up to nine scanning applications and select at the touch of a button.
- * Energy saving.

**Avision Inc.**

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Tel +886-3-5782388-8753 Fax +886-3-5643480  
E-mail angela_lin@avision.com.tw  
URL http://www.avision.com.tw

Available in: Japan, Oceania, Europe, U.S.A., Taiwan (Rep. of China)
Eco-product // OA/IT equipment

EP-3-071

Scanner DF-0902H (AV3852U Series)

![Image]

Environmental performance
Energy Saving: International ENERGY STAR compliant, sleep mode power consumption 3.34W.
Chemical Substances Control: Compliant with European Union RoHS, WEEE and Taiwan Green Mark requirements.

Product performance
* Automatic image cropping and straightening at full scanning speed.
* Brightness and contrast controls to customize color output for specific applications.
* Fast USB 2.0 interface for plug-and-play connectivity and rapid transfer of images.
* Industry-standard ISIS and exclusive Avision-developed TWAIN drivers to achieve rated speeds and easy integration.
* Hold up to 50 pages in auto document feeder.

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Available in: Japan, Oceania, Europe, U.S.A., Taiwan (Rep. of China)

EP-3-072

Scanner FT-0807H (AV320D2+ Series)

![Image]

Environmental performance
Energy Saving: International ENERGY STAR compliant, sleep mode power consumption 3.24W.
Chemical Substances Control: Compliant with European Union RoHS, WEEE and Taiwan Green Mark requirements.

Product performance
* Scan rate up to 60 PPM/120 IPM at 300 dpi, color mode.
* Support document up to A3 size, and support long page scanning up to 3 meters (118”).
* Avision Button Manager (One Touch).
* New TWAIN driver supports enhancement such as the ability to adjust sensitivity of dynamic threshold, document/photo color matching, custom color dropout, automatic multiple cropping, intelligent multi-feed, reduce despeckle, image count, digital imprinter, and transport timeout.
* Ultrasonic Multi-Feed Detection.

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Available in: Japan, Oceania, Europe, U.S.A., Taiwan (Rep. of China)
EP-3-073

**Environmental performance**
Energy Saving: International ENERGY STAR compliant, sleep mode power consumption 4.2W.
Chemical Substances Control: Compliant with European Union RoHS, WEEE and Taiwan Green Mark requirements.

**Product performance**
* Scan rate up to 60 PPM/120 IPM at 200 dpi, color mode and 50 PPM/100 IPM at 300 dpi.
* Include front input tray and support long page scanning up to 3 meters (118”).
* One-button functionality.
* New TWAIN driver supports to enhancement such as the ability to adjust sensitivity of dynamic threshold, document/photo color matching, custom color dropout, automatic multiple cropping, intelligent multi-feed, reduce despeckle, image count, digital imprinter, and transport timeout.
* Ultrasonic Multi-Feed Detection.

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Available in: Japan, Oceania, Europe, U.S.A., Taiwan (Rep. of China)

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EP-3-074

**Environmental performance**
Considering to lower the environmental impact, the device are compliant with EPA Energy Star Program, Sleep mode power consumption is 2.96W.

The plastic components of the product are also compliant chemical Substances requirements.

Also, the product are meet European Union RoHS and WEEE directive, and Taiwan Green mark.

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Available in: Worldwide
Eco-product // OA/IT equipment

### EP-3-075

**Scanners**

**Environmental performance**

Considering to lower the environmental impact, the device are compliant with EPA Energy Star Program, Sleep mode power consumption is 4.2W

The plastic components of the product are also compliant chemical Substances requirements.

Also, the product are meet European Union RoHS and WEEE directive, and Taiwan Green mark.

**Product performance**

For workgroups who frequently need to digitalize large sized documents, the Avision FB6000U is the answer. Supporting documents up to A3 sizes, it can complete scans in 7.6 seconds at 200 dpi in black and white. Built with a CCD sensor and a optical resolution of 600 dpi, you can depend on the FB6000U for quality scans.

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Available in: Worldwide

### EP-3-076

**Compact slimline Document scanner "imageFORMULA P-215"**

**Environmental performance**

- Automatic Power ON/OFF with opening/closing the feeder tray
- Conforms to ENERGY STAR standards
- Power consumption
  - Scanning: 2.5W (USB2.0 x 1), 4.5W (USB3.0 x 1), 5.0W (USB2.0 x 2)
  - Sleep mode: 1.5W Power OFF: 0.1W
- Compliant with European RoHS Directive

**Product performance**

- High-speed 1-pass duplex scanning
  - B&W/Grayscale: 12 ppm/14 ipm, Color: 10 ppm/10 ipm (A4/LTR, portrait, 200dpi, USB2.0 x 1)
  - B&W/Grayscale: 15 ppm/30 ipm, Color: 10 ppm/20 ipm (A4/LTR, portrait, 200dpi, USB3.0 x 1 or USB2.0 x 2)
- Bus power drive
- Can scan with 1USB connection
- Plug & Scan function
- Can scan without installing Scanning Software onto PC
- Card Scanning with switchback feeding mechanism
- Scan to Cloud applications
- Canon’s Advanced image processing functions
  - Auto size detection, Deskew, Skip blank page, Text orientation recognition, Auto color detection, Background smoothing, Full Auto mode, Automatic setting of resolution, etc.

**CANON ELECTRONICS INC.**

3-5-10, Shibakoen, Minato-ku, Tokyo, 105-0011, Japan
Tel +81-3-6910-4119 Fax +81-3-5472-7671
E-mail kankyo@canon-elec.co.jp

Available in: Worldwide
### EP-3-077

**Real compact Document scanner with upright U-turn feeding "imageFORMULA DR-C125"**

#### Environmental performance
- Energy-efficient and compact design with CMOS CIS and light source of LED
- Automatic Power OFF depending on the status of the connected PC
- Conforms to ENERGY STAR standards
- Power consumption
  - Scanning: 12.8W, Sleep mode: 1.9 W, Power OFF: 0.5W
- Space-saving design which eliminates the space for the output documents
- Compliant with European RoHS Directive

#### Product performance
- High-speed 1-pass duplex scanning
- B&W/Grayscale/Color: 25 ppm / 50 ppm (A4/LTR, portrait, 200dpi)
- Intuitive way of scanning with "Face-up document-setting"
- 2-way scan
- Canon unique upright U-turn path feeding and straight path for card-scanning
- Ultrasonic Double Feed Detection function
- Scan to Cloud applications
- Canon’s Advanced image processing functions
- Auto size detection, Deskew, Skip blank page, Text orientation recognition, Auto color detection, Background smoothing, Full Auto mode, Automatic setting of resolution, etc.

**CANON ELECTRONICS INC.**

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Available in: Worldwide

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### EP-3-078

**Compact and high speed Document scanner with Front-loaded mechanics "imageFORMULA DR-M140"**

#### Environmental performance
- Energy-efficient and compact design with CMOS CIS and light source of LED
- Conforms to ENERGY STAR standards
- Power consumption
  - Scanning: 25W, Sleep mode: 1.9W, Power OFF: 0.5W
- Compliant with European RoHS Directive

#### Product performance
- Compact and high speed Document scanner with selectable scanning of U-turn path or Straight path Feeding
  - High-speed 1-pass duplex scanning
  - B&W/Gray/Color: 40 ppm/80 ppm (A4/LTR portrait/200dpi)
  - Compact and ease of use with front loading/output operation
  - Canon unique U-turn path and straight path feeding
  - Reliable feeding of a wide range of documents from embossed plastic cards to documents as large as A3/11”x17” (using folio mode)
  - Ultrasonic Double Feed Detection function
  - Canon’s advanced image processing functions
- Auto size detection, Deskew, Text orientation recognition, Auto color detection, Shadow cropping, Background smoothing, Automatic setting of resolution, etc.

**CANON ELECTRONICS INC.**

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Available in: Worldwide
EP-3-079

Super-fast, high volume and tough built Docement Scanner "imageFORMULA DR-M160"

**Environmental performance**
- High energy-efficient and compact design with CMOS CIS and light source of LED
- Conforms to ENERGY STAR standards
- Power consumption: Scanning: 27 W, Sleep mode: 1.8 W, Power OFF: 0.5 W
- Compliant with European RoHS Directive

**Product performance**
- High speed 1-pass duplex scanning
  - B&W/Gray/Color: 60ppm/120ipm (A4/LTR portrait/200dpi)
- Robust and compact body
- High volume feeding tray which holds maximum 60 sheets
- Reliable feeding of a wide range of documents from embossed plastic cards to documents as large as A3/11”x17”(using folio mode)
- Thin paper mode
- Feeding speed slows down to transport thin document gently to prevent from any damages
- Ultrasonic Double Feed Detection function
- Canon’s various advanced image processing functions
  - Auto size detection, Deskew, Skip blank page, Text orientation recognition, Auto color detection,
  - Shadow cropping, Background smoothing, Automatic setting of resolution, etc.

CANON ELECTRONICS INC.

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Available in: Worldwide

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EP-3-080

**fi-6800 - The fastest and smallest A3 image scanner in its class**

**Environmental performance**
- Resource saving: fi-6800 is smallest in its class (See Note) (Takes up 53% less space and is 72% lighter than its previous model (fi-4860C2)).
- Energy saving: Short recovery time (within 6 seconds). Low power consumption when in sleep mode (less than 4W without CGA board interface)
- Eco-efficiency factor: Enhanced performance improves scanning efficiency and reduces the size of body. The fi-6800 has an Eco-efficiency factor of 2.15.
- EU RoHS compliant.

Note: Applies to business scanners priced between ¥1,170,000 and ¥4,400,000.

**Product performance**
- The fi-6800 offers fast, 130ppm/260ipm, A4 landscape size color scanning (200/300dpi) with smallest body in the class.
- The fi-6800 supports new automatic functions that make scanner operating tasks even easier, faster and more energy efficient.

PFU LIMITED

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URL http://www.fujitsu.com/global/services/computing/peripheral/scanners/
URL http://www.fujitsu.com/global/about/environment/communication/report/

Available in: Worldwide
EP-3-081

OA/IT equipment

fi-60F - Resource and energy saving A6 flatbed scanner

Environmental performance
- Resource saving: The smallest and fastest scanner in its class.
- Incorporated environmentally friendly material: The fi-60F has been painted with easy to recycle paint and makes use of a mercury-free light source.
- Energy saving: The fi-60F is one of the top performing international ENERGY STAR standards meeting scanners. (The fi-60F requires a mere 2W or less when in sleep mode.)
- Quiet performance: Operates at 42dB or lower.
- EU RoHS compliant.

Product performance
- The fi-60F A6 flatbed color scanner offers first-rate speedy one-second scanning (200dpi, monochrome).

PFU LIMITED
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E-mail scanners@pfu.fujitsu.com
URL http://www.fujitsu.com/global/about/environment/
URL http://www.fujitsu.com/global/services/computing/peripheral/scanners/
URL http://www.fujitsu.com/global/about/environment/communication/report/

Available in: Worldwide

EP-3-082

OA/IT equipment

ScanSnap S1100 - The world's smallest class document scanner

Environmental performance
- Resource saving: S1100 is the world's smallest class form factor (takes up 79.6% less space than its previous model (S1300)). Necessary parts for S1100 are reduced to 75.4%.
- Energy saving: Low power consumption (22.4% for the standard (sleep mode) in the International Energy Star Program).
- Eco-efficiency factor: Enhanced performance improves scanning efficiency and reduces the size of body. S1100 has an Eco-efficiency factor of 3.9.
- EU RoHS compliant.

Product performance
- S1100 delivers a snappy 7.5 seconds/page scanning for A4 color documents.
- Despite being a simplex sheet-feed document scanner, S1100 allows non-stop, smooth scanning of two sided, multi-page documents.
- Supports plastic card (ISO7810 ID-1 format compliant) scanning and other handy scanning features.

PFU LIMITED
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URL http://www.fujitsu.com/global/about/environment/
URL http://www.fujitsu.com/global/services/computing/peripheral/scanners/
URL http://www.fujitsu.com/global/about/environment/communication/report/

Available in: Worldwide

ScanSnap S1100
Eco-product //  OA/IT equipment

EP-3-083

ScanSnap N1800 - The first network scanner to offer Could Linking functions

Environmental performance
- Resource saving: N1800 takes up 68.3% less space than its previous model (fi-6010N). Necessary parts for N1800 are reduced to 68.9%.
- Energy saving: Low power consumption (32.9% for the standard (sleep mode)).
- Eco-efficiency factor: N1800 improves energy efficiency and reduce the size of body. N1800 has an Eco-efficiency factor of 2.83. (on 200dpi scanning)
- EU RoHS compliant.

Product performance
- N1800 comes ready with functions that enable users to e-mail, save and print scanned data through a network. More functions can be added through specialized applications called Add-ins.
- N1800 carries all the labor-saving automated functions that have become a staple of the ScanSnap series through touch panel operation.
- Flexible and expandable features to suit any business from SOHO to enterprises.

PFU LIMITED

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E-mail scanners@pfu.fujitsu.com
URL http://www.fujitsu.com/global/about/environment/
URL http://www.fujitsu.com/global/services/computing/peripheral/scanners/
URL http://www.fujitsu.com/global/about/environment/communication/report/

Available in: Worldwide

EP-3-084

Desktop type OCR scanner S1500 for high-speed data entry from paper documents

Environmental performance
- Mitigation of climate change: Reduction about 77% power consumption in operation due to the "low power consumption" mode featuring ENERGY STAR compliant and high-speed scanning.
- Efficient use of resources: About 40% reduction in total weight; using fewer, thinner components, made of lightweight materials.
- Management of chemicals: Uses a mercury-free, long-life light source; made of LED (Light-emitting Diodes) instead of fluorescent lamp.

Product performance
- High-speed scanning: High-speed scanning for OCR of 50 sheets per minute for A4-sized documents.
- Prevention of multi-feeding: Highly accurate double-feeding detection mechanism for trouble-free operation, even with mixed sheet thickness.
- Maintenance saving: Maintenance frequency is reduced by increasing the durability of rollers.

Toshiba Solutions Corporation

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E-mail eco-info@toshiba-sol.co.jp
URL http://www.toshiba-sol.co.jp/
URL http://www.toshiba.co.jp/index.htm

Available in: Worldwide
Eco-product // OA/IT equipment

**EP-3-085**

**Desktop type OCR scanner S2500 for high-speed data entry from paper documents**

**Environmental performance**
- Mitigation of climate change: Reduction about 81% power consumption in operation due to the "low power consumption" mode featuring ENERGY STAR compliant and high-speed scanning.
- Efficient use of resources: About 40% reduction in total weight; using fewer, thinner components, made of lightweight materials.
- Elimination of harmful chemical substances: Uses a mercury-free, long-life light source; made of LED (Light-emitting Diodes) instead of fluorescent lamp.

**Product performance**
- High-speed scanning: High-speed scanning for OCR of 120 sheets per minute for A4-sized documents.
- Prevention of multi-feeding: Highly accurate double-feeding detection mechanism for trouble free operation, even with mixed sheet thickness.
- Duplex imprinting mechanism: OCR software for document format identification decides suitable imprinting side even for batch scanning with stacks of inter-mixed forms.
- Maintenance saving: Maintenance frequency is reduced by increasing the durability of rollers.

**Toshiba Solutions Corporation**

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URL http://www.toshiba-sol.co.jp/
URL http://www.toshiba.co.jp/index.htm

**EP-3-086**

**High-end OCR scanner S10000 for scanning and sorting various kind of sheets (size and paper quality) in large batches.**

**Environmental performance**
- Mitigation of climate change: Reduction about 43% power consumption in operation due to the highest-speed(*) scanning in all ENERGY STAR compliant products.
- Efficient use of resources: Using fewer, thinner components and recycle parts realized 88% recycle rate.
- Elimination of harmful chemical substances: Uses a mercury-free, long-life light source, made of xenon lamps instead of fluorescent lamps.

(*)Refer to the Web site of The Energy Conservation Cernter, Japan on Jan., 2012.

**Product performance**
- High-speed scanning: High-speed scanning for OCR of 300 sheets per minute for A4-sized documents.
- Scanning mixed sheets: Multi-stage Separator mechanism improved to separate and feed various forms of sheets.
- Transport performance: "Skew Aligning Transport mechanism" aligning skew of sheets automatically reduced the transport error rate.
- Operators workload saving: "Impeller Stacking mechanism" ejecting the sheets in aligned tip reduced operators workloads.

**Toshiba Solutions Corporation**

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URL http://www.toshiba-sol.co.jp/
URL http://www.toshiba.co.jp/index.htm
SR-X340TR1: Layer 2 switch the best equipped with server rack

**Environmental performance**

1. **Energy saving**
   - Target in energy consumption efficiency based on Act on the Rational Use of Energy is achieved. Consumption power is top level in the industry.
   - Built-in sensor watches power consumption.
   - Automatic control of power consumption of unused port
   - Case design considering equipment on the rack with server
   - Front suction and rear exhaust (same as the server) is adopted to enable an efficient cooling in the rack.
   - Miniaturized by 33% in volume, by 48% in number of parts

2. **Reduction of hazardous chemical substance**
   - Lead free solder for all printed-circuit boards

**Product performance**

- 1giga interface in 40 ports and 10giga interface in 4 ports on 1U
- Rear access model that LAN interface side is the back of rack and front access model, both available
- AC100V, AC200V power supply is supported. They can be doubled.

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Fujitsu Limited

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URL http://www.fujitsu.com/global/about/environment/communication/report/

Available in: Japan

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EP-3-088

Information Display (PN-V602)

**Environmental performance**

1. The PN-V602 owes much of its outstanding black levels, amazing contrast, and superb energy efficiency to local dimming of the LED backlight.
   - 1,500cd/m² Local dimming OFF: 500W
   - 1,500cd/m² Local dimming High: 270W
   - 700cd/m² Local dimming High: 155W

2. Mercury-free because LED backlight is incorporated.

※ Results of Sharp measurements when displaying broadcast content (sub-clause 11.6) stipulated under IEC 62087 Ed.2.0 and with brightness set to maximum. Note that the power consumption reduction will vary depending on the images displayed.

**Product performance**

1. Ultra-high brightness of 1,500cd/m² lets the PN-V602 excel in brightly lit indoor locations, even those awash in sunlight.
2. Slim bezel. Decreasing width of the bezel create a multi-screen configuration that impressively displays large, detailed images.

Sharp Corporation

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E-mail eco-info@sharp.co.jp
URL http://sharp-world.com/
URL http://sharp-world.com/corporate/eco/

Information Display PN-V602
## Touch Display (PN-L702B)

### Environmental performance

1. Low power consumption (240W) and high image quality thanks to Sharp’s proprietary UV²A technology and LED backlighting.
2. Mercury-free because LED backlight is incorporated.

### Product performance

1. Touchscreen-integrated LCD monitor incorporates a large 70-inch LCD panel.
2. Ideal for use as an electronic whiteboard with the bundled touch pen and Sharp Pen Software.

### Sharp Corporation

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URL http://sharp-world.com/corporate/eco/
Eco-product // Office supplies/furniture

EP-4-001  Office supplies/furniture  chalk

Chalk using recycled eggshells discarded by food processing companies

Environmental performance
Eggshells discarded by food processing companies were heated, sterilized, crushed and ground up, and chalk was manufactured by substituting 60% of the raw material in regular calcium carbonate chalk (i.e., calcium carbonate) with the ground eggshells. Discarded eggshells were recycled into chalk raw materials for use at schools, construction sites, etc. Sprinkling chalk powder generated from chalk use also leads to soil improvement.

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E-mail junji@tenjin-chalk.co.jp
URL http://www.tenjin-chalk.co.jp/

Available in: Japan, Indonesia, Singapore, Thailand, Philippines, Malaysia, Republic of Korea, Taiwan (Rep. of China), China

ECO Chalk 72

EP-4-002  Office supplies/furniture  chipboard

Wedego E1 Class F3 Type Chipboard

Environmental performance
* Low formaldehyde
* Green Building Material:
  Exposure assessment of HCHO: N.D.
  Exposure assessment of TVOC: 0.103 mg / m² .hr

Product performance
In response to varied purposes, it can be processed into waterproofing, scratch resistant, wear resistant features, and the plank wood has a solid, heavy feel, no less than the texture of solid wood.

Taiwan Order Furniture Corporation
3F., No.84, Sec. 1, Wenhua 1st Rd., Linkou Dist., New Taipei City, Taiwan, 244, Republic of China
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E-mail maggie@order.com.tw
URL http://www.order.com.tw

Available in: Taiwan (Rep. of China), China
## EP-4-003
### Melamine Face Chipboard
#### Environmental performance
Using recycled wood material and factory scraps as the main content, it helps to reduce the dependence on log.
1. recycled wood (mainly pallets) - 25%
2. factory scraps
   - (1) remnants from lumber yards - 40%
   - (2) furniture and remnants from lumber mills - 17%
   - (3) fine sawdust from lumber yards - 18%

#### Product performance
No preservatives or pesticides harmful to the human body, such as formaldehyde, isocyanides, chlorine, PCP, Lindane or hydroxybenzene are added in the production process, making it environmentally friendly and healthy.

### LONGLAND INTERNATIONAL CO., LTD.
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URL http://www.longland.com.tw

Available in: Taiwan (Rep. of China)

## EP-4-004
### MELAMINE FACE CHIPBOARD OWP
#### Environmental performance
Recycled wood is broken into wood particles, and the wood particles are bonded and pressed into particle boards; thus, the consumption of trees is effectively reduced. Particle boards can be made from the timber of secondary forests to facilitate continuous development of the ecosystem.

#### Product performance
Melamine chipboard is commonly used in system cabinets, furniture, school desks and chairs, bed boards, closets, etc.

### ODENWALD WOOD PRODUCTS CO., LTD.
No.12, Jingjian Rd., Pingtung Export Processing Zone, Pingtung City, Pingtung County, Taiwan, 90093, Republic of China
Tel +886-8-7516388    Fax +886-8-7517388
E-mail owp@odenwald.com.tw

Available in: Taiwan (Rep. of China)
**Environmental performance**
The inspection and testing performed for TCLP (lead, total silver, hexavalent chromium, cadmium, mercury, arsenic, copper), asbestos, radiation, total evaporative organic matters (TVOC) and formaldehyde (HCHO) screening find that the product complies to the green building material - healthy green building material standards.

**Product performance**
Using Lauan as the raw material with the middle is primarily made of solid strips, it is mainly used in interior furnishing, and is also often used in furniture, kitchen cabinets, bedding sets and so forth.

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**Chuan-Chi Lumber Co., Ltd.**
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URL http://plywoodcenter.com

Available in: Taiwan (Rep. of China)

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**EP-4-006**  
**Office supplies/furniture**  
**chairs**  

**Highly functional and eco-friendly office chair “Spina”**

**Environmental performance**
Use of recycled materials: Parts made from 100% recycled polypropylene out of recovered battery cases are used for the mechanism cover, levers, etc. Reduction of material use: The inner shell with numerous slits in the seat pan provides a cushion effect, reducing the amount of urethane compared with conventional products. Material labeling: The materials used in most plastic parts are labeled to facilitate separation and recycling at the time of disposal. We offset whole greenhouse gas emitted from the entire life cycle of all products of this model (domestic sale only). This project obtained public certification for Carbon offsetting.

**Product performance**
With the passive slide seat (PSS) system that makes the seat sink and slide back when seated, and the active lumber support (ALS) system that makes the lumber part of the chair's backrest push forward, Spina chair supports the user's back properly even when sitting back and leaning or sitting forward. This human-friendly Spina chair won the Gold Prize of the Good Design Award in 2007.

**ITOKI CORPORATION**
4-12, Imafukuhigashi 1-chome, Joto-ku, Osaka, 536-0002, Japan
Tel +81-6-6935-2200  Fax +81-6-6935-2268
URL http://www.itoki.jp/
URL http://www.itoki.jp/spina/
URL http://www.itoki.jp/udeco/communication/erreports.html

Available in: Japan, North America
**NOVITE Folding Chair PA1310**

**Environmental performance**
The entire chair is made of 100% polypropylene, a recyclable and renewable material.

**Product performance**
The entire chair comprises three components and two fittings, and it has surpassed the ANSI/BIFMA standards to be able to withstand 120kg of weight.

**Shiang Ye Industrial Co., Ltd**
No. 32, Huadong Rd., Daliao Dist., Kaohsiung City, Taiwan, 831, Republic of China
Tel +886-7-7872120  Fax +886-7-7874584
E-mail elly@chairking.com.tw
URL http://www.chairking.com.tw

Available in: Worldwide

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**ROSA Stacking Chair PA2310**

**Environmental performance**
The entire chair is made of 100% polypropylene, a recyclable and renewable material.

**Product performance**
The sharp angle-free, curvature design offers a sense of comfort. The zero screw design is suitable for indoors and outdoors, and the zero metal parts warrant rustfree endurance against atmospheric moisture. The UV-inhibited plastic protection safeguards the color from fading under the sunlight. Its stackable feature facilitates transporting multiple units at once. It adopts a single material to simplify the recyclable and reusing processes.

**Shiang Ye Industrial Co., Ltd**
No. 32, Huadong Rd., Daliao Dist., Kaohsiung City, Taiwan, 831, Republic of China
Tel +886-7-7872120  Fax +886-7-7874584
E-mail elly@chairking.com.tw
URL http://www.chairking.com.tw

Available in: Worldwide
CX office desk made in the pursuit of simplified design

**Environmental performance**
CX desk has the following eco-friendly features.
Simplified design: The desk’s weight was reduced by approximately 13% compared with our company's conventional products through simplified design to eliminate duplicated desk legs and modestly panels and downsized basic parts (in case of an island-type, face-to-face layout for 8 people).
Improved recyclability: Metals (steel, aluminum) are used for 96% of the total weight of the product (in case of non-pedestal desk).
Use of an eco-melamine desktop: The surface material of the desktop is made of originally developed eco-melamine using 52% waste paper.
Use of recycled materials: Recycled materials are used for 43% of the resin parts (in case of pedestal desk).

**Product performance**
CX desk is a neo-standard desk that meets a variety of office needs through the pursuit of simplified design for improved functionality and simplified structure.

**ITOKI CORPORATION**
4-12, Imafukuhigashi, 1-chome, Joto-ku, Osaka, 536-0002, Japan
Tel +81-6-6935-2200 Fax +81-6-6935-2268
URL http://www.itoki.jp/
URL http://www.itoki.jp/products/desk/cx/
URL http://www.itoki.jp/udeco/communication/erreports.html

Available in: Japan

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Yes Eco-Friendly Notebook DYNB-09001

**Environmental performance**
The FSC™️ label shows that the notebook is made out of materials coming from a well-managed forest. The FSC™️ label provides the link between responsible production and consumption and thereby enables the consumer to make socially and environmentally responsible purchasing decisions.

**Product performance**
Helps you stay organized and capture your good ideas. This notebook is perfect for keeping notes for class, work or personal projects.

**Da Yeh Paper Co., Ltd.**
3F., No. 351, Sec. 2, Zhongshan Rd., Zhonghe Dist., New Taipei City, Taiwan, 235, Republic of China
Tel +886-2-3234-4699 Fax +886-2-3234-4696
E-mail stardust@printmax.com.tw
URL http://www.dayeh.net

Available in: Taiwan (Rep. of China)
**EP-4-011**

**Office supplies/furniture**

"United, We Help the Earth" 2011 Calendar DYCLD-099001

**Environmental performance**

The FSC™ label shows that the calendar is made out of materials coming from a well-managed forest. The FSC™ label provides the link between responsible production and consumption and thereby enables the consumer to make socially and environmentally responsible purchasing decisions.

**Product performance**

Three local illustrators were invited to co-work on the creation of the calendar. There are 13 environmental themed paintings which show the artists’ care for the earth, especially for forests. In each month, there is a paragraph introducing some environmental knowledge. Above all, this calendar is printed with FSC™ certificated paper and under FSC™ CoC certification, ensuring that the materials of this product come from well-managed forests.

**Da Yeh Paper Co., Ltd.**

3F., No. 351, Sec. 2, Zhongshan Rd., Zhonghe Dist., New Taipei City, Taiwan, 235, Republic of China
Tel +886-2-3234-4699   Fax +886-2-3234-4696
E-mail stardust@printmax.com.tw
URL http://www.dayeh.net

Available in: Taiwan (Rep. of China)

**EP-4-012**

**Office supplies/furniture**

Recycled Kraft Paper Pipe File Folder Series

**Environmental performance**

Certified by Green Mark (made of recycled paper with at least 50%), our Kraft paper product need not to chop at trees, and can be 100% recycled after use.

**Product performance**

Made mainly from recycled materials, our Eco Friendly File Folder Series are produced with particular attention to controlling the pollution generated during production and minimizing the environmental impact created during recycling.

**HSIN YING STATIONERY INDUSTRIAL CO., LTD.**

No.33, Pao An St., Taipei City, Taiwan, 103, Republic of China
Tel +886-2-25570463   Fax +886-2-25570466
E-mail regina@ms79.hinet.net
URL http://www.regina.com.tw

Available in: Japan, Taiwan (Rep. of China)
### EP-4-013  Office supplies/furniture

#### Recycled Kraft Paper Lever Arch File Folder Series

**Environmental performance**
Certified by Green Mark (made of recycled paper with at least 50%), our Kraft paper product need not to chop at trees, and can be 100% recycled after use.

**Product performance**
Made mainly from recycled materials, our Eco Friendly File Folder Series are produced with particular attention to controlling the pollution generated during production and minimizing the environmental impact created during recycling.

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**HSIN YING STATIONERY INDUSTRIAL CO., LTD.**

No.33, Pao An St., Taipei City, Taiwan, 103, Republic of China  
Tel +886-2-25570463  Fax +886-2-25570466  
E-mail regina@ms79.hinet.net  
URL http://www.regina.com.tw

Available in: Japan, Taiwan (Rep. of China)

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### EP-4-014  Office supplies/furniture

#### Recycled Kraft Paper Spring File Folder Series

**Environmental performance**
Certified by Green Mark (made of recycled paper with at least 50%), our Kraft paper product need not to chop at trees, and can be 100% recycled after use.

**Product performance**
Made mainly from recycled materials, our Eco Friendly File Folder Series are produced with particular attention to controlling the pollution generated during production and minimizing the environmental impact created during recycling.

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**HSIN YING STATIONERY INDUSTRIAL CO., LTD.**

No.33, Pao An St., Taipei City, Taiwan, 103, Republic of China  
Tel +886-2-25570463  Fax +886-2-25570466  
E-mail regina@ms79.hinet.net  
URL http://www.regina.com.tw

Available in: Japan, Taiwan (Rep. of China)
Eco-product // Office supplies/furniture

**EP-4-015**

**Recycled Kraft Paper File Box Series**

**Environmental performance**
Certified by Green Mark (made of recycled paper with at least 50%), our Kraft paper product need not to chop at trees, and can be 100% recycled after use.

**Product performance**
Made mainly from recycled materials, our Eco Friendly File Folder Series are produced with particular attention to controlling the pollution generated during production and minimizing the environmental impact created during recycling.

**HSIN YING STATIONERY INDUSTRIAL CO., LTD.**

No.33, Pao An St., Taipei City, Taiwan, 103, Republic of China  
Tel +886-2-25570463  Fax +886-2-25570466  
E-mail regina@ms79.hinet.net  
URL http://www.regina.com.tw

Available in: Japan, Taiwan (Rep. of China)

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**EP-4-016**

**Recycled Kraft Paper Magazine Holder Series**

**Environmental performance**
Certified by Green Mark (made of recycled paper with at least 50%), our Kraft paper product need not to chop at trees, and can be 100% recycled after use.

**Product performance**
Made mainly from recycled materials, our Eco Friendly File Folder Series are produced with particular attention to controlling the pollution generated during production and minimizing the environmental impact created during recycling.

**HSIN YING STATIONERY INDUSTRIAL CO., LTD.**

No.33, Pao An St., Taipei City, Taiwan, 103, Republic of China  
Tel +886-2-25570463  Fax +886-2-25570466  
E-mail regina@ms79.hinet.net  
URL http://www.regina.com.tw

Available in: Japan, Taiwan (Rep. of China)
**Environmental performance**
The product is made of recycled paper with at least 50% recycled paper content, and this minimal recycled paper content is subject to future revision in accordance with the improvement in paper production technology. And the product can be recycled after use.

**Product performance**
For file sorting management.

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**Lan-I Huang Enterprise Co., LTD.**

NO.11-1, Lane 8, Chengtian Rd., Tucheng Dist., New Taipei City, Taiwan, 236, Republic of China
Tel +886-2-2268-2211    Fax +886-2-2268-3320
E-mail Lan.chyn@msa.hinet.net
URL http://www.lanchyn.com

Available in: Taiwan (Rep. of China)
Eco-product // Office supplies/furniture

EP-4-019

Recyclable File Box LC60-R

Environmental performance
The product is made of recycled paper with at least 50% recycled paper content, and this minimal recycled paper content is subject to future revision in accordance with the improvement in paper production technology. And the product can be recycled after use.

Product performance
For file sorting management.

Lan-I Huang Enterprise Co., LTD.

NO.11-1, Lane 8, Chengtian Rd., Tucheng Dist., New Taipei City, Taiwan, 236, Republic of China
Tel +886-2-2268-2211  Fax +886-2-2268-3320
E-mail Lan.chyn@msa.hinet.net
URL http://www.lanchny.com

Available in: Taiwan (Rep. of China)

EP-4-020

Paper Laminated Binders SG940H

Environmental performance
The product is made of recycled paper with at least 50% recycled paper content, and this minimal recycled paper content is subject to future revision in accordance with the improvement in paper production technology. And the product can be recycled after use.

Product performance
For documents, data sorting, grouping and filing.

STRONG STATIONERY MFG. CO., LTD.

No.96, Shin-Lo Rd., Tainan City, Taiwan, 702, Republic of China
Tel +886-6-2636777  Fax +886-6-2611711
E-mail strongfm@ms29.hinet.net
URL http://www.strongfile.com/

Available in: Taiwan (Rep. of China)
### EP-4-021

**Paper Laminated Binders SG9510**

**Environmental performance**

The product is made of recycled paper with at least 50% recycled paper content, and this minimal recycled paper content is subject to future revision in accordance with the improvement in paper production technology. And the product can be recycled after use.

**Product performance**

For documents, data sorting, grouping and filing.

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**STRONG STATIONERY MFG. CO., LTD.**

No.96, Shin-Lo Rd., Tainan City, Taiwan, 702, Republic of China
Tel +886-6-2636777  Fax +886-6-2611711
E-mail strongfm@ms29.hinet.net
URL http://www.strongfile.com/

Available in: Taiwan (Rep. of China)

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### EP-4-022

**Paper Laminated Binders SG935**

**Environmental performance**

The product is made of recycled paper with at least 50% recycled paper content, and this minimal recycled paper content is subject to future revision in accordance with the improvement in paper production technology. And the product can be recycled after use.

**Product performance**

For documents, data sorting, grouping and filing.

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**STRONG STATIONERY MFG. CO., LTD.**

No.96, Shin-Lo Rd., Tainan City, Taiwan, 702, Republic of China
Tel +886-6-2636777  Fax +886-6-2611711
E-mail strongfm@ms29.hinet.net
URL http://www.strongfile.com/

Available in: Taiwan (Rep. of China)
## Paper Laminated Binders SG920A

**Environmental performance**
The product is made of recycled paper with at least 50% recycled paper content, and this initial recycled paper content is subject to future revision in accordance with the improvement in paper production technology. And the product can be recycled after use.

**Product performance**
For documents, data sorting, grouping and filing.

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### STRONG STATIONERY MFG. CO., LTD.
No.96, Shin-Lo Rd., Tainan City 702, Taiwan, 702, Republic of China
Tel +886-6-2636777  Fax +886-6-2611711
E-mail strongfm@ms29.hinet.net
URL http://www.strongfile.com/

Available in: Taiwan (Rep. of China)

## Paper Laminated Binders SG9739

**Environmental performance**
The product is made of recycled paper with at least 50% recycled paper content, and this initial recycled paper content is subject to future revision in accordance with the improvement in paper production technology. And the product can be recycled after use.

**Product performance**
For documents, data sorting, grouping and filing.

### STRONG STATIONERY MFG. CO., LTD.
No.96, Shin-Lo Rd., Tainan City 702, Taiwan, 702, Republic of China
Tel +886-6-2636777  Fax +886-6-2611711
E-mail strongfm@ms29.hinet.net
URL http://www.strongfile.com/

Available in: Taiwan (Rep. of China)
### EP-4-025

**Office supplies/furniture**

The raised floor made from plastic

#### 100% recycled PET panels for groove-wiring double floors

**Environmental performance**

This wiring floor is made of recycled PET bottle flakes to effectively use resources to preserve the global environment. CO₂ emissions can be reduced by 32kg by recycling PET bottles to make 1m² panels.

**Product performance**

1. The transparent cover allows wiring in grooves to be checked at a glance by just turning over the tile carpets.
2. The wire capacity of FPZ3000 is approx. three times that of our conventional wiring floor (FP). Therefore, it can also accommodate wiring in offices with many PCs.
3. The finished floor panel thickness is only 50mm. The thin panels can also be used in offices with a low ceiling.
4. The panel joint rings securely fix the panel corners. They prevent panel displacement and provide high resistance to earthquakes.

**Panasonic Co., Ltd.**

Kadoma1048, Kadoma city, Osaka pref., 571-8686, Japan

Tel +81-6-6909-0611  Fax +81-6-6908-2179

URL http://panasonic.net/

URL http://panasonic.co.jp/products/

URL http://panasonic.net/CSR/

Available in: Japan, Asia, Indonesia

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### EP-4-026

**Office supplies/furniture**

Continuous form paper

#### Green Form

**Environmental performance**

Innovative eco-friendly paper for continuous computer form dot matrix printing, developed by SCG Paper with the intention to support organizations and businesses while promoting social responsibility and sustainable living by using EcoFiber 30% as a material to substitute virgin fiber sourced from trees. The product is made in accordance with "Green Label" standard to guarantee the quality which is equivalent to paper made from virgin fiber.

**Product performance**

- Basis weights: 50, 60 gsm
- Available sizes: 9 inches, 15 inches, 18 inches
- Convention: Reel to Fanfold
- Features: High stiffness

**Thai Paper Co., Ltd. in SCG Paper**

1 Siam Cement Rd. Bangsue, Bangkok, 10800, Thailand

Tel +66 2 586 1000  Fax +66 2 586 2070

E-mail nuttavuv@scg.co.th

URL http://thaipaper.com


Available in: Thailand
We develop environmentally friendly products. Since 2003, we have been selling recyclable desk calendars made solely of paper without paste or fittings. In 2008, we launched a business to offset carbon through afforestation and began selling Carbon Offset Calendars. For every 100 copies of the calendar that are made, a larch is planted. Every larch absorbs 155 kg of CO₂.

The Ecology calendar is compact, and features a large space for making notes. Size: 119 x 150 mm, 1 cover + 12 main sheets, logo (VOC free, waterless printing)

Pripress Center Corporation
2-3, North2 West14, Chuoh-ku, Sapporo-shi, Hokkaido, 060-0002, Japan
URL http://www.pripress.co.jp/

Available in: Japan
Environmental performance
We develop environmentally friendly products. Since 2003, we have been selling recyclable desk calendars made solely of paper without paste or fittings. In 2008, we launched a business to offset carbon through afforestation and began selling Carbon Offset Calendars. For every 100 copies of the calendar that are made, a larch is planted. Every larch absorbs 155 kg of CO₂.

Product performance
The Window Memo is a fun calendar with a colorful and stylish design. Size: 120 x 180 mm, 12 main sheets, logo (VOC free, waterless printing)

Pripress Center Corporation
2-3, North2 West14, Chuoh-ku, Sapporo-shi, Hokkaido, 060-0002, Japan
URL http://www.pripress.co.jp/

Available in: Japan

Environmental performance
We develop environmentally friendly products. Since 2003, we have been selling recyclable desk calendars made solely of paper without paste or fittings. In 2008, we launched a business to offset carbon through afforestation and began selling Carbon Offset Calendars. For every 100 copies of the calendar that are made, a larch is planted. Every larch absorbs 155 kg of CO₂.

Product performance
The Index Calendar has outstanding functionality and features easy-to-use tabs and a large space for making notes. Size: 140 x 180 mm, 1 cover + 6 main sheets, logo (soy ink)

Pripress Center Corporation
2-3, North2 West14, Chuoh-ku, Sapporo-shi, Hokkaido, 060-0002, Japan
URL http://www.pripress.co.jp/

Available in: Japan
Eco Green New Year’s Cards (postcards)

**Environmental performance**

When we initiated a carbon offset business in 2008, we launched carbon offset-type Green Eco New Years Cards in bags a conventional way of selling cards along with an opportunity for consumers to participate in afforestation initiatives. Specially, we sold sets of three ecologically designed New Year’s cards with lottery numbers and QR codes. The QR codes enable card recipients to see that approximately 400 grams of CO₂ is absorbed per card through afforestation. The cards in bags are sold at supermarket, bookstores, fancy goods stores, etc. In 2008, 2,500 sets were sold with a projected offset of about 5 tons of CO₂ by the November of 2009. In 2009, 7,500 sets were sold with a projected offset of about 30 tons of CO₂ by 2010. In 2010, 10,000 sets were sold with a projected offset of about 48 tons of CO₂ by 2011.

**Pripress Center Corporation**

2-3, North2 West14, Chuo-ku, Sapporo, Hokkaido, 060-0002, Japan
URL http://www.pripress.co.jp/
Eco-product // Apparel/textiles

EP-5-001

100% Recycled PET Monofilament (Natural) JS-Series (Natural White)

Environmental performance
Each kilogram of product requires approximately 60 pieces of recycled 600cc PET bottles. This helps reduce the consumption of petrochemical materials, water and electricity.

Product performance
Made of polyester filaments generated from 100% PET bottle-reclaimed PET chips. Applicable to zippers, wigs, Velcro fasteners, etc. Having the same quality as if virgin PET chips are used.

RI-THAI INTERNATIONAL INC.
7F., No.186, Sec. 4, Nanjing E. Rd., Songshan Dist., Taipei City, Taiwan, 105, Republic of China
Tel +886-2-25786188 Fax +886-2-25796388
E-mail kay10@rithai.com
URL http://www.rithai.com

Available in: Japan, Europe, North America, Central America, South America, U.S.A.

EP-5-002

100% Recycled PET Monofilament (Black) JS-Series (Black)

Environmental performance
Each kilogram of product requires approximately 60 pieces of recycled 600cc PET bottles. This helps reduce the consumption of petrochemical materials, water and electricity.

Product performance
Made of polyester filaments generated from 100% PET bottle-reclaimed PET chips. Applicable to zippers, wigs, Velcro fasteners, etc. Having the same quality as if virgin PET chips are used.

RI-THAI INTERNATIONAL INC.
7F., No.186, Sec. 4, Nanjing E. Rd., Songshan Dist., Taipei City, Taiwan, 105, Republic of China
Tel +886-2-25786188 Fax +886-2-25796388
E-mail kay10@rithai.com
URL http://www.rithai.com

Available in: Japan, Europe, North America, Central America, South America, U.S.A.
Eco-product // Apparel/textiles

EP-5-003

Spun 10’s/1

Environmental performance
Recycle PET yarn is made from recycled PET bottles. Its advantages include wastage decrease, educational meaning of Recycle PET, environmental burden decrease and so on. Recycle PET yarn also has the same features as polyester yarn, such as durable and good colour fastness. In order to respond to the Green policy of the government, we have developed and produced the Recycle PET material several years ago and were among the earlier ones to be granted the Green mark. We will keep innovation as our goal and create the best products for the environment.

Product performance
Recycle PET yarn is made from 100% post-consumer PET bottles. With the spirit of recycling, we spin all kinds of yarns through washing the bottles, flaking and drying. Finally the recycled PET bottles become the chips. The recycle PET yarn comes in various designs, such as weaving and stitch.

ECOMAX
No.117, Biantou Rd., Shengang Township, Changhua County, Taiwan, 509, Republic of China
Tel +886-4-798-2028  Fax +886-4-798-0533
E-mail sales@ecomaxtex.com.tw
URL  http://www.ecomaxtex.com

Available in: Asia, Europe, North America, Central America, South America, U.S.A.

EP-5-004

Recycled Nylon Yarn 15D～1890D

Environmental performance
The nylon chips used are produced 100% from recycled materials to effectively reduce the demand of virgin CPL by 15% (21600 ton/year) and cut carbon emissions by 14.9% (21499 ton of CO2/year, equivalent to the amount that can be saved by planting and growing 46233 trees for 40 years). In addition, energy saving and waste water reduction are simultaneously achieved.

Product performance
Our company collects waste nylon cloths, chips and threads, Velcro fasteners, and like scraps through dedicated recycle facilities and makes CPL out of these recyclables. The CPL thus produced is similar in quality to virgin CPL and is turned into nylon fibers for making various eco-friendly customized nylon threads.

FORMOSA CHEMICALS & FIBRE CORPORATION
No.1, Jhongyang Industrial Park, Singang Township, Chiayi County, Taiwan, 61642, Republic of China
Tel +886-928-062-189  Fax +886-5-3770430
E-mail CKY.NYLON@FCFC.COM.TW

Available in: Japan, North America, Central America, South America, U.S.A., Taiwan (Rep. of China)
EP-5-005  

100% Recycled Polyester Yarn RePET® Drawn Textured Yarn (RePET® DTY)

**Environmental performance**
Compared to the traditional production process, the RePET® recycling process saves energy consumption by 52.6% and reduces CO₂ emission by 54.6%.

The RePET® Recycling Process:
Pre-consumer bottle -> Bale breaker/Vibrating separator -> Label removing -> Crushing -> Washing & Sifting -> Clean flake -> Pelletizing -> Recycled chips -> RePET® yarn -> Apparel /Textile

**Product performance**
1. Made from recycled PET bottles. No petrochemical materials required.
2. Saving natural resources and relieving the load on the environment.
3. High quality for all purposes.

LEALEA ENTERPRISE CO., LTD.

11F., No.162, Sung-Chiang Rd., Taipei City, Taiwan, 104, Republic of China
Tel +886-2-21001188-1127 Fax +886-2-21002688
E-mail yckao@lealea.com.tw
URL http://www.libolon.com.tw

Available in: Worldwide

EP-5-006  

100% Recycled Polyester Yarn RePET® Spin Drawn Yarn (RePET® SDY)

**Environmental performance**
Compared to the traditional production process, the RePET® recycling process saves energy consumption by 52.6% and reduces CO₂ emission by 54.6%.

The RePET® Recycling Process:
Post-consumer bottle -> Bale breaker/Vibrating separator -> Label removing -> Crushing -> Washing & Sifting -> Clean flake -> Pelletizing -> Recycled chips -> RePET® yarn -> Apparel /Textile

**Product performance**
1. Made from recycled PET bottles. No petrochemical materials required.
2. Saving natural resources and relieving the load on the environment.
3. High quality for all purposes.

LEALEA ENTERPRISE CO., LTD.

11F., No.162, Sung-Chiang Rd., Taipei City, Taiwan, 104, Republic of China
Tel +886-2-21001188-1127 Fax +886-2-21002688
E-mail yckao@lealea.com.tw
URL http://www.libolon.com.tw

Available in: Worldwide
### EP-5-007

**Environmental performance**
150 pieces of clothing can be made from 3700 recycled PET bottles, effectively reducing waste and the trash on this densely populated Earth. In addition, using recycled materials reduces energy consumption and emission of carbon dioxide, thereby slowing down global warming.

**Product performance**
This is a kind of recycled polyester fiber, made from recycled PET bottles. Its physical and chemical properties are similar to those of normal polyester, and it is suitable for making adult apparel. Suitable for Circular knitting, Neoprene, Tricot, Pantyhose, Socks, Underwear, Warp, Weft, N/C, C/N interwoven.

**Nan Ya Plastics Corporation**
5F., No.201, Tun Hwa North Rd., Taipei, Taiwan, 105, Republic of China
Tel +886-2-23718331-654    Fax +886-3-3970056
E-mail my258@npc.com.tw

Available in: Asia, Europe, North America, Central America, South America, U.S.A.

### EP-5-008

**Environmental performance**
150 pieces of clothing can be made from 3700 recycled PET bottles, effectively reducing waste and the trash on this densely populated Earth. In addition, using recycled materials reduces energy consumption and emission of carbon dioxide, thereby slowing down global warming.

**Product performance**
This is a kind of recycled polyester fiber, made from recycled PET bottles. Its physical and chemical properties are similar to those of normal polyester, and it is suitable for making adult apparel. When processed with special additives, the fiber can be made into a strong, stretchable, breathable, absorbent or soft fabric, improving comfort and beauty of apparel.

**Nan Ya Plastics Corporation**
5F., No.201, Tun Hwa North Rd., Taipei, Taiwan, 105, Republic of China
Tel +886-2-23718331-654    Fax +886-3-3970056
E-mail my258@npc.com.tw

Available in: Asia, Europe, North America, Central America, South America, U.S.A.
EP-5-009  Apparel/textiles

Polyester Full-Orientated Yarns (SDY) 10d～300d

Environmental performance
- Made of regenated textile (from 100% recycled PET bottles)
- No content of Chromium (hexavalent)
- No content of MAK III A1 and III A2 classification-dye

Product performance
This is a kind of recycled polyester fiber, made from recycled PET bottles. Its physical and chemical properties are similar to those of normal polyester, and it is suitable for making adult apparel. When processed with special additives, the fiber can be made into a strong, stretchable, breathable, absorbent or soft fabric, improving comfort and beauty of apparel.

Nan Ya Plastics Corporation
5F., No.201, Tun Hwa North Rd., Taipei, Taiwan, 105, Republic of China
Tel +886-2-23718331-654   Fax +886-3-3970056
E-mail my258@npc.com.tw

Available in: Asia, Europe, North America, Central America, South America, U.S.A.

EP-5-010  Apparel/textiles

Spandex Covering Yarn, Spun Composition Yarn, Dyed Nylon, Dyed Polyester

Environmental performance
The product is certified according to Oeko-Tex Standard 100, which is a globally uniform testing and certification system for textile raw materials, intermediate and end products at all stages of production. Its tests for harmful substances comprise substances which are prohibited or regulated by law, chemicals which are known to be harmful to health and parameters which are included as a precautionary measure to safeguard health.

Product performance
Spandex covered yarn is made by spinning a small amount (about 5%-20%) of spandex with a rigid yarn so that the resultant fabric has a different texture and appearance from conventional fabrics. Color yarn is false twisted by a machine other than that used for the raw white yarn, so as for the yarn to have higher elasticity.

MAW CHAWG ENTERPRISIE CO., LTD.
No.374, Fanhua Rd., Siouhsuei Township, Changhua County, Taiwan, 504, Republic of China
Tel +886-4-7683959   Fax +886-4-7683974
E-mail machangx.yarn@machangx.com
URL http://www.machangx.com

Available in: Worldwide
**Eco-product // Apparel/textiles**

**EP-5-011**

**100% Recyclable Green/White DA.AI Eco Garment D014WH150/90-B, D014GR150/180-B**

**Environmental performance**
Made of yarns produced only from "green" and "white" PET bottles. The yarns are in their original colors and totally undyed. Fabricated 100% from eco-friendly materials—even the sawing threads and buttons are recyclable. Once entering the recycle system, the entire piece of garment can be melted, recycled and turned into new clothes. Each piece of DA.AI garment takes at least ten PET bottles to complete.

**Product performance**
 Moisture-removing, fast drying, totally undyed, 100% recyclable.

**DA.AI TECHNOLOGY CO., LTD.**
5F., No. 69, Zhouzi St., Neihu District, Taipei City, Taiwan, 114, Republic of China
Tel +886-2-2657-5245-1882  Fax +886-2-2657-5265
E-mail eve_lee@daait.com
URL http://www.daait.com

Available in: Oceania, North America, Central America, South America, U.S.A., Singapore, Philippines, Malaysia

**EP-5-012**

**Super-Light Padded Jacket D008102BL-M**

**Environmental performance**
With a special eco-friendly lightweight shell, the jacket is lighter than ordinary padded jackets. The completion of each jacket takes at least 35 pieces of recycled PET bottles.

**Product performance**
1. The lining is made of hollow coffee yarn whose thermal insulation performance is as good as feather and which also removes odors.
2. With detachable sleeves, the jacket can be transformed into a vest.
3. The shell is water repellent and windproof.
4. Having a stow-away hood.
5. Complete with a storage bag for easy storage.

**DA.AI TECHNOLOGY CO., LTD.**
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E-mail eve_lee@daait.com
URL http://www.daait.com

Available in: North America, Central America, South America, U.S.A.
Eco-product // Apparel/textiles

EP-5-013

Apparel/textiles
clothes

Fashion T-Shirt Celebrating the 100th Anniversary of ROC D006006BL-100Y

Environmental performance
Each T-shirt requires at least seven recycled PET bottles.

Product performance
Features: Moisture-removing, fast drying, producing a cool sensation.
Functions: Profiled cross-section fibers.

DA.AI TECHNOLOGY CO., LTD.
5F., No. 69, Zhouzi St., Neihu District, Taipei City, Taiwan, 114, Republic of China
Tel +886-2-2657-5245-1882 Fax +886-2-2657-5265
E-mail eve_lee@daait.com
URL http://www.daait.com

Available in: Malaysia

EP-5-014

Apparel/textiles
clothes

Eco-Friendly Super-Fine Antistatic Fleece Poncho for Toddlers D025001PINK/D025001BU

Environmental performance
The fabric used in this product is proven safe and harmless to babies’ skin by the Bureau of Standards, Metrology and Inspection of the Ministry of Economic Affairs, Taiwan. The completion of each poncho takes 20 pieces of recycled PET bottles.

Product performance
1. The buttons are specially designed to prevent scratching the baby's skin.
2. With buttons inside and outside the collar.
3. The two slits on the sides allow free movement of the arms.
4. Antistatic.
5. Super-fine fibers.

DA.AI TECHNOLOGY CO., LTD.
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E-mail eve_lee@daait.com
URL http://www.daait.com

Available in: Oceania, North America, Central America, South America, U.S.A., Malaysia
**EP-5-015**

**Apparel/textiles**

**Eco Fleece Blanket D014GR150/180-B**

**Environmental performance**
This product requires 54 pieces of green recycled PET bottles, is totally undyed, and reduces 1361g of carbon emissions, 28 cc of petro consumption, and 4784 cc of water resource consumption. This product received the world's first Carbon Footprint Label from the TUV Rheinland Group of Germany.

**Product performance**
Functions: Warm-keeping, breathable, undyed.

**DA.AI TECHNOLOGY CO., LTD.**
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Tel +886-2-2657-5245-1882 Fax +886-2-2657-5265
E-mail eve_lee@daait.com
URL http://www.daait.com

Available in: North America, Central America, South America, U.S.A., Philippines, Malaysia

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**EP-5-016**

**Apparel/textiles**

**The 100% PET Bottle Recycled, Regenerated Color Fiber BR Series of Color Fibers**

**Environmental performance**
Using 100% PET bottle fragments as the raw material for producing customized color fiber, it frees the customer from having to dye the color, cutting down dyeing energy consumption, carbon discharge and wastewater pollution. Adopting dye colorings confirming to the EU RoHS guideline to reduce the burden of eco-environmental pollution.

**Product performance**
Using 100% PET bottle fragments as the raw material for producing customized color (dope dyed) fiber, the fiber’s physical property allows a preferred colorization, contributing to a reduced loss in yarn spinning and weaving, reducing the cost. It features a sunlight resistant bonding level at over the gray mark level 4.

**True Young Co., Ltd.**
No. 8, Lising St., Guantian Dist., Tainan City, Taiwan, 720, Republic of China
Tel +886-6-6986205 Fax +886-6-6984984
E-mail tycoldt@ms9.hinet.net
URL http://www.trueyoung.com.tw

Available in: Taiwan (Rep. of China)
**EP-5-017**  
Apparel/textiles  
**polyester short fiber**  

### The Infrared Fiber (Functional Regenerated Polyester) WA

**Environmental performance**
Adopting 100% scrapped PET bottle fragments as the raw material, the infrared mother pallets are added for directly drawing and producing the infrared fiber, freeing the customer from having to process it into pallets to conserve energy and reduce carbon emissions, and also helping to reduce resource depletion.

**Product performance**
Natural ceramic powder is adopted during the infrared process, which absorbs the light and heat emitted by the human body and nature, and then releases 8~12 nanometer wavelengths, which is close to the 9.36 micron wavelength the human body emits, and in turn to create a resonance to achieve a fine health enhancing property. The high concentration infrared fiber has been tested to provide good bacterial-fighting and bacteria-eliminating effect. The natural ceramic content complies with the Atomic Energy Council "Administrative Regulations for Natural Radioactive Material" standard, and can offer a continued heat insulation effect in punishing cold weather conditions.

**True Young Co., Ltd.**  
No. 8, Lising St., Guantian Dist., Tainan City, Taiwan, 720, Republic of China  
Tel +886-6-6986205  Fax +886-6-6984984  
E-mail tycoltd@ms9.hinet.net  
URL http://www.trueyoung.com.tw

Available in: Taiwan (Rep. of China)

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**EP-5-018**  
Apparel/textiles  
**polyester short fiber**  

### The Silver Ion Bacteria-Fighting Fiber (Functional Regenerated Polyester) AB

**Environmental performance**
Adopting 100% scrapped PET bottle fragments as the raw material, the bacteriafighting mother pallets are added for directly drawing and producing the bacteriafighting fiber, freeing the customer from having to process it into pallets to conserve energy and reduce carbon emissions, and also helping to reduce resource depletion.

**Product performance**
Adopting silver ions from ISHIZUKA GLASS CO., LTD., Japan, silver ions can disrupt vector spores’ DNA and RNA synthesis, suppress DNA replication, deriving bacteria of agility thus die naturally. When the vector is destroyed, silver ions are released from the spores and continue to create oxidation reaction with other organic bacteria, and once again eliminate the vector in generating the cyclical bacteria elimination and bacteria-fighting property.

**True Young Co., Ltd.**  
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E-mail tycoltd@ms9.hinet.net  
URL http://www.trueyoung.com.tw

Available in: Taiwan (Rep. of China)
Eco-product // Apparel/textiles

### EP-5-019

**Apparel/textiles**

**polyester short fiber**

**The Fame-Retardant Fiber (Functional Regenerated Polyester) NA**

**Environmental performance**

Using 100% PET bottle fragments as the raw material, the flame retardant mother pellets are added for directly drawing and producing the flame-retardant fiber, freeing the customer from having to process the palettes, and helping to achieve energy-saving, carbon reduction and cutting down resource depletion. Adopting sulfite serial flame retardants that comply with environmental protection demands.

**Product performance**

With excellent flame retardant property, and an LOI rating at over 32 (exceeding the general flame retardant, heat-resistant standard LOI rating of 28), it is suitable for automotive, interior decoration, apparel material and related applications, with sulfite retardants complying with environmental protection demands.

**True Young Co., Ltd.**

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URL http://www.trueyoung.com.tw

Available in: Taiwan (Rep. of China)

### EP-5-020

**Apparel/textiles**

**polyester short fiber**

**The Cooling Fiber (Functional Regenerated Polyester) CO**

**Environmental performance**

Using 100% waste PET bottle fragments as the raw material, the cooling mother palettes are added for directly drawing and producing the cooling fiber, freeing the customer from processing the palettes, and helping to reduce carbon as well as resource depletion. By relying on the cooling feel brought by the surface material, turning up the air-conditioner by 1 °C can save 3-5% of the electricity billing.

**Product performance**

Featuring slow heat absorption and quick heat ventilation, it offers a cooling touch in the summer as the skin cools instantly by 1-2 °C, and under extended sunlight exposure for a period of time, it creates a cooling temperature differential of 4-6 °C.

**True Young Co., Ltd.**

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E-mail tycolltd@ms9.hinet.net
URL http://www.trueyoung.com.tw

Available in: Taiwan (Rep. of China)
Eco-product // Apparel/textiles

EP-5-021

Polyester Staple Fibers 0.8～20d

**Environmental performance**

150 pieces of clothing can be made from 3700 recycled PET bottles, effectively reducing waste and the trash on this densely populated earth. In addition, using recycled materials reduces energy consumption and emission of carbon dioxide, thereby slowing down global warming.

**Product performance**

This is a kind of recycled polyester fiber, made from recycled PET bottles. Its physical and chemical properties are similar to those of normal polyester, and it is suitable for making adult apparel. When processed with special additives, the fiber can be made into a strong, stretchable, breathable, absorbent or soft fabric, improving comfort and beauty of apparel.

Nan Ya Plastics Corporation

5F., No.201, Tun Hwa North Rd., Taipei, Taiwan, 105, Republic of China
Tel +886-2-23718331-654 Fax +886-3-3970056
E-mail my258@npc.com.tw

Available in: Asia, Europe, North America, South America, U.S.A.

EP-5-022

100% Polyester Recycle Fiber (Raw White Filament) R-Series

**Environmental performance**

Unlike natural fibers, polyester can be recycled to near-virgin or virgin-like quality. Each kilogram of product consumes approximately one kilogram of wastes.

**Product performance**

Recycled plastics are used.

Far Eastern New Century Corporation.

No.369, 3rd Neighborhood, Yadong Sec., Wunshan Rd., Sinpu Township, Hsinchu County, Taiwan, 305, Republic of China
Tel +886-3-6209000-3162 Fax +886-3-6209034
E-mail ktkuo@cfp.fenc.com
URL http://www.fenc.com

Available in: Worldwide
**EP-5-023**

### Polyester Recycle Fiber (Black Filament) R-Series

**Environmental performance**
Unlike natural fibers, polyester can be recycled to near-virgin or virgin-like quality. Each kilogram of product consumes approximately one kilogram of wastes.

**Product performance**
Recycled plastics are used.

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**Far Eastern New Century Corporation.**

No.369, 3rd Neighborhood, Yadong Sec., Wunshan Rd., Sinpu Township, Hsinchu County, Taiwan, 305, Republic of China
Tel +886-3-6209000-3162 Fax +886-3-6209034
E-mail ktkuo@cfp.fenc.com
URL http://www.fenc.com

Available in: Taiwan (Rep. of China)

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**EP-5-024**

### Polyester Recycle Fiber (Raw White Staple) R-Series

**Environmental performance**
Unlike natural fibers, polyester can be recycled to near-virgin or virgin-like quality. Each kilogram of product consumes approximately one kilogram of wastes.

**Product performance**
Recycled plastics are used.

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**Far Eastern New Century Corporation.**

No.369, 3rd Neighborhood, Yadong Sec., Wunshan Rd., Sinpu Township, Hsinchu County, Taiwan, 305, Republic of China
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E-mail ktkuo@cfp.fenc.com
URL http://www.fenc.com

Available in: Worldwide

Polyester Recycle Fiber (Black Staple) R-Series

Environmental performance
Unlike natural fibers, polyester can be recycled to near-virgin or virgin-like quality. Each kilogram of product consumes approximately one kilogram of wastes.

Product performance
Recycled plastics are used.

Far Eastern New Century Corporation.
No.369, 3rd Neighborhood, Yadong Sec., Wunshan Rd., Sinpu Township, Hsinchu County, Taiwan, 305, Republic of China
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E-mail ttkuo@cfp.fenc.com
URL http://www.fenc.com

Available in: Worldwide

EP-5-026  Apparel/textiles  eyewear

Linkskin Eco-friendly Eyewear

Environmental performance
Linkskin encompasses the unique combination of non-toxic recycled plastic and stainless steel components to create probably the world’s first recycled eyewear. It is environmentally friendly and the color is either compound or RoHS compliant with international environment protection standards through the adoption of eco-friendly processes in the production cycle.

Product performance
The folding temples of Linkskin eco-friendly eyewear use a unique patented buckle-lock and slim “fork” locking system to replace the conventional screw-lock system that allows the temples to fold and at the same time creates a spring effect for wearing comfort. This application spells easy handling with no soldering or screws required for frame assembly and the holding of the lens is more secure compared to the conventional frame with screws. In the LKS model, nylon string is used to bind two sheet metals of different color together to form a frame front to create overlapping color effects, and the stitches also formed a design element. The temple in the SKA model is hand-stitched onto the frame front ends using nylon string and the stitch form part of the design of the frame front ends. The frame is extremely lightweight, durable and versatile.

Eye-Biz Pte Ltd
82 Genting Lane #06-05 Media Centre, 349567, Singapore
Tel 65-6744 6239  Fax 65-6842 1528
E-mail info@eye-biz.com
URL http://www.eye-biz.com
URL http://www.linkskin.com

Available in: Worldwide
Green Tea Shampoo 400ml 1AA011

**Environmental performance**
The product fully adopts environmentally friendly materials from its contents to packaging; adopting natural organic certified contents with priority, the bottle packaging adopts the recycled environmentally friendly plastic bottle - HDPE, the bottle decal is printed using soybean environmentally friendly ink, and the labeling material and ink have surpassed SGS inspection to comply with EU RoHS environmental protection certification. The entire product does not obtrude nature's ecology, and helps to reduce the impact on the environment's ecology.

**Product performance**
For damaged hair types after the permanent wave, containing 90% of natural ingredients.
The natural green tea extract and the EU organic (ECOCERT) certified foaming ingredient are able to prevent the oxidation reaction triggered by the perm solution, helping to enhance the health of the hair and the scalp.

**Hair O'right International Corporation**
No. 671, Jhong Fong Road, Ping Jhen City, Taoyuan County, Taiwan, 32456, Republic of China
Tel +886-3-4682121-231  Fax +886-3-4682182
E-mail angelia@hairoright.com
URL http://www.oright.com.tw

Available in: Oceania, Europe, U.S.A., Thailand, Malaysia, Taiwan (Rep. of China), China

Green Tea Shampoo 1000ml 1AA020

**Environmental performance**
The product fully adopts environmentally friendly materials from its contents to packaging; adopting natural organic certified contents with priority, the bottle packaging adopts the recycled environmentally friendly plastic bottle - HDPE, the bottle decal is printed using soybean environmentally friendly ink, and the labeling material and ink have surpassed SGS inspection to comply with EU RoHS environmental protection certification. The entire product does not obtrude nature's ecology, and helps to reduce the impact on the environment's ecology.

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No. 671, Jhong Fong Road, Ping Jhen City, Taoyuan County, Taiwan, 32456, Republic of China
Tel +886-3-4682121-231  Fax +886-3-4682182
E-mail angelia@hairoright.com
URL http://www.oright.com.tw

Available in: Oceania, Europe, U.S.A., Thailand, Malaysia, Taiwan (Rep. of China), China
Eco-product // Household goods and equipment

EP-6-003 Household goods and equipment

Lara Environmental Shampoo Lara-001-01

Environmental performance
With biodegradability exceeding 95%, it is also free of nonylphenol. Without adding any fluoride, BHT, BHA, methane, triclosan, chlorine additives, benzylresorcinol ultraviolet absorber, or any toxic chemical substance announced by the Environmental Protection Administration. The packaging material is free of PVC or chlorine-based plastic material. Adopting the food-grade raw material, it does not contain petrochemical raw materials, and is free of heavy metals, warranting zero pollution. Ultra concentrate formula.

Product performance
A low-irritant formula shampoo, it is free of silica or dyes, bringing a refreshing, burden-free touch to the scalp and the hair.

SEA MILD INTERNATIONAL Co., LTD.

No. 43, Guanye E. Rd., Pingzhen City, Taoyuan County, Taiwan, 324, Republic of China
Tel +886-3-4688698  Fax +886-3-4687699
E-mail seamild2000@yahoo.com.tw

Available in: Taiwan (Rep. of China)

EP-6-004 Household goods and equipment

White Tea Hair Treatment Set 1BB030

Environmental performance
Adopting natural organic certified contents with a priority which does not disrupt nature’s ecology, helping to reduce the impact on the environment. An innovative hair care product that does not require a plug in for power and is easy to operate with low energy consumption. There is no need to purchase extra hair care machinery or equipment, thereby conserving energy used.

Product performance
Suitable for damaged hair types. Containing the EU organic (ECOCERT) certified white tea extract essence, offering excellent anti-oxidation property for professional, deep-layer repair and nourishing yield.

Hair O'right International Corporation

No. 671, Jhong Fong Road, Ping Jhen City, Taoyuan County, Taiwan, 32456, Republic of China
Tel +886-3-4682121-231  Fax +886-3-4682182
E-mail angelia@hairoright.com
URL http://www.oright.com.tw

Available in: Oceania, Europe, U.S.A., Thailand, Malaysia, Taiwan (Rep. of China), China
**EP-6-005**

**Household goods and equipment**

**Sea Mild Shower Cream SM-003-04**

**Environmental performance**
Using food-grade raw materials, it does not use petrochemical raw materials, industrial skin moisturizer or industrial fragrances. It is free of heavy metals, and of zero pollution.

**Product performance**
An herbal extract formula which moisturizes skin all over the body.

**SEA MILD INTERNATIONAL Co., LTD.**

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Available in: Taiwan (Rep. of China)

**EP-6-006**

**Household goods and equipment**

**Humming Neo**

**Environmental performance**
CO₂ emission within the process of raw procurement, production, distribution, and final disposal is reduced by approx. 32% (*) compared with conventional fabric softener, owing to the product size reduction that has contributed to save package resin and to enhance transport efficiency.

*Compared with Kao's conventional fabric softener, bottle: refill = 2:8 by sales amount.

**Product performance**
Humming Neo fabric softener contains newly developed polymer. This formula helps softening ingredients adsorb 1.5 times (**) more onto fabric (than conventional fabric softeners), which enable a small amount to make clothes even softer and more comfortable to wear every time you use it. (**)

*When washing with less water (using less than 12L of water for 1kg of clothes).

**Compared with conventional Kao's Humming Concentrated fabric softener, used under the (standard OR recommended) usage.

**Kao Corporation**

1-14-10, Nihonbashi Kayabacho, Chuo-ku, Tokyo, Japan  
URL http://www.kao.com/index_en.html  
URL http://www.kao.com/jp/humming/hmg_neo_white_00.html  

Available in: Japan
**Environmental performance**
Attack Instant Clean Liquid is a laundry detergent specially formulated to save water. It enables to save water in rinsing process for laundring in China, in which approx. 80% of water is used for rinsing. It contains high cleansing ability which enable a small amount to attack stains more efficiently, so that users can reduce rinsing times and save approx. 15% of laundring water. It acquires the China certificate for water conservation product.

**Product performance**
Attack Instant Clean Liquid is a laundry detergent specially formulated to save water. It contains high cleansing ability which enable a small amount to attack stains more efficiently. Also its components are less clingy to fibers, so that at one time rinsing leaves less detergent on laundry than rinsing twice with conventional liquid detergent.

**Kao Commercial (Shanghai) CO., Ltd**
19F, Longemont Yes Tower, 369 Kaixuan Road, Shanghai, 200051, P.R.China
URL http://www.kao.com/cn/corp/
URL http://www.kao.com/cn/attack/atk_liquid_01.html

Available in: China

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**Attack Neo**

**Environmental performance**
CO₂ emission within the process of raw procurement, production, distribution, and final disposal is reduced by approx. 21% (*1*) compared with conventional products, owing to the product size reduction that has contributed to save package resin and to enhance transport efficiency. By setting washing machine to a single-rinse mode, users can save water and electricity to reduce CO₂ emission by approx. 22% (*2*), compared with double-rinse mode. All in all, CO₂ emission throughout laundry is reduced by approx. 21% (from a viewpoint of lifecycle assessment).

*1 Compared with Kao’s conventional 1kg liquid detergent, bottle: refill = 2:8
*2 Kao’s survey, conducted in June 2009, automatic washing machine (capacity 8 kg), amount of clothes 4 kg, quantity of water 47 L

**Product performance**
Attack Neo has realized detergent concentration up to 2.5 times* higher than conventional products, to reduce the product weight from 1kg to 400g. Less amount of detergent guarantees high washing performance. Since washing components are less clingy to fibers, rinsing process can be saved once. Amounts of detergent residues on laundry after rinsing once are almost the same as those after rinsing twice.*

* Compared with Kao’s conventional 1kg liquid detergent.

**Kao Corporation**
1-14-10, Nihonbashi Kayabacho, Chuo-ku, Tokyo, Japan
URL http://www.kao.com/index_en.html
URL http://www.kao.com/jp/attack/atk_neo_00.html

Available in: Japan
### EP-6-009  Household goods and equipment
detergents

#### Attack Neo Antibacterial EX Power

**Environmental performance**

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<tr>
<th>Type</th>
<th>Description</th>
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<td>II</td>
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CO\(_2\) emission within the process of raw procurement, production, distribution, and final disposal is reduced by approx. 31\% \(^{(*)}\) compared with conventional products, owing to the product size reduction that has contributed to save package resin and to enhance transport efficiency. By setting washing machine to a single-rinse mode, users can save water and electricity to reduce CO\(_2\) emission by approx. 22\% \(^{(2)}\), compared with double-rinse mode. All in all, CO\(_2\) emission throughout laundry is reduced by approx. 26\% (from a viewpoint of lifecycle assessment).

*1 Compared with Kao's conventional 1kg liquid detergent, bottle: refill = 2:8

*2 Kao's survey, conducted in June 2009, automatic washing machine (capacity 8 kg), amount of clothes 4 kg, quantity of water 47 L

**Product performance**

Effective even in small amounts, Attack Neo Antibacterial EX Power features high odor-removing detergency and suppresses odor-causing bacteria throughout the laundry process.

- Formulated with antibacterial and bleaching agents
- A 2.5 times ultra-concentrated liquid detergent, compared with Kao's conventional 1kg liquid detergent.

**Kao Corporation**

1-14-10, Nihonbashi Kayabacho, Chuoku, Tokyo, Japan

URL http://www.kao.com/index_en.html

URL http://www.kao.com/jp/attack/atknneoex_00.html


Available in: Japan

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### EP-6-010  Household goods and equipment
detergents

#### New Beads Neo

**Environmental performance**

<table>
<thead>
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CO\(_2\) emission within the process of raw procurement, production, distribution, and final disposal is reduced by approx. 38\% \(^{(1)}\) compared with conventional products, owing to the product size reduction that has contributed to save package resin and to enhance transport efficiency. By setting washing machine to a single-rinse mode, users can save water and electricity to reduce CO\(_2\) emission by approx. 22\% \(^{(2)}\), compared with double-rinse mode. All in all, CO\(_2\) emission throughout laundry is reduced by approx. 30\% (from a viewpoint of lifecycle assessment).

*1 Compared with Kao's conventional liquid detergent, bottle: refill = 2:8

*2 Kao's survey, conducted in June 2009, automatic washing machine (capacity 8 kg), amount of clothes 4 kg, quantity of water 47 L

**Product performance**

Attack Neo has realized detergent concentration up to 2.5 times* higher than conventional products, to reduce the product weight from 1kg to 400g. Less amount of detergent guarantees high washing performance. Since washing components are less clingy to fibers, rinsing process can be saved once. Amounts of detergent residues on laundry after rinsing once are almost the same as those after rinsing twice.*

* Compared with Kao's conventional liquid detergents.

**Kao Corporation**

1-14-10, Nihonbashi Kayabacho, Chuoku, Tokyo, Japan

URL http://www.kao.com/index_en.html

URL http://www.kao.com/jp/newbeads/nbs_neo_00.html


Available in: Japan
## EP-6-011
### BAIGO Cold Water Wash 1000 (g)

**Environmental performance**
Biodegradability higher than 95% to reduce environmental pollution.

**NICE Enterprise Co., Ltd.**
No. 21, Zhongshan Rd., Minxiong Township, Chiayi County, Taiwan, 621, Republic of China
Tel +886-5-221-7888-835  Fax +886-5-220-2427
E-mail pdcaqc@mail.nice.com.tw
URL http://www.nice.com.tw

Available in: Taiwan (Rep. of China)

## EP-6-012
### BAIGO Hand Wash Detergent 1000 (g)

**Environmental performance**
Biodegradability higher than 95% to reduce environmental pollution.

**Product performance**
Biodegradability higher than 95% to reduce environmental pollution.

**NICE Enterprise Co., Ltd.**
No. 21, Zhongshan Rd., Minxiong Township, Chiayi County, Taiwan, 621, Republic of China
Tel +886-5-221-7888-835  Fax +886-5-220-2427
E-mail pdcaqc@mail.nice.com.tw
URL http://www.nice.com.tw

Available in: Taiwan (Rep. of China)
### Sea Mild Environmental Friendly Laundry Powder SM-001-07

**Environmental performance**
Ingredients include raw materials from the ocean, natural plant extracts and foodgrade additives. Safe and toxic-free. This product does not contain petrochemical surfactants, phosphates, fluorescent agents or petrochemical bleaches.
Readily biodegradable.
Ultra concentrate formula.

**Product performance**
Pure in quality and double the softness, it is suitable for cleaning intimate garments and infant and toddlers' clothing.

### SEA MILD INTERNATIONAL Co., LTD.

No. 43, Guanye E. Rd., Pingzhen City, Taoyuan County, Taiwan, 324, Republic of China
Tel +886-3-4688698  Fax +886-3-4687669
E-mail seamild2000@yahoo.com.tw

Available in: Taiwan (Rep. of China)

### Forever Friends Natural Detergent (Lavender) SM-006-03

**Environmental performance**
Ingredients include raw materials from the ocean, natural plant extracts and foodgrade additives. Safe and toxic-free. This product does not contain petrochemical surfactants, phosphates, fluorescent agents or petrochemical bleaches.
Readily biodegradable.
Ultra concentrate formula.

**Product performance**
Pure in quality and double the softness, it is suitable for cleaning intimate garments and infant and toddlers' clothing.

### SEA MILD INTERNATIONAL Co., LTD.

No. 43, Guanye E. Rd., Pingzhen City, Taoyuan County, Taiwan, 324, Republic of China
Tel +886-3-4688698  Fax +886-3-4687669
E-mail seamild2000@yahoo.com.tw

Available in: Taiwan (Rep. of China)
EP-6-015  Household goods and equipment
dishwashing liquid

PAOS Dishwashing Liquid 600, 1000, 2800 (g)

**Environmental performance**
Biodegradability higher than 95% to reduce environmental pollution.

**NICE Enterprise Co., Ltd.**
No. 21, Zhongshan Rd., Minxiong Township, Chiayi County, Taiwan, 621, Republic of China
Tel +886-5-221-7888-835  Fax +886-5-220-2427
E-mail pdcaqc@mail.nice.com.tw
URL http://www.nice.com.tw

Available in: Taiwan (Rep. of China)

EP-6-016  Household goods and equipment
dishwashing liquid

PAOS Anti-Bacterial Dishwashing Liquid (Lemon Essential Oil) 1000, 2800 (g)

**Environmental performance**
Biodegradability higher than 95% to reduce environmental pollution.

**Product performance**
Biodegradability higher than 95% to reduce environmental pollution.

**NICE Enterprise Co., Ltd.**
No. 21, Zhongshan Rd., Minxiong Township, Chiayi County, Taiwan, 621, Republic of China
Tel +886-5-221-7888-835  Fax +886-5-220-2427
E-mail pdcaqc@mail.nice.com.tw
URL http://www.nice.com.tw

Available in: Taiwan (Rep. of China)
Sea Mild Environmental Friendly Dishwashing Liquid SM-002-03

**Environmental performance**
Extracted from freshly harvested fruit, it has a biodegradability exceeding 95%.

**Product performance**
A natural degreaser, it is safe, environmentally friendly, and does not cause harm to the human body and the environment.

SEA MILD INTERNATIONAL Co., LTD.
No. 43, Guanye E. Rd., Pingzhen City, Taoyuan County, Taiwan, 324, Republic of China
Tel +886-3-4688698  Fax +886-3-4687689
E-mail seamild2000@yahoo.com.tw

Available in: Taiwan (Rep. of China)

Bio-Home Multi-Purpose Cleaner

**Environmental performance**
Bio-Home multi-purpose cleaner is readily biodegradable (tested according to OECD Method 301D, Closed Bottle Test). It is formulated with 100% renewable plant based active ingredients with readily biodegradable anti-bacterial agent, that are gentle on the environment while keeping the surfaces hygienically clean.

**Product performance**
The product is manufactured using a low-energy process, thus reducing energy consumption. Its concentrated rinse-free formulation reduces the utilisation of unnecessary packaging material and conserves water while cleaning, without compromising on today’s consumers’ demand for fast, easy to use yet effective product.

Wisma DLS, No. 6, Jalan Jurunilai U1/20, Hicom-Glenmarie Industrial Park, 40150 Shah Alam, Selangor, Malaysia
Tel +603-78822399  Fax +603-55692160
E-mail lamsoon@lamsoonpj.com.my
URL http://www.lamsoon.com.my

Available in: Southeast Asia, Singapore, Malaysia
Bio-Home Dishwashing Liquid

**Environmental performance**
It is formulated with 100% renewable and biodegradable plant-based active ingredients that are gentle on the environment. Bio-Home dishwashing liquid is readily biodegradable (tested according to OECD Method 301D, Closed Bottle Test).

**Product performance**
The product is low foam and requires less water for rinsing, thus reduces water usage. Bio-Home dishwashing liquid is a concentrated formulation which reduces the utilisation of unnecessary packaging material. It is also manufactured using a low-energy process, thus reducing energy consumption.

**Lam Soon Edible Oils Sdn. Bhd.**
Wisma DLS, No. 6, Jalan Jurunilai U1/20, Hicom-Glenmarie Industrial Park, 40150 Shah Alam, Selangor, Malaysia
Tel +603-78822399  Fax +603-55692160
E-mail lamsoon@lamsoonpj.com.my
URL http://www.lamsoon.com.my

Available in: Southeast Asia, Singapore, Malaysia

**EP-6-020**

Alkali Electrification Water Cleaner Series

**Environmental performance**
Ocean pollution is considered to be one of the causes of global warming. The origin of the problem includes domestic effluent, much of which comes from kitchen use. Closed water areas, such as the Inland Sea of Japan and Tokyo Bay, face a serious situation since it is difficult to purify the seawater in such areas.

Hattori Paper has been developing products with the aim of reducing ocean pollution caused by household effluent.

The Alkali Electrification Water Cleaner Series has adopted alkali electrification, which is generated by the electrolysis of water, as a detergent. Since no synthesized surfactant is contained, these products have almost no effect on the environment. Alkali electrification cleans oil spots more effectively than synthetic detergents, especially in the kitchen. When using normal detergents, you have to put both the cleanser and dirt through the drain outlet. Since the Alkali Electrification Water Cleaner forms disposable sheets, you need not to make the drain dirty by absorbing dirt into the product.

**HATTORI PAPER MFG.Co.,Ltd.**
171-1 Yamadai,Kinsei-cho,shikokuchuo-city,Ehime, 799-0112, Japan
Tel +81-896-58-3005  Fax +81-896-58-3048
E-mail nhp2006@hattoripaper.co.jp
URL http://www.hattoripaper.co.jp
URL http://www.hattoripaper.co.jp/online_shoping.php?kubun=1&lv=2&cat=26&subcat=3&page=1

Available in: Japan, Europe, North America, U.S.A, Singapore, Republic of Korea, Taiwan (Rep. of China), China, Tokyo Metropolitan Area
**Eco-product // Household goods and equipment**

### EP-6-021

**furomizu-wonder**

**Environmental performance**
Users can reduce water by approx. 120L～160L by reused with reheated mineral bath.
*condition:bath, be equiped with reheating sysytem

**Product performance**
Furomizu-wonder keeps bath clean, owning to be compounded with purifier ingredient. Purifier ingredient is Sodium Dichloroisocyanurate, which prevents the various germs breeding. It can be keep off slimy dirt and bad smell when users reheat mineral bath.

**Kao Corporation**

1-14-10, Nihonbashi Kayabacho, Chuo-ku, Tokyo, Japan
URL http://www.kao.com/index_en.html
URL http://www.kao.com/jp/furomizuwonder/fmw_furomizuwonder_00.html

Available in: Japan

### EP-6-022

**L’earth wheat composite Tumbler**

**Environmental performance**
Made of wheat by-products which is an abundant and renewable source. It does not compete ith food supply or required deforestation. High content of recycled and certified food safe plastic used. This helps in lowering of greenhouse emission and slowdown of global warming. Less toxic gases are being emitted when incinerated. Product can also be eco-biodegradable, thus helping to reduce landfill. Oxo-biodegradation leaves no harmful residues and fragments, and time to degradation is programmable.

Awards and certification for wheat composite material:
1. Singapore Green Label certified.
2. SEC- Senoko Power Green Innovation Award Winner 2010

**Product performance**
With L’earth it is simple, enjoyable and sustainable embracing an eco-conscious and modern lifestyle.

**L’earth S Pte Ltd**

No. 21 Toh Guan Road East #04 - 09 Toh Guan Centre Singapore 608609, 608609, Singapore
Tel +65 90717444  Fax 6565154557
E-mail sale2@mylearth.com.sg
URL http://www.mylearth.com.sg

Available in: Worldwide
## L’earth wheat composite Mug

**Environmental performance**
Made of wheat by-products which is an abundant and renewable source. It does not compete with food supply or required deforestation. High content of recycled and certified food safe plastic used. This helps in lowering of greenhouse emission and slowdown of global warming. Less toxic gases are being emitted when incinerated. Product can also be oxo-biodegradable, thus helping to reduce landfill. Oxo-biodegradation leaves no harmful residues and fragments, and time to degradation is programmable.

**Awards and certification for wheat composite material:**
1. Singapore Green Label certified.
2. SEC- Senoko Power Green Innovation Award Winner 2010

**Product performance**
With L’earth it is simple, enjoyable and sustainable embracing an eco-conscious and modern lifestyle.

### L’earth S Pte Ltd

No. 21 Toh Guan Road East #04 - 09 Toh Guan Centre Singapore 608609, 608609, Singapore
Tel +65 90717444 Fax 6565154557
E-mail sale2@mylearth.com.sg
URL http://www.mylearth.com.sg

Available in: Worldwide

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## L’earth wheat composite Cup

**Environmental performance**
Made of wheat by-products which is an abundant and renewable source. It does not compete with food supply or required deforestation. High content of recycled and certified food safe plastic used. This helps in lowering of greenhouse emission and slowdown of global warming. Less toxic gases are being emitted when incinerated. Product can also be oxo-biodegradable, thus helping to reduce landfill. Oxo-biodegradation leaves no harmful residues and fragments, and time to degradation is programmable.

**Awards and certification for wheat composite material:**
1. Singapore Green Label certified.
2. SEC- Senoko Power Green Innovation Award Winner 2010

**Product performance**
With L’earth it is simple, enjoyable and sustainable embracing an eco-conscious and modern lifestyle.

### L’earth S Pte Ltd

No. 21 Toh Guan Road East #04 - 09 Toh Guan Centre Singapore 608609, 608609, Singapore
Tel +65 90717444 Fax 6565154557
E-mail sale2@mylearth.com.sg
URL http://www.mylearth.com.sg

Available in: Worldwide
Eco-product // Household goods and equipment

EP-6-025  Household goods and equipment

**L’earth wheat composite Cutlery**

**Environmental performance**
Made of wheat by-products which is an abundant and renewable source. It does not compete with food supply or required deforestation. High content of recycled and certified food safe plastic used. This helps in lowering of greenhouse emission and slowdown of global warming. Less toxic gases are being emitted when incinerated. Product can also be oxo-biodegradable, thus helping to reduce landfill. Oxo-biodegradation leaves no harmful residues and fragments, and time to degradation is programmable.

Awards and certification for wheat composite material:
1. Singapore Green Label certified.
2. SEC- Senoko Power Green Innovation Award Winner 2010

**Product performance**
With L’earth it is simple, enjoyable and sustainable embracing an eco-conscious and modern lifestyle.

**L’earth S Pte Ltd**
No. 21 Toh Guan Road East #04 - 09 Toh Guan Centre Singapore 608609, 608609, Singapore
Tel +65 90717444  Fax 6565154557
E-mail sale2@mylearth.com.sg
URL http://www.mylearth.com.sg

Available in: Worldwide

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EP-6-026  Household goods and equipment

**L’earth wheat composite Cake knife**

**Environmental performance**
Made of wheat by-products which is an abundant and renewable source. It does not compete with food supply or required deforestation. High content of recycled and certified food safe plastic used. This helps in lowering of greenhouse emission and slowdown of global warming. Less toxic gases are being emitted when incinerated. Product can also be oxo-biodegradable, thus helping to reduce landfill. Oxo-biodegradation leaves no harmful residues and fragments, and time to degradation is programmable.

Awards and certification for wheat composite material:
1. Singapore Green Label certified.
2. SEC- Senoko Power Green Innovation Award Winner 2010

**Product performance**
With L’earth it is simple, enjoyable and sustainable embracing an eco-conscious and modern lifestyle.

**L’earth S Pte Ltd**
No. 21 Toh Guan Road East #04 - 09 Toh Guan Centre Singapore 608609, 608609, Singapore
Tel +65 90717444  Fax 6565154557
E-mail sale2@mylearth.com.sg
URL http://www.mylearth.com.sg

Available in: Worldwide
**EP-6-027**

**CornWare Disposable Tableware**

**Environmental performance**
CornWare, disposable tableware is 100% biodegradable and carbon neutral. Made of up to 75% corn, it reduces the reliance on fossil fuels and cuts down on the release of toxic/green house gases when incinerated. Certified ISO-14001, ISO-14855, ASTM-6400, ASTM-6866, EN-13432.

**Product performance**
CornWare is a wide range of disposable tableware, packaging boxes and cutlery. It is microwaveable, waterproof, non-toxic, durable and affordable. CornWare is customisable to design, colour & print. Certified ISO-9001, FDA approved.

**Olive Green Marketing Pte Ltd**

2 Toh Tuck Link #05-03, 596225, Singapore  
Tel 65 67671301  
URL http://www.olivegreen.com.sg

Available in: Worldwide

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**EP-6-028**

**Cold/Warm/Hot Drinking Water Dispensers JD-8302**

**Environmental performance**
Compared with other same level parts without Taiwan Energy Label, it can reduce 107 kg of CO2.

**Product performance**
Five protective features. Granted Taiwan’s Energy Label. Sodium ion-free filter cartridge with automatic replacement reminder. Automatic power off when water supply is cut off, and automatic power on when water supply resumes. Maintenance service light as malfunction indicator and maintenance cycle reminder.

**FOREST SPRING ENTERPRISE CO., LTD.**

No.10, Zhongxing St., Minxiong Township, Chiayi County, Taiwan, 621, Republic of China  
Tel +886-5-2210221-35  Fax +886-5-2210271  
E-mail qc@jinkon.com.tw  
URL http://www.jinkon.com.tw

Available in: Taiwan (Rep. of China)
**Eco-product // Household goods and equipment**

**EP-6-029**

**Household goods and equipment**

**drinking water dispenser**

**Warm/Hot Drinking Water Dispensers (Not Equipped with Refrigerating Devices) JD-3221**

**Environmental performance**
Compared with other same level parts without Taiwan Energy Label, it can reduce 107 kg of CO₂.

**Product performance**
Five protective features. Granted Taiwan’s Energy Label. Sodium ion-free filter cartridge with automatic replacement reminder. Automatic power off when water supply is cut off, and automatic power on when water supply resumes. Maintenance service light as malfunction indicator and maintenance cycle reminder.

**FOREST SPRING ENTERPRISE CO., LTD.**

No.10, Zhongxing St., Minxiong Township, Chiayi County, Taiwan, 621, Republic of China
Tel +886-5-2210221-35  Fax +886-5-2210271
E-mail qc@jinkon.com.tw
URL http://www.jinkon.com.tw/

Available in: Taiwan (Rep. of China)

**EP-6-030**

**Household goods and equipment**

**drinking water dispenser**

**Warm/Hot Drinking Water Dispensers (Not Equipped with Refrigerating Devices) JD-4202**

**Environmental performance**
Compared with other same level parts without Taiwan Energy Label, it can reduce 103 kg of CO₂.

**Product performance**
Five protective features. Granted Taiwan’s Energy Label. Sodium ion-free filter cartridge with automatic replacement reminder. Automatic power off when water supply is cut off, and automatic power on when water supply resumes. Maintenance service light as malfunction indicator and maintenance cycle reminder.

**FOREST SPRING ENTERPRISE CO., LTD.**

No.10, Zhongxing St., Minxiong Township, Chiayi County, Taiwan, 621, Republic of China
Tel +886-5-2210221-35  Fax +886-5-2210271
E-mail qc@jinkon.com.tw
URL http://www.jinkon.com.tw/

Available in: Taiwan (Rep. of China)
### EP-6-031 Household goods and equipment
drinking water dispenser

**Warm/Hot Drinking Water Dispensers (Not Equipped with Refrigerating Devices)** JD-4209

**Environmental performance**
Compared with other same level parts without Taiwan Energy Label, it can reduce 102 kg of CO$_2$.

**Product performance**
Five protective features. Granted Taiwan’s Energy Label. Sodium ion-free filter cartridge with automatic replacement reminder. Automatic power off when water supply is cut off, and automatic power on when water supply resumes. Maintenance service light as malfunction indicator and maintenance cycle reminder.

**FOREST SPRING ENTERPRISE CO., LTD.**
No.10, Zhongxing St., Minxiong Township, Chiayi County, Taiwan, 621, Republic of China
Tel +886-5-2210221-35 Fax +886-5-2210271
E-mail qc@jinkon.com.tw
URL http://www.jinkon.com.tw

Available in: Taiwan (Rep. of China)

### EP-6-032 Household goods and equipment
drinking water dispenser

**Warm/Hot Drinking Water Dispensers (Not Equipped with Refrigerating Devices)** JD-5322B

**Environmental performance**
Compared with other same level parts without Taiwan Energy Label, it can reduce 102 kg of CO$_2$.

**Product performance**
Five protective features. Granted Taiwan’s Energy Label. Sodium ion-free filter cartridge with automatic replacement reminder. Automatic power off when water supply is cut off, and automatic power on when water supply resumes. Maintenance service light as malfunction indicator and maintenance cycle reminder.

**FOREST SPRING ENTERPRISE CO., LTD.**
No.10, Zhongxing St., Minxiong Township, Chiayi County, Taiwan, 621, Republic of China
Tel +886-5-2210221-35 Fax +886-5-2210271
E-mail qc@jinkon.com.tw
URL http://www.jinkon.com.tw

Available in: Taiwan (Rep. of China)
**EP-6-033**

**Video Door phone  VL-SWD700KL**

**Environmental performance**

- Yealy power consumption
  - VL-SWD700KL  20.4kWh/year
  - VL-SWN350  25.4kWh/year
  - ※1 Based on our calculation standard

- Yealy power consumption reduction 20%

**Product performance**

1. Touch Panel on main unit
2. Wide-angle lens on Entrance cordless handset, "Megapixel"
3. 7" wide LCD monitor on main unit
4. 2.4" TFT-LCD monitor on cordless handset
5. Telephone and FAX function as option feature

**Panasonic System Networks Co., Ltd.**

4-1-62, Minoshima Hakata-ku Fukuoka, 812-8531, Japan
URL http://panasonic.net/
URL http://panasonic.net/csr/

Available in: Japan

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**EP-6-034**

**Biodegradable plastics**

*(Poly Lactic Acid, PLA)*

**FOOD CONTAINER CUP R700Y, R600Y, R600, R500Y, R520, R450, etc.**

**Environmental performance**

Poly Lactic Acid (PLA) has the following advantages:
1. High biodegradability: Used PLA is completely degradable by microorganisms, finally it will become carbon dioxide and water, which is pollution-free and environmentally friendly.
2. High compatibility and degradability: PLA can be burned without causing pollution, and burned PLA can be used as a fertilizer.

**Product performance**

Biodegradable corn PLA containers are made from a new type of PLA that is extracted from corn. This PLA has better performance than polyethylene, polypropylene, polystyrene, etc. and can replace existing plastic materials.

**SEE BOX CORPORATION**

No. 51, Ting-Hu Rd., Dahua Vil., Kweishan Township, Taoyuan County, Taiwan, 33378, Republic of China
Tel +886-989-840-592  Fax +886-3-328-2777
E-mail qa-shinyi@goodflag.com.tw
URL http://www.goodflag.com

Available in: Japan, Oceania, Europe, North America, U.S.A., China
**Eco-product // Household goods and equipment**

### EP-6-035

**Household goods and equipment**

**biodegradable plastics**

(Poly Lactic Acid, PLA) FOOD CONTAINER BOWL P700, P600, P500, P360

#### Environmental performance

Poly Lactic Acid (PLA) has the following advantages:

1. High biodegradability: Used PLA is completely degradable by microorganisms, finally it will become carbon dioxide and water, which is pollution-free and environmentally friendly.
2. High compatibility and degradability: PLA can be burned without causing pollution, and burned PLA can be used as a fertilizer.

#### Product performance

Biodegradable corn PLA containers are made from a new type of PLA that is extracted from corn. This PLA has better performance than polyethylene, polypropylene, polystyrene, etc. and can replace existing plastic materials.

**SEE BOX CORPORATION**

No. 51, Ting-Hu Rd., Dahua Vil., Kweishan Township, Taoyuan County, Taiwan, 33378, Republic of China

Tel +886-989-840-592  Fax +886-3-328-2777

E-mail qa-shinyi@goodflag.com.tw

URL http://www.gooflag.com

Available in: Japan, Oceania, Europe, North America, U.S.A., China

### EP-6-036

**Household goods and equipment**

**eco-friendly food containers**

GGP140mm dish

#### Environmental performance

1. GGP is disposable product which is consist of SIO2 and PP as a new material more disintegrated than general PP product and a half of reducing Co2 when it is incinerated.
2. Possible recycling through seperating and sending out

#### Product performance

1. Peace of mind from environment hormone.
2. Carbon dioxide free when incinerated.
3. Not use phosphor.
4. Harmless to human body from microwave and hot water. Acquired certificates proving harmless to human body (microwavable)
5. Cold resistance until -40 degree and hot resistance until 140 degree.
6. Proved good durability.
7. Totally disintegrated (100% totally disintegrated after wasted)
8. Alkalinity eco-friendly products. (neutralize the acids)

**CHANG HWA INDUSTRIAL**

156-7 Samgae-Ri Cheungbuk-Myun Pyungtaek-City, Kyunggi-Do, korea, 451-832, Republic of Korea

Tel 82-31-684-6086  Fax 82-31-684-6089

E-mail kco0320@hanmail.net

URL http://www.ggpack.kr

Available in: Republic of Korea
EP-6-037  Household goods and equipment  
eco-friendly food containers

GGP130mm bowl

Environmental performance
1. GGP is disposable product which is consist of SIO2 and PP as a new material more disintegrated than general PP product and a half of reducing Co2 when it is incinerated.
2. Possible recycling through seperating and sending out

Product performance
1. Peace of mind from environment hormone.
2. Carbon dioxide free when incinerated.
3. Not use phosphor.
4. Harmless to human body from microwave and hot water. 
   Acquired certificates proving harmless to human body (microwavable)
5. Cold resistance until -40 degree and hot resistance until 140 degree.
6. Proved good durability.
7. Totally disintegrated (100% totally disintegrated after wasted)
8. Alkalinity eco-friendly products. (neutralize the acids)

CHANG HWA INDUSTRIAL

156-7 Samgae-Ri Cheungbuk-Myun Pyungtaek-City, Kyunggi-Do, korea, 451-832, Republic of Korea
Tel 82-31-684-6086    Fax 82-31-684-6089
E-mail kco0320@hanmail.net
URL http://www.ggpack.kr

Available in: Republic of Korea

EP-6-038  Household goods and equipment  
eco-friendly food containers

GGP an individual container

Environmental performance
1. GGP is disposable product which is consist of SIO2 and PP as a new material more disintegrated than general PP product and a half of reducing Co2 when it is incinerated.
2. Possible recycling through seperating and sending out

Product performance
1. Peace of mind from environment hormone.
2. Carbon dioxide free when incinerated.
3. Not use phosphor.
4. Harmless to human body from microwave and hot water. 
   Acquired certificates proving harmless to human body (microwavable)
5. Cold resistance until -40 degree and hot resistance until 140 degree.
6. Proved good durability.
7. Totally disintegrated (100% totally disintegrated after wasted)
8. Alkalinity eco-friendly products. (neutralize the acids)

CHANG HWA INDUSTRIAL

156-7 Samgae-Ri Cheungbuk-Myun Pyungtaek-City, Kyunggi-Do, korea, 451-832, Republic of Korea
Tel 82-31-684-6086    Fax 82-31-684-6089
E-mail kco0320@hanmail.net
URL http://www.ggpack.kr

Available in: Republic of Korea
**EP-6-039**

**GGP tray no.8 white**

**Environmental performance**
1. GGP is disposable product which is consist of SIO2 and PP as a new material more disintegrated than general PP product and a half of reducing Co2 when it is incinerated.
2. Possible recycling through seperating and sending out

**Product performance**
1. Peace of mind from environment hormone.
2. Carbon dioxide free when incinerated.
3. Not use phosphor.
4. Harmless to human body from microwave and hot water.
   Acquired certificates proving harmless to human body (microwavable)
5. Cold resistance until -40 degree and hot resistance until 140 degree.
6. Proved good durability.
7. Totally disintegrated (100% totally disintegrated after wasted)
8. Alkalinity eco-friendly products. (neutralize the acids)

**CHANG HWA INDUSTRIAL**

156-7 Samgae-Ri Cheungbuk-Myun Pyungtaek-City, Kyunggi-Do, Korea, 451-832, Republic of Korea
Tel 82-31-684-6086  Fax 82-31-684-6089
E-mail kco0320@hanmail.net
URL http://www.ggpack.kr

Available in: Republic of Korea

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**EP-6-040**

**GGP tray no.8 wood**

**Environmental performance**
1. GGP is disposable product which is consist of SIO2 and PP as a new material more disintegrated than general PP product and a half of reducing Co2 when it is incinerated.
2. Possible recycling through seperating and sending out

**Product performance**
1. Peace of mind from environment hormone.
2. Carbon dioxide free when incinerated.
3. Not use phosphor.
4. Harmless to human body from microwave and hot water.
   Acquired certificates proving harmless to human body (microwavable)
5. Cold resistance until -40 degree and hot resistance until 140 degree.
6. Proved good durability.
7. Totally disintegrated (100% totally disintegrated after wasted)
8. Alkalinity eco-friendly products. (neutralize the acids)

**CHANG HWA INDUSTRIAL**

156-7 Samgae-Ri Cheungbuk-Myun Pyungtaek-City, Kyunggi-Do, Korea, 451-832, Republic of Korea
Tel 82-31-684-6086  Fax 82-31-684-6089
E-mail kco0320@hanmail.net
URL http://www.ggpack.kr

Available in: Republic of Korea
### EP-6-041  Household goods and equipment

**GGP tray no.8 a red net pattern**

**Environmental performance**
1. GGP is disposable product which consist of SIO2 and PP as a new material more disintegrated than general PP product and a half of reducing Co2 when it is incinerated.
2. Possible recycling through separating and sending out

**Product performance**
1. Peace of mind from environment hormone.
2. Carbon dioxide free when incinerated.
3. Not use phosphor.
4. Harmless to human body from microwave and hot water.
   - Acquired certificates proving harmless to human body (microwavable)
5. Cold resistance until -40 degree and hot resistance until 140 degree.
6. Proved good durability.
7. Totally disintegrated (100% totally disintegrated after wasted)
8. Alkalinity eco-friendly products. (neutralize the acids)

**CHANG HWA INDUSTRIAL**

156-7 Samgae-Ri Cheungbuk-Myun Pyungtaek-City, Kyunggi-Do, Korea, 451-832, Republic of Korea
Tel 82-31-684-6086   Fax 82-31-684-6089
E-mail kco0320@hanmail.net
URL [http://www.ggpack.kr](http://www.ggpack.kr)

Available in: Republic of Korea

### EP-6-042  Household goods and equipment

**GGP tray no.8 black**

**Environmental performance**
1. GGP is disposable product which consist of SIO2 and PP as a new material more disintegrated than general PP product and a half of reducing Co2 when it is incinerated.
2. Possible recycling through separating and sending out

**Product performance**
1. Peace of mind from environment hormone.
2. Carbon dioxide free when incinerated.
3. Not use phosphor.
4. Harmless to human body from microwave and hot water.
   - Acquired certificates proving harmless to human body (microwavable)
5. Cold resistance until -40 degree and hot resistance until 140 degree.
6. Proved good durability.
7. Totally disintegrated (100% totally disintegrated after wasted)
8. Alkalinity eco-friendly products. (neutralize the acids)

**CHANG HWA INDUSTRIAL**

156-7 Samgae-Ri Cheungbuk-Myun Pyungtaek-City, Kyunggi-Do, Korea, 451-832, Republic of Korea
Tel 82-31-684-6086   Fax 82-31-684-6089
E-mail kco0320@hanmail.net
URL [http://www.ggpack.kr](http://www.ggpack.kr)

Available in: Republic of Korea
Eco-product // Household goods and equipment

EP-6-043

GGP tray no.18 white

**Environmental performance**
1. GGP is disposable product which is consist of SIO2 and PP as a new material more disintegrated than general PP product and a half of reducing Co2 when it is incinerated.
2. Possible recycling through separating and sending out

**Product performance**
1. Peace of mind from environment hormone.
2. Carbon dioxide free when incinerated.
3. Not use phosphor.
4. Harmless to human body from microwave and hot water. Acquired certificates proving harmless to human body (microwavable)
5. Cold resistance until -40 degree and hot resistance until 140 degree.
6. Proved good durability.
7. Totally disintegrated (100% totally disintegrated after wasted)
8. Alkalinity eco-friendly products. (neutralize the acids)

CHANG HWA INDUSTRIAL

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E-mail kco0320@hanmail.net
URL http://www.ggpack.kr

Available in: Republic of Korea

EP-6-044

GGP tray no.18 wood

**Environmental performance**
1. GGP is disposable product which is consist of SIO2 and PP as a new material more disintegrated than general PP product and a half of reducing Co2 when it is incinerated.
2. Possible recycling through separating and sending out

**Product performance**
1. Peace of mind from environment hormone.
2. Carbon dioxide free when incinerated.
3. Not use phosphor.
4. Harmless to human body from microwave and hot water. Acquired certificates proving harmless to human body (microwavable)
5. Cold resistance until -40 degree and hot resistance until 140 degree.
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8. Alkalinity eco-friendly products. (neutralize the acids)

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E-mail kco0320@hanmail.net
URL http://www.ggpack.kr

Available in: Republic of Korea
**EP-6-045**

**Household goods and equipment**

**GGP tray no.18 a red net pattern**

**Environmental performance**
1. GGP is disposable product which is consist of SiO₂ and PP as a new material more disintegrated than general PP product and a half of reducing Co₂ when it is incinerated.
2. Possible recycling through seperating and sending out

**Product performance**
1. Peace of mind from environment hormone.
2. Carbon dioxide free when incinerated.
3. Not use phosphor.
4. Harmless to human body from microwave and hot water. Acquired certificates proving harmless to human body (microwavable)
5. Cold resistance until -40 degree and hot resistance until 140 degree.
6. Proved good durability.
7. Totally disintegrated (100% totally disintegrated after wasted)
8. Alkalinity eco-friendly products. (neutralize the acids)

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URL http://www.ggpack.kr

Available in: Republic of Korea

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**EP-6-046**

**Household goods and equipment**

**GGP tray no.18 black**

**Environmental performance**
1. GGP is disposable product which is consist of SiO₂ and PP as a new material more disintegrated than general PP product and a half of reducing Co₂ when it is incinerated.
2. Possible recycling through seperating and sending out

**Product performance**
1. Peace of mind from environment hormone.
2. Carbon dioxide free when incinerated.
3. Not use phosphor.
4. Harmless to human body from microwave and hot water. Acquired certificates proving harmless to human body (microwavable)
5. Cold resistance until -40 degree and hot resistance until 140 degree.
6. Proved good durability.
7. Totally disintegrated (100% totally disintegrated after wasted)
8. Alkalinity eco-friendly products. (neutralize the acids)

**CHANG HWA INDUSTRIAL**

156-7 Samgae-Ri Cheungbuk-Myun Pyungtaek-City, Kyunggi-Do, korea, 451-832, Republic of Korea
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E-mail kco0320@hanmail.net
URL http://www.ggpack.kr

Available in: Republic of Korea
### EP-6-047
**Household goods and equipment**
eco-friendly food containers

#### GGP tray no.27 white

**Environmental performance**
1. GGP is disposable product which is consist of SIO2 and PP as a new material more disintegrated than general PP product and a half of reducing Co2 when it is incinerated.
2. Possible recycling through seperating and sending out

**Product performance**
1. Peace of mind from environment hormone.
2. Carbon dioxide free when incinerated.
3. Not use phosphor.
4. Harmless to human body from microwave and hot water.
5. Cold resistance until -40 degree and hot resistance until 140 degree.
6. Proved good durability.
7. Totally disintegrated (100% totally disintegrated after wasted)
8. Alkalinity eco-friendly products. (neutralize the acids)

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E-mail kco0320@hanmail.net
URL http://www.ggpack.kr

Available in: Republic of Korea

### EP-6-048
**Household goods and equipment**
eco-friendly food containers

#### GGP tray no.27 wood

**Environmental performance**
1. GGP is disposable product which is consist of SIO2 and PP as a new material more disintegrated than general PP product and a half of reducing Co2 when it is incinerated.
2. Possible recycling through seperating and sending out

**Product performance**
1. Peace of mind from environment hormone.
2. Carbon dioxide free when incinerated.
3. Not use phosphor.
4. Harmless to human body from microwave and hot water.
5. Acquired certificates proving harmless to human body (microwavable)
6. Cold resistance until -40 degree and hot resistance until 140 degree.
7. Proved good durability.
8. Totally disintegrated (100% totally disintegrated after wasted)
8. Alkalinity eco-friendly products. (neutralize the acids)

#### CHANG HWA INDUSTRIAL

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URL http://www.ggpack.kr

Available in: Republic of Korea
**EP-6-049**

**Household goods and equipment**

**eco-friendly food containers**

**GGP lunchbox**

**Environmental performance**
1. GGP is disposable product which is consist of SiO2 and PP as a new material more disintegrated than general PP product and a half of reducing Co2 when it is incinerated.
2. Possible recycling through seperating and sending out

**Product performance**
1. Peace of mind from environment hormone.
2. Carbon dioxide free when incinerated.
3. Not use phosphor.
4. Harmless to human body from microwave and hot water.
5. Cold resistance until -40 degree and hot resistance until 140 degree.
6. Proved good durability.
7. Totally disintegrated (100% totally disintegrated after wasted)
8. Alkalinity eco-friendly products. (neutralize the acids)

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Available in: Republic of Korea

**EP-6-050**

**Household goods and equipment**

**fan**

**Ceiling Fan FD-800**

**Environmental performance**
High performance: The DC motor greatly increases operation efficiency and saves 65% or more of electricity, compared with those driven by AC motors.

**Product performance**
Super quiet: The DC electronic step control module is noise-free.
New variable-speed remote control: Full-function remote control, including forward/backward rotation at six speeds and light control.
Low-temperature operation: Motor temperature kept below 50°C for an extended service life.

**JIANG CAI ENTERPRISE CO., Ltd.**

No.22, Lane.158, Sanhe Rd., Shengang Dist., Taichung City, Taiwan, 42944, Republic of China
Tel +886-4-25358095    Fax +886-4-25358015
E-mail jiangcai@ms47.hinet.net
URL http://www.jiangcai.com.tw

Available in: Taiwan (Rep. of China)
Eco-product // Household goods and equipment

EP-6-051

Household goods and equipment

Ceiling Fan FD-039B

Environmental performance
High performance: The DC motor greatly increases operation efficiency and saves 65% or more of electricity, compared with those driven by AC motors.

Product performance
Super quiet: The DC electronic step control module is noise-free. New variable-speed remote control: Full-function remote control, including forward/backward rotation at six speeds and light control. Low-temperature operation: Motor temperature kept below 50°C for an extended service life.

JIANG CAI ENTERPRISE CO., Ltd.

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E-mail jiangcai@ms47.hinet.net
URL http://www.jiangcai.com.tw

Available in: Taiwan (Rep. of China)

EP-6-052

Household goods and equipment

Ceiling Fan FD-041B

Environmental performance
High performance: The DC motor greatly increases operation efficiency and saves 65% or more of electricity, compared with those driven by AC motors.

Product performance
Super quiet: The DC electronic step control module is noise-free. New variable-speed remote control: Full-function remote control, including forward/backward rotation at six speeds and light control. Low-temperature operation: Motor temperature kept below 50°C for an extended service life.

JIANG CAI ENTERPRISE CO., Ltd.

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E-mail jiangcai@ms47.hinet.net
URL http://www.jiangcai.com.tw

Available in: Taiwan (Rep. of China)
Eco-product // Household goods and equipment

**EP-6-053**

**Ceiling Fan FD-042B**

**Environmental performance**
High performance: The DC motor greatly increases operation efficiency and saves 65% or more of electricity, compared with those driven by AC motors.

**Product performance**
Super quiet: The DC electronic step control module is noise-free.
New variable-speed remote control: Full-function remote control, including forward/backward rotation at six speeds and light control.
Low-temperature operation: Motor temperature kept below 50°C for an extended service life.

**Jiang Cai Enterprise Co., Ltd.**
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E-mail jiangcai@ms47.hinet.net
URL http://www.jiangcai.com.tw

Available in: Taiwan (Rep. of China)

**EP-6-054**

**Ceiling Fan FD-070B**

**Environmental performance**
High performance: The DC motor greatly increases operation efficiency and saves 65% or more of electricity, compared with those driven by AC motors.

**Product performance**
Super quiet: The DC electronic step control module is noise-free.
New variable-speed remote control: Full-function remote control, including forward/backward rotation at six speeds and light control.
Low-temperature operation: Motor temperature kept below 50°C for an extended service life.

**Jiang Cai Enterprise Co., Ltd.**
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E-mail jiangcai@ms47.hinet.net
URL http://www.jiangcai.com.tw

Available in: Taiwan (Rep. of China)
**Eco-product // Household goods and equipment**

### EP-6-055  Household goods and equipment

**Widespread Lavatory Faucet T219A-1 (B)**

**Environmental performance**

Water-saving features: The flow rates of 5.07L per minute conform to the specifications of Taiwan’s Water Conservation Label. Highly effective in water conservation, preventing wasteful use of water resources.

**Product performance**

Product specifications: Dual-handle hot-cold water mixer with 25mm ceramic spindle and flat water outlet.

**HAW LONG MFG. CORP.**

No.238, Hui Nan Rd., Ho Mei Township, Chang Hwa County, Taiwan, 508, Republic of China
Tel +886-4-7632000   Fax +886-4-7628793
E-mail hawlong1@ms54.hinet.net
URL http://www.hawlong.com

Available in: North America, Central America, South America, U.S.A., Taiwan (Rep. of China), China

### EP-6-056  Household goods and equipment

**Single Handle Faucet 1318**

**Environmental performance**

Water-saving features: The flow rates of 4.79L per minute conform to the specifications of Taiwan’s Water Conservation Label. Highly effective in water conservation, preventing wasteful use of water resources.

**Product performance**

Product specifications: Single-handle hot-cold water mixer with 40mm ceramic spindle and flat water outlet.

**HAW LONG MFG. CORP.**

No.238, Hui Nan Rd., Ho Mei Township, Chang Hwa County, Taiwan, 508, Republic of China
Tel +886-4-7632000   Fax +886-4-7628793
E-mail hawlong1@ms54.hinet.net
URL http://www.hawlong.com

Available in: North America, Central America, South America, U.S.A., Taiwan (Rep. of China), China
### Infrared Activated Sensor Faucet HB-2600C

**Environmental performance**
Conserves water resources and energy.

**Product performance**
1. The sensor angle can be flexibly adjusted to suit different venue needs.
2. The faucet comes with a self-detection function.
3. One faucet allows AC/DC switching at will.
4. It is easy to install and maintain in order to provide a convenient, sanitized and water-conserving bathroom space.
5. The electromagnetic valve design provides dependable and smooth functions without a water hammering sound.

### Infrared Activated Sensor Faucet HB-6000C

**Environmental performance**
Conserves water resources and energy.

**Product performance**
1. The sensor angle can be flexibly adjusted to suit different venue needs.
2. The faucet comes with a self-detection function.
3. The same faucet allows AC/DC switching at will.
4. It is easy to install and maintain in order to provide a convenient, sanitized and water-conserving bathroom space.
5. The electromagnetic valve design provides dependable and smooth functions without a water hammering sound.

### Hydrotek Corporation

No. 3, Gong-Yeh N. 3rd Road, Nankang Ind. Park, Nan-Tou City, Nan-Tou County, Taiwan, 540, Republic of China
Tel +886-49-2254611  Fax +886-49-2254653
E-mail sales@hydrotek.com.tw
URL http://www.hydrotek.com.tw

Available in: Asia, Oceania, Europe, North America, South America
### EP-6-059 Household goods and equipment

**Infrared Activated Sensor Faucet HB-6700C**

**Environmental performance**
Conserves water resources and energy.

**Product performance**
1. The sensor angle can be flexibly adjusted to suit different venue needs.
2. The faucet comes with a self-detection function.
3. The same faucet allows AC/DC switching at will.
4. It is easy to install and maintain in order to provide a convenient, sanitized and water-conserving bathroom space.
5. The electromagnetic valve design provides dependable and smooth functions without a water hammering sound.

**Hydrotek Corporation**
No. 3, Gong-Yeh N. 3rd Road, Nankang Ind. Park, Nan-Tou City, Nan-Tou County, Taiwan, 540, Republic of China
Tel +886-49-2254611 Fax +886-49-2254653
E-mail sales@hydrotek.com.tw
URL http://www.hydrotek.com.tw

Available in: Asia, Oceania, Europe, North America, South America

### EP-6-060 Household goods and equipment

**Infrared Activated Sensor Faucet HB-5000EM**

**Environmental performance**
Conserves water resources and energy.

**Product performance**
1. All parts and components are mounted on the faucet, making it easy to install and maintain.
2. It has dual manual and automatic operation as well as a temperature adjustment function.
3. The unique power-saving design helps to extend the battery's operating life.
4. The sensor self detects to adjust the distance according to varied faucets to avoid environmental disturbances.
5. The unique design is able to perform self diagnosis, and also displays the functional status.

**Hydrotek Corporation**
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E-mail sales@hydrotek.com.tw
URL http://www.hydrotek.com.tw

Available in: Asia, Oceania, Europe, North America, South America
**EP-6-061**

**Kona Basin Faucet ECO-SLZ-10**

**Environmental performance**
Unlike most general brass faucets, the product does not require excessive processing in the production process (such as forging, buffing, electro-plating and other related processes) to greatly reduce the emission of carbon dioxide, air pollution and chemical pollution. Moreover, the product's recyclable and reusable material features further achieve the objective of environmental conservation.

**Product performance**
Healthy: The material adopted complies with the NSF's RoHS certification standards.
Safety: The heat is not conducted to the surface when dispensing hot water, helping to prevent burn trauma.
Water conservation: Certified by Taiwan's Water Conservation Label.
Innovation: An innovative style with a trendy look, setting it apart from the conventional faucets.
Durability: A stain-resistant surface makes it stain resistant and the color does not fade.

**Kona Green Faucet (GEANN INDUSTRIAL CO., Ltd.)**
No. 29, Tou-Lun Lane, Tou-Lun Vil., Lukang Township, Changhua County, Taiwan, 505, Republic of China
Tel +886-4-7720558  Fax +886-4-7712667
E-mail kimichen@geann.com.tw
URL http://www.konafaucet.com

Available in: Asia, Europe, Central America, South America, Middle and Near East

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**EP-6-062**

**Kona 4" Basin Faucet ECO-SLZ-40**

**Environmental performance**
Unlike most general brass faucets, the project does not require excessive processing in the production process (such as forging, buffing, electro-plating and other related processes) to greatly reduce the emission of carbon dioxide, air pollution and chemical pollution. Moreover, the product's recyclable and reusable material features further achieve the objective of environmental conservation.

**Product performance**
Healthy: The material adopted complies with the NSF's RoHS certification standards.
Safety: The heat is not conducted to the surface when dispensing hot water, helping to prevent burn trauma.
Water conservation: Certified by Taiwan's Water Conservation Label.
Innovation: An innovative style with a trendy look, setting it apart from the conventional faucets.
Durability: A stain-resistant surface makes it stain resistant and the color does not fade.

**Kona Green Faucet (GEANN INDUSTRIAL CO., Ltd.)**
No. 29, Tou-Lun Lane, Tou-Lun Vil., Lukang Township, Changhua County, Taiwan, 505, Republic of China
Tel +886-4-7720558  Fax +886-4-7712667
E-mail kimichen@geann.com.tw
URL http://www.konafaucet.com

Available in: Asia, Europe, Central America, South America, Middle and Near East
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<tr>
<th>EP-6-063</th>
<th>Household goods and equipment</th>
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<tbody>
<tr>
<td><strong>Fine Ceramic Water-Saving Long Valve (Atomization) LA-2012N</strong></td>
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<tr>
<td><strong>Environmental performance</strong></td>
<td>Water saving.</td>
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<tr>
<td><strong>Product performance</strong></td>
<td>Stable water flow.</td>
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<tr>
<td><strong>Lan In Copper Co., Ltd.</strong></td>
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<tr>
<td>No.18, Ln. 209, Sec. 3, Luhe Rd., Lugang Township, Changhua County, Taiwan, 505, Republic of China</td>
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<tr>
<td>Tel +886-4-7715170  Fax +886-4-7721101</td>
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<tr>
<td><strong>Fine Ceramic Water-Saving Vertical Valve (Atomization) LA-2005H</strong></td>
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<tr>
<td><strong>Environmental performance</strong></td>
<td>Water saving.</td>
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<td><strong>Product performance</strong></td>
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<td>EP-6-065</td>
<td>Household goods and equipment</td>
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<td>Fine Ceramic Single-Hole Basin Faucet LA-523H</td>
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<td><strong>Environmental performance</strong></td>
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<td><strong>Product performance</strong></td>
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<tr>
<th>EP-6-066</th>
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<tr>
<td>Single-Handle Water-Saving Long Valve (Atomization) LA-1023R</td>
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<tr>
<td><strong>Environmental performance</strong></td>
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<td>Water saving.</td>
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<td><strong>Product performance</strong></td>
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### EP-6-067 Household goods and equipment

**One Touch Tap HP-31801A (HP-31803A, HP-21805A, HP-21806A)**

**Environmental performance**
The self-closing type of faucet effectively saves water over 84%.

**Product performance**
Repairing and replacing the touch-controlled faucet switch requires less than one-tenth of the cost of the sensor faucets. It may even be cheaper than common faucets. It is easy to repair without having to call an electrician, and it is easy to install.

---

**PINE STREET INDUSTRIAL CO., LTD.**

No. 13, Aly. 6, Ln. 36, Sec. 5, Minsheng E. Rd., Songshan District, Taipei City, Taiwan, 105, Republic of China

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E-mail redsun.tw@msa.hinet.net

URL http://www.twredsun.com

Available in: Taiwan (Rep. of China)

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### EP-6-068 Household goods and equipment

**One Touch Tap HP-21805 (HP-21806, HP-21802, HP-21605)**

**Environmental performance**
This type of faucet effectively saves water over 45%.

**Product performance**
Sanitary: By the design of self-cleaning, it decreases the risk of bacteria multiplying.
Easy installation: Repairing and replacing the touch-controlled faucet switch requires less than one-tenth of the cost of the sensor faucets. It may even be cheaper than common faucets. It is easy to repair without having to call an electrician, and it is easy to install.

---

**PINE STREET INDUSTRIAL CO., LTD.**

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URL http://www.twredsun.com

Available in: Taiwan (Rep. of China)
Eco-product // Household goods and equipment

EP-6-069

Press-and-Lift Long-Bolt Water-Saving Faucet (Sprinkling) DWS-12C

Environmental performance
* With Taiwan Water Conservation Label
* Water flow no more than 9 liter/per minute, and min. water flow must no less than 1 liter/per minute (under the test condition: 1KG water pressure/cm²)

Product performance
The design incorporates a sanitation press-and-life switch, water volume adjustment switch, soap dish, with the button located at the water dispensing point, for sanitized hand-washing. Surpassing the durability test 500,000 times. The ball vale design switch is smoother and more durable.

Ren Rong Hardware Industry Co., Ltd.
No. 41, Yongbei Rd., Hemei Township, Changhua Country, Taiwan, 508, Republic of China
Tel +886-4-7563407  Fax +886-4-7574422
E-mail sales@renrong.com.tw

Available in: Taiwan (Rep. of China)

EP-6-070

Press-and-Lift Vertical-Bolt Water-Saving Faucet (Sprinkling) DWS-13C

Environmental performance
* With Taiwan Water Conservation Label
* Water flow no more than 9 liter/per minute, and min. water flow must no less than 1 liter/per minute (under the test condition: 1KG water pressure/cm²)

Product performance
The design incorporates a sanitation press-and-life switch, water volume adjustment switch, soap dish, with the button located at the water dispensing point, for sanitized hand-washing. Surpassing the durability test 500,000 times. The ball vale design switch is smoother and more durable.

Ren Rong Hardware Industry Co., Ltd.
No. 41, Yongbei Rd., Hemei Township, Changhua Country, Taiwan, 508, Republic of China
Tel +886-4-7563407  Fax +886-4-7574422
E-mail sales@renrong.com.tw

Available in: Taiwan (Rep. of China)
### EP-6-071  Household goods and equipment

**Single Lever Basin Mixer B260C**

**Environmental performance**
The maximum flow rate is less than 9L per minute under the test condition of 1 kg of flowing water pressure per square centimeter. Thus, water resources are effectively saved.

**Product performance**
Caesar's single-lever basin faucet is elegantly designed and features low flow rate and low water use that have received high-standard water conservation certifications.

---

**SANITAR CO., LTD.**

7F., No.111-8, Xingde Rd., Sanchong Dist., New Taipei City 241, Taiwan, 241, Republic of China
Tel +886-2-8512-3712  Fax +886-2-8512-3717
E-mail aaron@caesar.com.tw
URL http://www.caesar.com.tw

Available in: Asia, Southeast Asia, Taiwan (Rep. of China), China

### EP-6-072  Household goods and equipment

**Double-Hole Basin Faucet B262C**

**Environmental performance**
The maximum flow rate is less than 9L per minute under the test condition of 1 kg of flowing water pressure per square centimeter. Thus, water resources are effectively saved.

**Product performance**
Caesar's double-hole basin faucet is elegantly designed and features low flow rate and low water use that have received high-standard water conservation certifications.

---

**SANITAR CO., LTD.**

7F., No.111-8, Xingde Rd., Sanchong Dist., New Taipei City 241, Taiwan, 241, Republic of China
Tel +886-2-8512-3712  Fax +886-2-8512-3717
E-mail aaron@caesar.com.tw
URL http://www.caesar.com.tw

Available in: Asia, Southeast Asia, Taiwan (Rep. of China), China
**Eco-product // Household goods and equipment**

**EP-6-073**

**Water-saving Noiseless Tap SD-301**

**Environmental performance**
With a multiple water-conservation design, it can be self adjusted to save water, with water-saving efficiency at 50%~90%.

**Product performance**
It can also be fitted with a variety of water-dispensing spouts to achieve a host of water-dispensing modes (mist, rain shower, air bubbles). The showerhead pipes are made of processed copper tubing that can be disassembled for easy parts replacement, and the silent sound function helps to reduce the water flow sound passing through the pipe works.

**SHANG DER LIH COMPANY CO., LTD.**

No. 588, Minsheng Rd., Taoyuan City, Taoyuan County, Taiwan, 330, Republic of China
Tel +886-3-3471116  Fax +886-3-3331536
E-mail my3471116@yahoo.com.tw
URL http://www.sdl-throttle.com.tw

Available in: Worldwide

**EP-6-074**

**One Touch Tap (Spray) HP-265**

**Environmental performance**
Revolutionizing the usage habit and water-dispensing mode, it helps to reduce the daily water consumption and saves on energy.

**Product performance**
A water-saving device offers water-saving function and prevents bacteria crosscontamination and spread, with a water-saving ratio reaching 84%.

**Highplus International Co., Ltd.**

6F., No.11, Ln. 155, Sec. 3, Beishen Rd., Shenkeng Dist., New Taipei City, Taiwan, 22203, Republic of China
Tel +886-2-2662-5287  Fax +886-2-2662-5785
E-mail maylee@hihippo.com
URL http://www.hihippo.com/

Available in: Asia, Oceania, Europe, North America, South America, Middle and Near East, U.S.A., Singapore, Philippines, Republic of Korea, Taiwan, Rep. of China, China, South Africa
## Eco-product // Household goods and equipment

### EP-6-075

**Household goods and equipment**

*parts of faucet*

#### Aerator (Spray) HP-155

**Environmental performance**

Revolutionizing the water dispensing volume to reduce daily water consumption and save on energy.

**Product performance**

Besides the water-saving function, the water-dispensing volume can also be adjusted as needed to satisfy water-saving needs in different regions, with the range of water-saving at 30% ~ 60%.

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**Highplus International Co., Ltd.**

6F., No.11, Ln. 155, Sec. 3, Beishen Rd., Shenkeng Dist., New Taipei City, Taiwan, 22203, Republic of China

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E-mail maylee@hihippo.com

URL http://www.hihippo.com/

Available in: Asia, Oceania, Europe, Central America, South America, Middle East, U.S.A., Singapore, Philippines, Republic of Korea, Taiwan, Rep. of China, China, South Africa

### EP-6-076

**Household goods and equipment**

*parts of faucet*

#### Aerator (Aeration) HP-1055

**Environmental performance**

Revolutionizing the water dispensing volume to reduce daily water consumption and save on energy.

**Product performance**

Besides emphasizing its water-saving function, the water-dispensing volume can be adjusted as desired, achieving a water-saving ratio of 30% ~ 60%.

---

**Highplus International Co., Ltd.**

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E-mail maylee@hihippo.com

URL http://www.hihippo.com/

Available in: Asia, Oceania, Europe, Central America, South America, Middle East, U.S.A., Singapore, Philippines, Republic of Korea, Taiwan, Rep. of China, China, South Africa
### EP-6-077  Household goods and equipment  parts of faucet

**Timer Tap HP-185S**

**Environmental performance**
Revolutionizing the water dispensing volume to reduce daily water consumption and save on energy.

**Product performance**
A faucet offering the water-saving function, the water is turned on and turned off automatically by pressing the switch located underneath. It is suitable for public venues, as it not only saves water but also helps to prevent spreading bacteria, with a water conservation ratio at 87%.

**Highplus International Co., Ltd.**

6F., No.11, Ln. 155, Sec. 3, Beishen Rd., Shenkeng Dist., New Taipei City, Taiwan, 22203, Republic of China

Tel +886-2-2662-5287  Fax +886-2-2662-5785

E-mail maylee@hihippo.com

URL http://www.hihippo.com/

Available in: Asia, Oceania, Europe, North America, Central America, South America, Middle East, U.S.A., Singapore, Philippines, Republic of Korea, Taiwan, Rep. of China, China, South Africa

### EP-6-078  Household goods and equipment  parts of faucet

**One Touch Tap YS-185**

**Environmental performance**
The self-closing type of faucet effectively saves water over 84%.

**Product performance**
Repairing and replacing the touch-controlled faucet switch requires less than one-tenth of the cost of the sensor faucets. It may even be cheaper than common faucets. It is easy to repair without having to call an electrician, and it is easy to install.

**PINE STREET INDUSTRIAL CO., LTD.**

No. 13, Aly. 6, Ln. 36, Sec. 5, Minsheng E. Rd., Songshan District, Taipei City, Taiwan, 105, Republic of China

Tel +886-2-2753-3689  +886-2-2976-0335  Fax +886-2-2976-1470

E-mail redsun.tw@msa.hinet.net

URL http://www.twredsun.com

Available in: Taiwan (Rep. of China)
Eco-product // Household goods and equipment

EP-6-079  Household goods and equipment

One Touch Tap YS-165, YS-1065

Environmental performance
This type of faucet effectively saves water over 45%.

Product performance
Sanitary: By the design of self-cleaning, it decreases the risk of bacteria multiplying.
Easy installation: Repairing and replacing the touch-controlled faucet switch requires less than one-tenth of the cost of the sensor faucets. It may even be cheaper than common faucets. It is easy to repair without having to call an electrician, and it is easy to install.

PINE STREET INDUSTRIAL CO., LTD.
No. 13, Aly. 6, Ln. 36, Sec. 5, Minsheng E. Rd., Songshan District, Taipei City, Taiwan, 105, Republic of China
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E-mail redsun.tw@msa.hinet.net
URL http://www.twredsun.com

Available in: Taiwan (Rep. of China)

EP-6-080  Household goods and equipment

COSMINERGY FAUCET FILTER CW-02C

Environmental performance
It is a water-saving product.

Product performance
1. A wide-area water dispensing design enlarges the washing area to conserve water and energy.
2. Combining the four leading technologies of an international food-grade material: Japan (NSF, INS266), the United States (KDF, FDA, EPA), oscillated energy bio-ceramic energy technology (CE, SGS tested to comply with FDA rules), nanometer silver bacteria-fighting device (SGS).
3. Simple and easy installation for the instance convenience of an aggregate water flow.
4. Suitable for multiple faucet specifications: includes a number of connectors, offering high compatibility.
5. Extended operating life cycle: By estimating the water-borne residual chlorine at under 0.1L/mg in the tap water, the filtration core’s operating life cycle (at approx. 60 liters per day) can last somewhere from 8 to 10 months.
6. The nanometer silver bacteria-fighting device suppresses bacterial growth with multiple yields combined in one, and with a disposable filtration core (chlorine removal, filtration, bacteria fighting, energizing, revitalizing, breaking down heavy metals).

Cosminergy Hitech Developing Co., Ltd.
No. 15-5, Aly. 11, Ln. 327, Sec. 2, Zhongshan Rd., Zhonghe Dist., New Taipei City, Taiwan, 235, Republic of China
Tel +886-2-2247-2567-533 Fax +886-2-2247-6687
E-mail joyce@cosminergy.com
URL http://www.cosminergy.com

Available in: Asia, Europe, Southeast Asia, Taiwan (Rep. of China)
**EP-6-081**  
**Household goods and equipment**  
**Water Saver for Shower Hoses SD-213**

**Environmental performance**
Installed between the showerhead and the gooseneck, it helps to save as much as 30%~40% of water, and it further saves on the heating source (power saving, fuel saving, gas saving).

**Product performance**
Deluxe meta chromium material (the 360 rotation type).
With a flow stabilizing device, it is capable of achieving flow regulation and a smooth water discharge effect regardless of high or low water pressure. After installation, and upon igniting the heater, the water heater can operate normally (without affecting the water pressure).

**SHANG DER LIH COMPANY CO., LTD.**
No. 588, Minsheng Rd., Taoyuan City, Taoyuan County, Taiwan, 330, Republic of China  
Tel +886-3-3471116  Fax +886-3-3331536  
E-mail my3471116@yahoo.com.tw  
URL http://www.sdl-throttle.com.tw

Available in: Worldwide

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**EP-6-082**  
**Household goods and equipment**  
**Swivel Aerator for Non-Threaded Taps (Insertion Type) SD-101**

**Environmental performance**
The embedded (plugged-in) type for installing onto the existing faucet, it offers a water-conservation ratio of 80%~90%.

**Product performance**
Compatible to unthreaded faucets.

**SHANG DER LIH COMPANY CO., LTD.**
No. 588, Minsheng Rd., Taoyuan City, Taoyuan County, Taiwan, 330, Republic of China  
Tel +886-3-3471116  Fax +886-3-3331536  
E-mail my3471116@yahoo.com.tw  
URL http://www.sdl-throttle.com.tw

Available in: Worldwide
Eco-product // Household goods and equipment

### EP-6-083
**Swivel Aerator with Hose Adapter SD-105**

**Environmental performance**
Mounted onto the general (unthreaded) faucets, with water conservation at 70%—80%.

**Product performance**
Compatible to threaded and unthreaded faucets.

**SHANG DER LIH COMPANY CO., LTD.**
No. 588, Minsheng Rd., Taoyuan City, Taoyuan County, Taiwan, 330, Republic of China
Tel +886-3-3471116    Fax +886-3-3331536
E-mail my3471116@yahoo.com.tw
URL http://www.sdl-throttle.com.tw

Available in: Worldwide

### EP-6-084
**360-Degree Swivel Aerator for Threaded Taps SD-106**

**Environmental performance**
Offers a water-conservation feature to achieve the best washing and water-saving effects.

**Product performance**
With adjustable water-dispensing angles and distance, it comes with two options of water jet (rain shower) and air bubbles.

**SHANG DER LIH COMPANY CO., LTD.**
No. 588, Minsheng Rd., Taoyuan City, Taoyuan County, Taiwan, 330, Republic of China
Tel +886-3-3471116    Fax +886-3-3331536
E-mail my3471116@yahoo.com.tw
URL http://www.sdl-throttle.com.tw

Available in: Worldwide
### EP-6-085

**Household goods and equipment**

**showerheads**

**"Clic-Clac" Touch-Control Water-Saving Showerheads BW-2S-1**

**Environmental performance**

This product is test proven to provide a maximum flow rate of 9.74L/min under the condition of 1kgf/cm², conforming to the specifications of Taiwan's Water Conservation Label. Water flow is immediately stopped when not in use. Avoids unnecessary waste and saves up to 35% of water.

**Product performance**

The uniquely designed handle can be used to start and stop water flow. Press the handle once, and water flows out; press the handle again, and water stops automatically. It is convenient as well as water- and energy-saving.

**BIDWIN INDUSTRIES CO., LTD.**

4F-2, No. 2, Ln. 43, Chung Hwa Rd., Sanxia Dist., New Taipei City, Taiwan, 23742, Republic of China

Tel +886-2-26738246  Fax +886-2-26738141  
E-mail bidwin@kimo.com  
URL http://www.bidwin.com.tw

Available in: Asia, Europe, North America, South America

### EP-6-086

**Household goods and equipment**

**showerheads**

**EZ n’ SAVE Oxygenic SPA Hand Shower BW-6S-N**

**Environmental performance**

This product is test proven to provide a maximum flow rate of 9.74L/min under the condition of 1kgf/cm², conforming to the specifications of Taiwan's Water Conservation Label. Water flow is immediately stopped when not in use. Avoids unnecessary waste and saves up to 60% of water.

**Product performance**

The handle can be operated in two steps. Water is released when the handle is gently pressed, and water is stopped as soon as the handle is pressed again. It is easy to use and saves both water and energy. The water outlet ring can be adjusted to different spray/flow mode. The nebulized spray is SGS tested to be rich in negative ions.

**BIDWIN INDUSTRIES CO., LTD.**

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URL http://www.bidwin.com.tw

Available in: Asia, Europe, North America, South America
# Eco-product // Household goods and equipment

## EP-6-087 Household goods and equipment

**SPA n’ SAVE Oxygenic SPA Hand Shower BW-8S**

### Environmental performance

Equipped with a water-saving valve to limit the flow rate to 6-11L/min. Effective in stabilizing water pressure and saving water. Saves up to 60% of water.

### Product performance

- The patented water outlet ring structure has a pressurizing effect and can produce various spray/flow modes. The thin water streams provide a massaging effect, while the nebulized spray is SGS tested to contain more than 1,236,000 c.c. of negative ions.
- Built-in with a unique water-saving valve that can limit the flow rate to 6-11L/min, regardless of water pressure and on which floor of a building it is located. With water outlet pressure stabilized, baths can be taken in winter times without abrupt water temperature variations.

**BIDWIN INDUSTRIES CO., LTD.**

4F-2, No. 2, Ln. 43, Chung Hwa Rd., Sanxia Dist., New Taipei City, Taiwan, 23742, Republic of China  
Tel +886-2-26738246  Fax +886-2-26738141  
E-mail bidwin@kimo.com  
URL http://www.bidwin.com.tw

Available in: Asia, Europe, North America, South America

## EP-6-088 Household goods and equipment

**SPA n’ SAVE Oxygenic SPA Hand Shower BW-8SN**

### Environmental performance

Equipped with a water-saving valve to limit the flow rate to 6-11L/min. Effective in stabilizing water pressure and saving water. Saves up to 60% of water.

### Product performance

- The patented water outlet ring structure has a pressurizing effect and can produce various spray/flow modes. The thin water streams provide a massaging effect, while the nebulized spray is SGS tested to contain more than 1,236,000 c.c. of negative ions.
- Built-in with a unique water-saving valve that can limit the flow rate to 6-11L/min, regardless of water pressure and on which floor of a building it is located. With water outlet pressure stabilized, baths can be taken in winter times without abrupt water temperature variations.

**BIDWIN INDUSTRIES CO., LTD.**

4F-2, No. 2, Ln. 43, Chung Hwa Rd., Sanxia Dist., New Taipei City, Taiwan, 23742, Republic of China  
Tel +886-2-26738246  Fax +886-2-26738141  
E-mail bidwin@kimo.com  
URL http://www.bidwin.com.tw

Available in: Asia, Europe, North America, South America
**Eco-product // Household goods and equipment**

### EP-6-089

**"SMART-FLOW" Faucet Water Saver BW-3S**

**Environmental performance**

This product was granted the Water Conservation Label by the Ministry of Economic Affairs, Taiwan. And, according to the test results performed by Industrial Technology Research Institute of Taiwan, this product can save up to 89% of water.

**Product performance**

"SMART-FLOW" is installed right under a faucet outlet. Once the faucet is turned on, water flow is started or stopped by triggering the control rod. Convenient: The faucet need not be turned on and off repeatedly. Hygienic: The control rod is washed while the user washes his or her hands. Therefore, the chances of infection are reduced.

**BIDWIN INDUSTRIES CO., LTD.**

4F-2, No. 2, Ln. 43, Chung Hwa Rd., Sanxia Dist., New Taipei City, Taiwan, 23742, Republic of China
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E-mail bidwin@kimo.com
URL http://www.bidwin.com.tw

Available in: Asia, Europe, North America, South America

### EP-6-090

**Showerhead Handles A152**

**Environmental performance**

Water-saving features: In conformity with the specifications of Taiwan’s Water Conservation Label.

**Product performance**

Product specifications:
1. Inlet tube diameter: 1/2".
2. Suitable for showers in general.

**HAW LONG MFG. CORP.**

No.238, Hui Nan Rd., Ho Mei Township, Chang Hwa County, Taiwan, 508, Republic of China
Tel +886-4-7632000  Fax +886-4-7628793
E-mail hawlong1@ms54.hinet.net
URL http://www.hawlong.com

Available in: North America, Central America, South America, U.S.A., Taiwan (Rep. of China), China
### EP-6-091  Household goods and equipment  
**dual-flush devices**

#### Water-Saving Foot-Operated Dual-Flush Valve DK-1014

**Environmental performance**
This product is water-saving, and most of the materials used are recyclable and reusable to reduce the use of raw materials.

**Product performance**
This product is designed for use with fast-flush toilets. The control handle on the main body can be pressed to flush solid waste, and the red handle is for liquid waste. Besides, the flushing water is automatically stopped after four to five seconds. Thus, the purpose of water conservation is achieved.

**LIYIH MAKE CO., Ltd.**
No.77-7, Qipan Ln., Lugang Township, Changhua County, Taiwan, 505, Republic of China  
Tel +886-4-7761759  Fax +886-4-7762552  
E-mail Liao7778@ms43.hinet.net  
URL http://www.duker.com.tw

Available in: Taiwan (Rep. of China)

### EP-6-092  Household goods and equipment  
**self-closing faucet**

#### Self-Closing Long Valve DK-102

**Environmental performance**
This product is water-saving, and most of the materials used are recyclable and reusable to reduce the use of raw materials.

**Product performance**
A wall-mounted faucet with an upwardly extending press valve. Water is automatically released and stopped when the valve is pressed. The water release time is adjustable to save water.

**LIYIH MAKE CO., Ltd.**
No.77-7, Qipan Ln., Lugang Township, Changhua County, Taiwan, 505, Republic of China  
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URL http://www.duker.com.tw

Available in: Taiwan (Rep. of China)
## Eco-product // Household goods and equipment

### EP-6-093 Household goods and equipment

<table>
<thead>
<tr>
<th>Self-Closing Vertical Valve DK-329</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental performance</strong></td>
</tr>
<tr>
<td>This product is water-saving, and most of the materials used are recyclable and reusable to reduce the use of raw materials.</td>
</tr>
<tr>
<td><strong>Product performance</strong></td>
</tr>
<tr>
<td>Designed for wash basin, this product releases and stops water automatically when pressed. The water release time can be adjusted to save water.</td>
</tr>
</tbody>
</table>

**LIYIH MAKE CO., Ltd.**

No.77-7, Qipan Ln., Lugang Township, Changhua County, Taiwan, 505, Republic of China  
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Available in: Taiwan (Rep. of China)

### EP-6-094 Household goods and equipment

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Environmental performance</strong></td>
</tr>
<tr>
<td>Highly effective in saving water and preventing wasteful use of water resources.</td>
</tr>
<tr>
<td><strong>Product performance</strong></td>
</tr>
<tr>
<td>The sensing distance can be adjusted as needed.</td>
</tr>
</tbody>
</table>

**JYE LI AN TECHNOLOGY CO., LTD.**

No.307, Zhongzheng S. Rd., Yongkang Dist., Tainan City, Taiwan, 710, Republic of China  
Tel +886-6-2426978  Fax +886-6-2426990  
E-mail info@jla.com.tw  
URL http://www.jla.com.tw

Available in: Asia, Middle and Near East, Philippines, China
### EP-6-095

**Household goods and equipment**  
**products for bathroom use**

**Sensor-Operated Urinal Flushers L-303, L-313, L-323, L-507, L-508, L-509**

**Environmental performance**  
Highly effective in saving water and preventing wasteful use of water resources.

**Product performance**  
The sensing distance can be adjusted as needed.

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**JYE LI AN TECHNOLOGY CO., LTD.**

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Tel +886-6-2426978 Fax +886-6-2426990  
E-mail info@jla.com.tw  
URL http://www.jla.com.tw

Available in: Asia, Middle and Near East, Philippines, China

### EP-6-096

**Household goods and equipment**  
**products for bathroom use**

**Sensor-Operated Urinal Flushers L-373, L-393, L-333, L-353**

**Environmental performance**  
Highly effective in saving water and preventing wasteful use of water resources.

**Product performance**  
The sensing distance can be adjusted as needed.

---

**JYE LI AN TECHNOLOGY CO., LTD.**

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URL http://www.jla.com.tw

Available in: Asia, Middle and Near East, Philippines, China
Eco-product // Household goods and equipment

EP-6-097
Household goods and equipment
products for bathroom use

Sensor-Operated Urinal Flushers L-501, L-502, L-503, L-505

Environmental performance
Highly effective in saving water and preventing wasteful use of water resources.

Product performance
The sensing distance can be adjusted as needed.

JYE LI AN TECHNOLOGY CO., LTD.

No.307, Zhongzheng S. Rd., Yongkang Dist., Tainan City, Taiwan, 710, Republic of China
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E-mail info@jia.com.tw
URL http://www.jia.com.tw

Available in: Asia, Middle and Near East, Philippines, China

EP-6-098
Household goods and equipment
toilets

Water-Saving Dual-Flush Toilet CS853

Environmental performance
Compared with ordinary toilets, dual-flush toilets can save up to 50% of water.

Product performance
Water-saving dual-flush toilets release not more than 6L of water to flush solid waste, and not more than 3L of water to flush liquid waste. By contrast, ordinary toilets release about 6L of water in each flush. Compared with ordinary toilets, dual-flush toilets can save up to 50% of water.

LUNG TIEN HSIA INDUSTRIAL CO., LTD.

No.47, Yongxiang Rd., Fangliao Township, Pingtung County, Taiwan, 940, Republic of China
Tel +886-7-6163666  Fax +886-7-6160361
E-mail service@lth.com.tw
URL http://www.lth.com.tw

Available in: Taiwan (Rep. of China)
EP-6-099 Household goods and equipment

Water-Saving Dual-Flush Toilet CS873

**Environmental performance**

Compared with ordinary toilets, dual-flush toilets can save up to 50% of water.

**Product performance**

Water-saving dual-flush toilets release not more than 6L of water to flush solid waste, and not more than 3L of water to flush liquid waste. By contrast, ordinary toilets release about 6L of water in each flush. Compared with ordinary toilets, dual-flush toilets can save up to 50% of water.

LUNG TIEN HSIA INDUSTRIAL CO., LTD.

No.47, Yongxiang Rd., Fangliao Township, Pingtung County, Taiwan, 940, Republic of China  
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E-mail service@lth.com.tw  
URL http://www.lth.com.tw

Available in: Taiwan (Rep. of China)

EP-6-100 Household goods and equipment

SATIS: the water-saving ECO4toilet

**Environmental performance**

SATIS, tankless toilet, is a super water-saving ECO4 toilet, full flush (4 liters) and partial flush (3.3 liters) product line, it cleans the entire bowl and provides water savings of about 73% and electrical savings of 76% compared with existing products. With Progrurad treatment surface, prevents inorganic scale accumulating and drastically lowers water volume for cleaning. Also due to easily decomposable design and marking of materials it contains, easy recycling is possible when it reaches the end of its service life.

**Product performance**

Tankless toilet "SATIS" has a sophisticated design, making it more aesthetically pleasing, comfortable, and high quality. As the compact and simple form, it helps to free up space in the surrounding area. It is also equipped with a function to electronically move the hygienic function unit up and down to ensure easy cleaning.

LIXIL Corporation

36F, Kasumigaseki Building, 3-2-5 Kasumigaseki, Chiyoda-ku, Tokyo, 100-6036, Japan  
URL http://global.lixil.co.jp/

Available in: Japan, U.S.A, Republic of Korea, Taiwan (Rep. of China) , China
Eco-product // Household goods and equipment

**EP-6-101**

### The Sensor Urinal: achieving excellent Water and Energy Saving

#### Environmental performance
The Sensor Urinal flushes automatically after use. It has a built-in hydroelectric generator with a power generation function that effectively converts spouting water into electrical energy. It uses just 1 to 2 liters of water to flush monitoring the time of use, saving about 70% compared with existing products.

#### Product performance
The Sensor Urinal has an ISO standard antibacterial ceramic surface and an easy-to-clean rim shape. It features a stylish design in addition to ease of maintenance.

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**LIXIL Corporation**

36F, Kasumigaseki Building, 3-2-5 Kasumigaseki, Chiyoda-ku, Tokyo, 100-6036, Japan

URL: [http://global.lixil.co.jp/](http://global.lixil.co.jp/)

Available in: Japan, China

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**EP-6-102**

### One-Piece Wrapped-Designed Toilet with Dual Flush Function CF1347

#### Environmental performance
Dual siphonic flush for flushing liquid and solid wastes selectively. Effective in saving water, for only 3-6 liters of water is used in each flush.

#### Product performance
The rectangular, fully enclosed toilet has the following features:
1. The toilet is fully enclosed on the sides to keep the toilet pipe from view. This not only makes the toilet visually pleasing but also facilitates cleaning.
2. For the user’s sitting comfort, the rectangular lower toilet cover is widened, and the seat is specially designed in terms of sitting angle and seated area.
3. In keeping with the global water saving concept and to cater for consumers’ use habits, 3L and 6L flush buttons are designed for liquid and solid wastes respectively to save more water resources.

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**SANITAR CO., LTD.**

7F., No.111-8, Xingde Rd., Sanchong Dist., New Taipei City, Taiwan, 241, Republic of China

Tel +886-2-8512-3712  Fax +886-2-8512-3717  
E-mail aaron@caesar.com.tw  

Available in: Asia, Southeast Asia, Taiwan (Rep. of China), China
### Connective Wrapped-Designed Toilet with Dual Flush Function CF1345

**Environmental performance**

Dual flush system for flushing liquid and solid wastes selectively. Effective in saving water, for only 3-6 liters of water is used in each flush.

**Product performance**

The circular, connected-and-enclosed-type toilet has the following features:

1. The toilet is fully enclosed on the sides to keep the toilet pipe from view. This not only makes the toilet visually pleasing but also facilitates cleaning.
2. For the user’s sitting comfort, the lower toilet cover is widened, and the seat is specially designed in terms of sitting angle and seated area.
3. In keeping with the global water saving concept and to cater for consumers’ use habits, 3L and 6L flush buttons are designed for liquid and solid wastes respectively to save more water resources.

**SANITAR CO., LTD.**

7F., No.111-8, Xingde Rd., Sanchong Dist., New Taipei City, Taiwan, 241, Republic of China  
Tel +886-2-8512-3712  Fax +886-2-8512-3717  
E-mail aaron@caesar.com.tw  
URL http://www.caesar.com.tw

Available in: Asia, Southeast Asia, Taiwan (Rep. of China), China

### One-Piece Wrapped-Designed Toilet with Dual Flush Function CF1346

**Environmental performance**

Dual siphonic flush for flushing liquid and solid wastes selectively. Effective in saving water, for only 3-6 liters of water is used in each flush.

**Product performance**

The rectangular, connected-and-enclosed-type toilet has the following features:

1. The toilet is fully enclosed on the sides to keep the toilet pipe from view. This not only makes the toilet visually pleasing but also facilitates cleaning.
2. For the user’s sitting comfort, the rectangular lower toilet cover is widened, and the seat is specially designed in terms of sitting angle and seated area.
3. In keeping with the global water saving concept and to cater for consumers’ use habits, 3L and 6L flush buttons are designed for liquid and solid wastes respectively to save more water resources.

**SANITAR CO., LTD.**

7F., No.111-8, Xingde Rd., Sanchong Dist., New Taipei City, Taiwan, 241, Republic of China  
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E-mail aaron@caesar.com.tw  
URL http://www.caesar.com.tw

Available in: Asia, Southeast Asia, Taiwan (Rep. of China), China
EP-6-105  
Household goods and equipment  
products for bathroom use  


**Environmental performance**  
Highly effective in saving water and preventing wasteful use of water resources.

**Product performance**  
The sensing distance can be adjusted as needed.

JYE LI AN TECHNOLOGY CO., LTD.
No.307, Zhongzheng S. Rd., Yongkang Dist., Tainan City, Taiwan, 710, Republic of China  
Tel +886-6-2426978  Fax +886-6-2426990  
E-mail info@jla.com.tw  
URL http://www.jla.com.tw

Available in: Asia, Middle and Near East, Philippines, China

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EP-6-106  
Household goods and equipment  
foot-operated faucet assembly

Foot-Operated Faucet Assembly DK-336

**Environmental performance**  
This product is water-saving, and most of the materials used are recyclable and reusable to reduce the use of raw materials.

**Product performance**  
Designed for wash basin. The water outlet valve is actuated by foot so as to avoid hand-to-product contact and meet hygienic requirements. Water is automatically released and stopped when the valve is pressed. The water release time is adjustable to save water.

LIYIH MAKE CO., Ltd.
No.77-7, Qipan Ln., Lugang Township, Changhua County, Taiwan, 505, Republic of China  
Tel +886-4-7761759  Fax +886-4-7762552  
E-mail Liao7778@ms43.hinet.net  
URL http://www.duker.com.tw

Available in: Taiwan (Rep. of China)
**EP-6-107**

**Household goods and equipment**

**Heat Pump Water Heater for Commercial Use**

**Eco Cute for commercial applications**

**Environmental performance**

- **Energy saving**
  - A newly developed inverter-type scroll CO2 compressor is adopted.
  - Thermal energy absorbed from the atmosphere heats the water that passes through the heat exchanger. The system produces approximately three to four times the amount of electrical energy used (high efficiency).

- **Toxicity / Chemical substances reduction**
  - The CO2 natural refrigerant has an ozone depletion potential of zero and a global warming potential of one.

**Product performance**

- The CO2 heat pump and inverter capacity control technologies facilitate an optimum hot water output of up to 90°C.
- 10th Electric Load Leveling System Awards (Ministry of Economy, Trade and Industry, Agency for Natural Resources and Energy Director-General's Prize)

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**Mitsubishi Electric Corporation**

2-7-3, Marunouchi Chiyoda-ku, Tokyo, 100-8310, Japan

Tel +81-3-3218-9024  Fax +81-3-3218-2465  
E-mail eqd.eco@pj.MitsubishiElectric.co.jp  
URL http://global.mitsubishielectric.com/index.html  

Available in: Japan

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**EP-6-108**

**Household goods and equipment**

**Heat Pump Water Heater for Domestic Use**

**Environmental performance**

This heat pump water heater makes use of ambient heat in the air to attain energy savings of one-third compared with Mitsubishi Electric's conventional electrical water heaters. As this model uses natural CO2 as a refrigerant, it causes no damage to the ozone layer and has a global warming potential 1/1700 of that posed by CFC refrigerants. Moreover, it does not produce CO2 emissions because it does not require the combustion of fuel.

The heat pump unit features an original rotary compressor* for CO2 refrigerant hot-water supply. In addition, it incorporates Mitsubishi Electric's unique open core coil-wound "Poki Poki Motor". This high-density coil technology helps to realize significant performance improvements.

*The high-efficiency rotary compressor was awarded the fiscal 2007 Technology Prize of the Japan Society of Refrigerating and Air Conditioning Engineers (JSRAE).

**Product performance**

The Eco Check Function is adopted on the remote control devices with the aim of showing the degree of contribution to the environment.

The function allows users to recognize the degree of contribution to the environment by pushing a button to learn the ideal mode for heating water and the amount of emission cuts.

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**Mitsubishi Electric Corporation**

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URL http://global.mitsubishielectric.com/index.html  

Available in: Japan
Eco-product // Household goods and equipment

**EP-6-109**

*Household goods and equipment*

**EcoCute Featuring Silver Ionizer - Unprecedented in the Industry**

**Environmental performance**
- Mitigation of climate change: The use of CO₂, a natural refrigerant, GWP is only 1.
- Mitigation of climate change: The unit learns the usage patterns to heat a certain volume of water as required by user.
- Raising users’ consciousness on energy-saving: The remote controller displays a real-time report on water usage, the availability of hot water at a set temperature, in order to raise users’ consciousness on energy-saving.
- Raising users’ consciousness on energy-saving: The silver ion’s anti-bacterial and deodorant effects minimize dirt and smell in the hot water used in a bathtub on the previous day, and helps the water to be reused for laundry or other day-to-day applications.
- Efficient use of resources: 5kg (7%) of the tank weight is reduced.

**Product performance**
- Clean energy: Heat Pump system, heating the water with heated air, achieves highly efficient operation.
- The APF is 3.3, about three times as high as a heater-type unit.
- Visible remote controller: This feature displays a real-time report on hot water at a set temperature.
- Silver Ionizer: The silver ions’ antibacterial and deodorant effects purify hot water used in a bathtub for the repeated use.

**Toshiba Carrier Corporation**
3-23-17, Takanawa, Minato-ku, Tokyo, 108-8580, Japan
Tel +81-3-6409-1735 Fax +81-3-5447-8101
URL http://www.toshiba.co.jp/index.htm
URL http://www.toshiba-aircon.jp/aboutus/environment.htm

Available in: Japan

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**EP-6-110**

*Household goods and equipment*

**Solid Oxide Fuel Cell (SOFC) for residential use**

**Environmental performance**
SOFC consists of a generation unit and an exhaust heat utilization unit. Osaka Gas works on the development of these units jointly with Kyocera Corp. / Toyota Motor Corp. / Aisin Seiki Co., Ltd. and Chofu Seisakusho Co., Ltd., respectively. The compact size of each unit makes the system suited for residential use.

From 2007 through 2010, Osaka Gas have conducted the field test as part of a research led by NEDO and The New Energy Foundation. Osaka Gas strives toward the commercialization of this system by making use of the experiences and results of the field tests.

The generating efficiency of this system is higher than that of the average thermal power plant: maximum energy saving of 36% and maximum CO2 emission reduction of 50%.

**Product performance**
- Power generation efficiency (700W): 40.6% (HHV), 45% (LHV)
- Total energy efficiency (700W): more than 77% (HHV), more than 85% (LHV)

**Osaka Gas Co., Ltd.**
4-1-2, Hirano-machi, Chuo-ku, Osaka-shi, Osaka, 541-0046, Japan
Tel +81-6-6205-4605 Fax +81-6-6202-1040
URL http://www.osakagas.co.jp/indexe.html
URL http://www.osakagas.co.jp/csr_e/index.html

Available in: Japan

Available in Japan
The PEFC Cogeneration Systems, which Osaka Gas has developed jointly with Toshiba Fuel Cell Power Systems Corp and ENEOS Celltech Corp and released in the market in FY2009, generates electricity through the electro-chemical reaction of oxygen in the air and hydrogen extracted from natural gas.

It is a highly energy-saving system which has realized total energy efficiency of more than 80% (*1) by utilizing the exhaust heat from generation for heating water. It reduces CO₂ emissions by approximately 1.3 ton per annum (*2).

*1: Lower heating value basis
*2: When introduced at a resident of 4 people, replacing the conventional system

**Environmental performance**

Power generation capacity: 700 - 250W
Power generation efficiency (700W): 31.5%*, 35%**
Total energy efficiency (700W): more than 72%*, more than 80%**

*Higher heating value basis
**Lower heating value basis

**Product performance**

Power generation capacity: 700 - 250W
Power generation efficiency (700W): 31.5%*, 35%**
Total energy efficiency (700W): more than 72%*, more than 80%**

*Higher heating value basis
**Lower heating value basis

**Osaka Gas Co., Ltd.**

4-1-2, Hirano-machi, Chuo-ku, Osaka-shi, Osaka, 541-0046, Japan
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URL http://www.osakagas.co.jp/csr_e/index.html

**Available in:** Japan

ECOWILL is an energy-efficient household-use cogeneration system fueled by environmentally-friendly natural gas. It generates electricity and supplies hot water by utilizing waste heat from the gas engine. It boasts an outstanding energy-saving effect with a generation efficiency of 26.3% and exhaust heat efficiency of 65.7%. The total energy efficiency reaches 92.0% (Lower heating value basis).

By utilizing waste heat associated with generation for hot water supply and space heating, it reduces the primary energy consumption by 27%* and CO₂ emissions by 38%*. The system offers higher level of comfort while contributing to environmental conservation.

* Comparison of 1 kW of electricity and 2.5 kW of heat generation by ECOWILL with conventional systems (electricity generated at centralized thermal power plant and heat generation by current gas water/space heating system)

**Product performance**

The most energy-efficient generation is realized by a learning function which records and analyzes the status of generation and hot water utilization pattern at home. The hot water is also utilized for the floor heating and bath room heater/dryer.

**Osaka Gas Co., Ltd.**

4-1-2, Hirano-machi, Chuo-ku, Osaka, 541-0046, Japan
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URL http://www.osakagas.co.jp/indexe.html
URL http://home.osakagas.co.jp/search_buy/ecowill/index.html
URL http://www.osakagas.co.jp/csr_e/index.html

**Available in:** Japan
**Environmental performance**

**ENE FARM**, micro-CHP with fuel cell, extracts hydrogen from city gas and generates power, utilizing waste heat for hot water. Tokyo Gas has already started sales of this residential fuel cell cogeneration system, which was jointly developed by Panasonic. ENE FARM can realize 35% more efficient energy supply than conventional system and contributes to approximately 48% reduction of CO2 emission amount (1.5t/y).

**Product performance**

- **Power output:** 0.75kW
- **Rated power efficiency:** 40% (in low heat value), 36% (in high heat value)
- **Rated heat recovery efficiency:** 50% (in low heat value), 45% (in high heat value)

**Tokyo Gas Co., Ltd.**

1-5-20 Kaigan, Minato-ku, Tokyo, 105-8527, Japan

Tel +81-3-5400-7669 Fax +81-3-3432-5509

URL [http://www.tokyo-gas.co.jp/index_e.html](http://www.tokyo-gas.co.jp/index_e.html)

Available in: Japan

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**Product performance**

"Econucool Pico" is a heat source for hot water heat radiators such as floor heating panel.

**Mitsubishi Electric Corporation**

2-7-3, Marunouchi Chiyoda-ku, Tokyo, 100-8310, Japan

Tel +81-3-3218-9024 Fax +81-3-3218-2465

E-mail eqd.eco@pj.MitsubishiElectric.co.jp


Available in: Japan
Eco-product // Household goods and equipment

**EP-6-115**

**Household goods and equipment**

**electromagnetic cooker**

The suitable temperature is kept by detection of bottom temperature of pan, using DSP & infrared sensor. All of three heaters are using IH heater, without conventional heater.

**Environmental performance**

- Mitigation of climate change: Heat efficiency of 85% is achieved by the adoption of a high-efficiency inverter and improved heating coil. Auto power-off function achieves zero stand-by power consumption.

**Product performance**

- Large buttons: Universal design with large operation buttons and large letters, numbers etc. for easy operation.
- Low-noise design: Improved cooling fan performance for quiet operation (25 dB) at a gentle heat.
- Smooth open/close: Counter-top heater equipped with a slide rail door open/close mechanism.

TOSHIBA HOME TECHNOLOGY CORPORATION

2570-1, Urasuda, Kamo-shi, Niigata, 959-1393, Japan
URL http://www.toshiba.co.jp/index.htm

Available in: Japan

**EP-6-116**

**Household goods and equipment**

**induction heating cooking heater**

Induction Heating Cooking Heater : KZ-LT75VS series

**Environmental performance**

- High thermal efficiency: enamel-coated pans approx. 90%, aluminum pans approx. 76% in water-heating mode. Minimal stand-by power consumption.
- Non-use of lead, mercury, cadmium, hexavalent chromium, and specific bromine fire retardant (Except the lead of sealing agent at sheathed heater)

**Product performance**

Double all metal wares can be used thanks to induction heating evolution. Heating power is highly enhanced. The built-in optical sensor and "ECONAVI" allow customers to operate with energy/resource saving and navigating appropriate firepower. In addition, the range hood is linked with IH cooking heater. That ventilates efficiently. And also, easy-to-read indicators and easy-to-operate universal design.

Panasonic Corporation, Appliances Company

1-5-1 Takatsukadai,Nishi-ku,Kobe City, 651-2271, Japan
Tel +81-78-992-9468
URL http://panasonic.net/
URL http://panasonic.net/csr/

Available in: Japan
**Gas Cooking Stove with High-efficiency Burners**

**Environmental performance**

This burner with 56% thermal efficiency has produced economic and energy-saving advantages over conventional cookers. The safety has been improved by being equipped with sensors for preventing overheating in all burners. The glass or double-coated surface reduces the cleaning time and labor.

The introduction of a new type of burner which prevents the flame from spreading has enabled the thermal efficiency of 56%.

Compared with induction heating cookers, the gas cooking stove emits 60% less annual CO₂ emissions (336kg-CO₂), which is equivalent to the effect of planting 20 cypress trees.

**Product performance**

The safety has been improved by installing sensor-equipped burners that enable the safety features to control or put out flames to prevent overheating in all models. With the help of the sensor, automatic cooking, such as rice cooking and fish grilling, are possible.

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**Osaka Gas Co., Ltd.**

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URL http://www.osakagas.co.jp/indexe.html
URL http://home.osakagas.co.jp/search_buy/gascooker/index.html
URL http://www.osakagas.co.jp/csr_e/index.html

Available in: Japan

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**Visualization of Electricity Consumption and Charges at Home to Contribute to the Reduction of CO₂ Emissions**

**Environmental performance**

- Mitigation of climate change: Visualization of power consumption allows users to recognize which appliances use a lot of electricity because CO₂ emissions, electricity charges, etc. are indicated. 6%* reduction of CO₂ emissions.
- *Target at the time of commercialization

**Product performance**

- Visualization of electricity consumption: Electricity consumption, CO₂ emissions, and electricity charges are displayed for each circuit breaker and master breaker.
- Batch control of home appliances: Capable of batch control of air conditioners, lighting equipment, floor heating, etc.
- Control via a mobile phone: Check the operation of home appliances via a mobile phone and control them from a remote location.

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**TOSHIBA LIGHTING & TECHNOLOGY CORPORATION**

2-15, Sotokanda 2-chome, Chiyoda-ku, Tokyo, 101-0021, Japan
URL http://www.tlt.co.jp/tlt/index_e.htm
URL http://feminity.toshiba.co.jp/feminity/feminity_eng/index.html

Available in: Japan
Order Green Spring Mattress

**Environmental performance**
Compliance with the "Green Mark" certification from the Environmental Protection Administration by Taiwan. All materials do not contain any harmful chemical substances thus reduce incidents where the mattresses are the source of allergens for allergy sufferers.
1. To ensure the mattress does not become the source of pollutants to the human body
2. To avoid the damage of harmful substances on human and environment.
3. To avoid the build-up of toxic carcinogens in the house from materials that contains formaldehyde and Total Volatile Organic Compounds (TVoC).

**Product performance**
1. The patented unique handmade Protection Net protects the force of the springs does not apply direct pressure to the spine. Instead, the high tension Protection Net helps the sleeper turn in the bed, which prevents the spine from deformation, and also increase the life of the inner springs.
2. All materials have gone through rigorous tests. The product's volatile formaldehyde concentration is only 0.016mg/m3 with TVoC 0.005mg/m3.

Taiwan Order Furniture Corporation
3F., No.84, Sec. 1, Wenhua 1st Rd., Linkou Dist., New Taipei City, 24447, Republic of China
Tel 886-2-2600-6008 Fax 886-2-2600-6028
E-mail maggie@order.com.tw
URL http://www.order.com.tw

Available in: Japan, Europe, Taiwan (Rep. of China), China

Order Green 3 Zone Pocket Springs Mattress

**Environmental performance**
Compliance with the "Green Mark" certification from the Environmental Protection Administration by Taiwan. All materials do not contain any harmful chemical substances thus reduce incidents where the mattresses are the source of allergens for allergy sufferers.
1. To ensure the mattress does not become the source of pollutants to the human body
2. To avoid the damage of harmful substances on human and environment.
3. To avoid the build-up of toxic carcinogens in the house from materials that contains formaldehyde and Total Volatile Organic Compounds (TVoC).

**Product performance**
1. The Honey Comb 3 Zone Pocket Spring Mattress uses a technique different from that of the Parallel Pocket Spring to increase the number of the springs by up to 6%. All springs are arranged in a solid and tight formation resembling a honey comb, which reduces the space between each spring, thus creating a perfect support system for the human body.
2. All materials have gone through rigorous tests. The product's volatile formaldehyde concentration is only 0.016mg/m3 with TVoC 0.005mg/m3.

Taiwan Order Furniture Corporation
3F., No.84, Sec. 1, Wenhua 1st Rd., Linkou Dist., New Taipei City, 24447, Republic of China
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E-mail maggie@order.com.tw
URL http://www.order.com.tw

Available in: Japan, Europe, Taiwan (Rep. of China), China
### EP-6-121  
**Household goods and equipment**

**Order Green Natural Latex Mattress**

- **Environmental performance**
  Compliance with the "Green Mark" certification from the Environmental Protection Administration by Taiwan. All materials do not contain any harmful chemical substances thus reduce incidents where the mattresses are the source of allergens for allergy sufferers.
  1. To ensure the mattress does not become the source of pollutants to the human body
  2. To avoid the damage of harmful substances on human and environment.
  3. To avoid the build-up of toxic carcinogens in the house from materials that contains formaldehyde and Total Volatile Organic Compounds (TVoC).

- **Product performance**
  Our proprietary blend of natural latex has an industry leading minimal of 95% natural material. It has the high quality, density, elasticity and full support your weight.

**Taiwan Order Furniture Corporation**

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E-mail maggie@order.com.tw  

Available in: Japan, Europe, Taiwan (Rep. of China), China

### EP-6-122  
**Household goods and equipment**

**Order Green Memory Foam Mattress**

- **Environmental performance**
  Compliance with the "Green Mark" certification from the Environmental Protection Administration by Taiwan. All materials do not contain any harmful chemical substances thus reduce incidents where the mattresses are the source of allergens for allergy sufferers.
  1. To ensure the mattress does not become the source of pollutants to the human body
  2. To avoid the damage of harmful substances on human and environment.
  3. To avoid the build-up of toxic carcinogens in the house from materials that contains formaldehyde and Total Volatile Organic Compounds (TVoC).

- **Product performance**
  1. The products fully comply with the original application of materials. Nothing was replaced or substituted.
  2. The manufacturing plant has ISO certification, quality assured.

**Taiwan Order Furniture Corporation**

3F., No.84, Sec. 1, Wenhua 1st Rd., Linkou Dist., New Taipei City, 24447, Republic of China  
Tel 886-2-2600-6008  Fax 886-2-2600-6028  
E-mail maggie@order.com.tw  

Available in: Japan, Europe, Taiwan (Rep. of China), China
Order Green Pocket-Springs Mattress

Environmental performance
Made of high capacity 72% high carbon steel, it provides the product with an even longer life cycle. Adopts 100% all natural rubber. The product’s evaporative formaldehyde concentration is only 0.01mg/m³ and TVOC 0.005mg/m³.

Product performance
Adopting handmade independent cylinder spring mattress, with the top layer containing 100% all natural, environmentally green rubber material to provide extra comfort, and can effective absorb the wobble when changing the sleeping posture at will by evenly supporting the weight of all body parts. The materials do not contain any cancerous chemical substances.

Taiwan Order Furniture Corporation
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E-mail maggie@order.com.tw
URL http://www.order.com.tw

Available in: Taiwan (Rep. of China)

Order Green Spring Mattress

Environmental performance
The high-capacity 77% high carbon steel provides longer product life cycle. All springs are kept to the maximum 190kgf/mm². The product's evaporative formaldehyde is only at 0.01mg/m³ and TVOC at 0.005mg/m³.

Product performance
The high carbon steel's springs, coupled with the "steel mesh", helps to support the head/spinal shape, and relaxes the body. The product's upper and bottom parts are in green rubber, which helps to relax the muscle and joints, with pure Tencel adopted as the mattress's surface fabric.

Taiwan Order Furniture Corporation
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E-mail maggie@order.com.tw
URL http://www.order.com.tw

Available in: Taiwan (Rep. of China)
Eco-product // Household goods and equipment

EP-6-125  Household goods and equipment

L’earth wheat composite lunch box

**Environmental performance**
Made of wheat by-products which is an abundant and renewable source. It does not compete with food supply or required deforestation. High content of recycled and certified food safe plastic used. This helps in lowering of greenhouse emission and slowdown of global warming. Less toxic gases are being emitted when incinerated. Product can also be oxo-biodegradable, thus helping to reduce landfill. Oxo-biodegradation leaves no harmful residues and fragments, and time to degradation is programmable.

Awards and certification for wheat composite material:
1. Singapore Green Label certified.
2. SEC- Senoko Power Green Innovation Award Winner 2010

**Product performance**
With L’earth it is simple, enjoyable and sustainable embracing an eco-conscious and modern lifestyle.

L’earth S Pte Ltd

No. 21 Toh Guan Road East #04 - 09 Toh Guan Centre Singapore 608609, 608609, Singapore
Tel +65 90717444  Fax 6565154557
E-mail sale2@mylearth.com.sg
URL http://www.mylearth.com.sg

Available in: Worldwide

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EP-6-126  Household goods and equipment

L’earth wheat composite bento lunch box

**Environmental performance**
Made of wheat by-products which is an abundant and renewable source. It does not compete with food supply or required deforestation. High content of recycled and certified food safe plastic used. This helps in lowering of greenhouse emission and slowdown of global warming. Less toxic gases are being emitted when incinerated. Product can also be oxo-biodegradable, thus helping to reduce landfill. Oxo-biodegradation leaves no harmful residues and fragments, and time to degradation is programmable.

Awards and certification for wheat composite material:
1. Singapore Green Label certified.
2. SEC- Senoko Power Green Innovation Award Winner 2010

**Product performance**
With L’earth it is simple, enjoyable and sustainable embracing an eco-conscious and modern lifestyle.

L’earth S Pte Ltd

No. 21 Toh Guan Road East #04 - 09 Toh Guan Centre Singapore 608609, 608609, Singapore
Tel +65 90717444  Fax 6565154557
E-mail sale2@mylearth.com.sg
URL http://www.mylearth.com.sg

Available in: Worldwide
EP-6-127  Household goods and equipment

L'earth disposable wheat composite lunch box

**Environmental performance**
Made of wheat by-products which is an abundant and renewable source. It does not compete with food supply or required deforestation. High content of recycled and certified food safe plastic used. This helps in lowering greenhouse emission and slowdown of global warming. Less toxic gases are being emitted when incinerated. Product can also be oxo-biodegradable, thus helping to reduce landfill. Oxo-biodegradation leaves no harmful residues and fragments, and time to degradation is programmable.

**Awards and certification for wheat composite material:**
1. Singapore Green Label certified.
2. SEC- Senoko Power Green Innovation Award Winner 2010

**Product performance**
With L'earth it is simple, enjoyable and sustainable embracing an eco-conscious and modern lifestyle.

L'earth S Pte Ltd
No. 21 Toh Guan Road East #04 - 09 Toh Guan Centre Singapore 608609, 608609, Singapore
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E-mail sale2@mylearth.com.sg
URL http://www.mylearth.com.sg

Available in: Worldwide

EP-6-128  Household goods and equipment

L'earth wheat composite mini drawer

**Environmental performance**
Made of wheat by-products which is an abundant and renewable source. It does not compete with food supply or required deforestation. High content of recycled and certified food safe plastic used. This helps in lowering greenhouse emission and slowdown of global warming. Less toxic gases are being emitted when incinerated. Product can also be oxo-biodegradable, thus helping to reduce landfill. Oxo-biodegradation leaves no harmful residues and fragments, and time to degradation is programmable.

**Awards and certification for wheat composite material:**
1. Singapore Green Label certified.
2. SEC- Senoko Power Green Innovation Award Winner 2010

**Product performance**
With L'earth it is simple, enjoyable and sustainable embracing an eco-conscious and modern lifestyle.

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Tel +65 90717444 Fax 6565154557
E-mail sale2@mylearth.com.sg
URL http://www.mylearth.com.sg

Available in: Worldwide
## EP-6-129 - Egg Cartons

### Environmental performance
Using 100% regenerated pulp in the recycling and reusing processes, the pulp molded products are biodegradable.

### Product performance
The egg crates can be used repeatedly, and the egg crates also offer better protectiveness.

### CHANG TAI ENVIRONMENTAL .CO., LTD.
No.191, Sec. 2, Zhangshui Rd., Puyan Township, Changhua County, Taiwan, 516, Republic of China
Tel +886-4-8653126  Fax +886-4-8657308
E-mail moulded.pulp@msa.hinet.net
URL http://www.greenearth.com.tw

Available in: Taiwan (Rep. of China)

## EP-6-130 - Roll Mat Material

### Environmental performance
Using 100% regenerated pulp in the recycling and reusing processes, the pulp molded products are biodegradable.

### Product performance
It helps to anchor tubular objects that are difficult to stack preventing them from rolling, and it can also be used repeatedly.

### CHANG TAI ENVIRONMENTAL .CO., LTD.
No.191, Sec. 2, Zhangshui Rd., Puyan Township, Changhua County, Taiwan, 516, Republic of China
Tel +886-4-8653126  Fax +886-4-8657308
E-mail moulded.pulp@msa.hinet.net
URL http://www.greenearth.com.tw

Available in: Taiwan (Rep. of China)
### EP-6-131  Household goods and equipment
moulded or pressed articles of paper pulp

#### Environmental performance
Using 100% regenerated pulp in the recycling and reusing processes, the pulp molded products are biodegradable.

#### Product performance
It can be used to contain products with good protectiveness, and it can be regenerated and used repeatedly.

**CHANG TAI ENVIRONMENTAL .CO., LTD.**
No.191, Sec. 2, Zhangshui Rd., Puyan Township, Changhua County, Taiwan, 516, Republic of China
Tel +886-4-8653126  Fax +886-4-8657308
E-mail moulded.pulp@msa.hinet.net
URL http://www.greenearth.com.tw

Available in: Taiwan(Rep. of China)

### EP-6-132  Household goods and equipment
moulded or pressed articles of paper pulp

#### Environmental performance
Using 100% regenerated pulp in the recycling and reusing processes, the pulp molded products are biodegradable.

#### Product performance
When used to contain semi-finished goods or complete products, it helps to prevent damages that would arise from objects colliding with each other. It can also be used repeatedly.

**CHANG TAI ENVIRONMENTAL .CO., LTD.**
No.191, Sec. 2, Zhangshui Rd., Puyan Township, Changhua County, Taiwan, 516, Republic of China
Tel +886-4-8653126  Fax +886-4-8657308
E-mail moulded.pulp@msa.hinet.net
URL http://www.greenearth.com.tw

Available in: Taiwan(Rep. of China)
EP-6-133  Household goods and equipment

Neo Life Chlorine Filter GS-P60 GF-AB

**Environmental performance**
* Received Taiwan’s Water Conservation Label. Saves water and energy around 30% ~ 70%. Power consumption is reduced in proportion to the water saved.

**Product performance**
* The patented innovative structure uses the physical principle of natural water flow to create vortices that drive the water stored inside to flow backward. Therefore, water flow will not be hindered by cak es which may otherwise form on the dechlorination material when the dechlorination material is in contact with water or heated. That is to say, the water flow will remain strong enough to activate the tankless water heater.
* The upper and lower parts of the dechlorinator housing each have three screw thread starting points 120 degrees apart so that the filter cartridge inside can be easily replaced. The filter cartridge has a foolproof design to facilitate replacement.
* International patents and copyrights pending or registered. The entire dechlorinating filter unit has received international food safety certifications.

WANG’S WATER WORLD EASY PRODUCTS SERIES CO., LTD.
No. 32, Yu-Tsai N. Rd., Taichung City, Taiwan, 404, Republic of China
Tel +886-4-2222-3998 +886-928-315-108
E-mail aneo168@gmail.com
URL http://www.pro-neo.com

Available in: Asia, Europe, U.S.A.

EP-6-134  Household goods and equipment

Automage-e : automatic sensor faucet with hydraulic power generation

**Environmental performance**
Automage-e, a sensor-equipped faucet, supplies water automatically when the user places his or her hands in front of it. This sensor faucet also has a built-in waterpower generator that effectively converts spouting power into electrical energy, enabling it to operate using the energy from this self-power generation. Additionally, the use of a water-saving spray flow for the spout means that less water splashes around the faucet, enabling hands to be washed thoroughly with less water. Automage-e reduces water usage up to 80% compared with two handle faucets (comparison with this company’s products).

**Product performance**
Automage-e automatically supplies water when the user places his or her hands near it thanks to sensor-based detection. This hands-free operation keeps the faucet and the area around the basin clean, thus maintaining the level of hygiene in the washbasin area.

LIXIL Corporation
36F, Kasumigaseki Building, 3-2-5 Kasumigaseki, Chiyoda-ku, Tokyo, 100-6036, Japan
URL http://global.lixil.co.jp/

Available in: Japan, Republic of Korea, Taiwan (Rep. of China), China
**L'earth wheat composite Shirt Hanger**

**Environmental performance**
Made of wheat by-products which is an abundant and renewable source. It does not compete with food supply or required deforestation. High content of recycled and certified food safe plastic used. This helps in lowering of greenhouse emission and slowdown of global warming. Less toxic gases are being emitted when incinerated. Product can also be oxo-biodegradable, thus helping to reduce landfill. Oxo-biodegradation leaves no harmful residues and fragments, and time to degradation is programmable.

Awards and certification for wheat composite material:
1. Singapore Green Label certified.
2. SEC- Senoko Power Green Innovation Award Winner 2010

**Product performance**
With L’earth it is simple, enjoyable and sustainable embracing an eco-conscious and modern lifestyle.

**L'earth S Pte Ltd**

No. 21 Toh Guan Road East #04 - 09 Toh Guan Centre Singapore 608609,
Tel +65 90717444 Fax 6565154557
E-mail sale2@myearth.com.sg
URL http://www.mylearth.com.sg

Available in: Worldwide

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**L'earth Oxo-Biodegradable T-shirt bag**

**Environmental performance**
Degrades with presence of UV, thermal and oxidation. Environmental friendly and good transparency.
Support governmental.
Member of Oxo-biodegradable plastics institute, USA.
www.biodeg.org

**Product performance**
With L’earth it is simple, enjoyable and sustainable embracing an eco-conscious and modern lifestyle.

**L'earth S Pte Ltd**

No. 21 Toh Guan Road East #04 - 09 Toh Guan Centre Singapore 608609,
Tel +65 90717444 Fax 6565154557
E-mail sale2@myearth.com.sg
URL http://www.mylearth.com.sg

Available in: Worldwide
### L’earth Oxo-Biodegradable Bag in roll

**Environmental performance**
Degrades with presence of UV, thermal and oxidation.
Environmental friendly and good transparency.
Support governmental.
Member of Oxo-biodegradable plastics institute, USA.
[www.biodeg.org](http://www.biodeg.org)

**Product performance**
With L’earth it is simple, enjoyable and sustainable embracing an eco-conscious and modern lifestyle.

**L’earth S Pte Ltd**
No. 21 Toh Guan Road East #04 - 09 Toh Guan Centre Singapore 608609, 608609, Singapore
Tel +65 90717444  Fax 6565154557
E-mail sale2@mylearth.com.sg

Available in: Worldwide

### L’earth Oxo-Biodegradable Die-Cut bag

**Environmental performance**
Degrades with presence of UV, thermal and oxidation.
Environmental friendly and good transparency.
Support governmental.
Member of Oxo-biodegradable plastics institute, USA.
[www.biodeg.org](http://www.biodeg.org)

**Product performance**
With L’earth it is simple, enjoyable and sustainable embracing an eco-conscious and modern lifestyle.

**L’earth S Pte Ltd**
No. 21 Toh Guan Road East #04 - 09 Toh Guan Centre Singapore 608609, 608609, Singapore
Tel +65 90717444  Fax 6565154557
E-mail sale2@mylearth.com.sg

Available in: Worldwide
Eco-product // Household goods and equipment

EP-6-139

**CornBag Carrier Bag**

**Environmental performance**
CornBag, disposable carrier bag is 100% biodegradable and carbon neutral. Made of up to 35% corn, it reduces the reliance on fossil fuels and cuts down on the release of toxic/green house gases when incinerated. Certified ISO-14001, ISO-14855, ASTM-6400, ASTM-6866, EN-13432.

**Product performance**
CornBag carrier bags can be made into a variety of designs. Colour and print are customisable. It is water-proof, durable & affordable. Certified ISO-9001, FDA approved.

**Olive Green Marketing Pte Ltd**

2 Toh Tuck Link #05-03, 596225, Singapore
Tel 65 67671301
URL http://www.olivegreen.com.sg

Available in: Worldwide

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EP-6-140

**MIAO CHIEH STORAGE FOOD BAGS Small 18cm x 25cm 100 Pieces per Pack**

**Environmental performance**
Free of any of the controlled substances as per the Montreal Protocol, and free of any harmful chemical substances. The packing paper box used for the product has a recycled paper-mixing ratio of over 80%.

**Product performance**
Adopting a brand-new leak prevention formula, and also undergoing stringent sealing, it can prevent fluid from leaking out, with specially selected extra thick material offering solidity and durablility.

**New Top Corporation**

2F., No. 20, Ln. 75, Yongkang St., Da’an Dist., Taipei City, Taiwan, 106, Republic of China
Tel +886-2-23931683-47    Fax +886-2-23417819
E-mail tpt122a055@mail.newtop.com.tw
URL http://www.newtop.com.tw/

Available in: Taiwan（Rep. of China）
Eco-product // Household goods and equipment

EP-6-119 Household goods and equipment

Individually Wrapped Straw 8mm x 22cm

**Environmental performance**
This product is made 100% from polypropylene (PP) in its original color, without color masterbatch.

**Product performance**
Proven to be safe by food-grade chemical tests. Consumers can drink from the cup without safety concerns.

V-IN Industrial Corp.
No. 100-2, Chung-Shan Rd., Shin-Hua Dist., Tainan City, Taiwan, 71243, Republic of China
Tel +886-6-5902666  Fax +886-6-5900079
E-mail vinind@ms17.hinet.net
URL http://www.vin-straw.com.tw

Available in: U.S.A., Republic of Korea, Taiwan (Rep. of China)

EP-6-142 Household goods and equipment

Green Card

**Environmental performance**
Green Card is an innovative eco-friendly uncoated card paper developed by SCG Paper to provide the right solutions to users and concurrently preserve natural resources. With EcoFiber 100%, virgin fiber sourced from trees is no longer required; thus, wood consumption is reduced while quality is maintained equivalent to uncoated card papers made from virgin fiber.

**Product performance**
Basis weights: 200, 250 gsm
Standard sizes: 25x36 inches, 31x43 inches
Features:
- Good printiability
- Cream color

Thai Paper Co., Ltd. in SCG Paper
1 Siam Cement Rd. Bangsue, Bangkok, 10800, Thailand
Tel +66 2 586 1000  Fax +66 2 586 2070
E-mail nuttavuv@scg.co.th
URL http://thaipaper.com

Available in: Thailand
Green Offset

**Environmental performance**
Green Offset is an innovative eco-friendly uncoated paper developed by SCG Paper to provide the right solutions to users and concurrently preserve natural resources. With EcoFiber 100%, virgin fiber sourced from trees is no longer required; thus, wood consumption is reduced while quality is maintained equivalent to uncoated papers made from virgin fiber.

**Product performance**
Basis weights: 80, 100, 120 gsm
Standard sizes: 24x35 inches, 31x43 inches
Features:
- Good printability
- Cream color

Thai Paper Co., Ltd. in SCG Paper
1 Siam Cement Rd. Bangsue, Bangkok, 10800, Thailand
Tel +66 2 586 1000  Fax +66 2 586 2070
E-mail nuttavuv@scg.co.th
URL http://thaipaper.com

Available in: Thailand

Idea Green

**Environmental performance**
Idea Green is made from EcoFiber and farmed-tree pulp through SCG Paper's Green Process. It contains of 30% EcoFiber and 70% farmed-tree pulp, thus, reduces woods consumption while concurrently offers high whiteness and good printability. EcoFiber is a fiber obtained from used papers and/or agro-waste.

**Product performance**
Idea Green defines a new concept of office paper. It combines ultimate performance properties with ecological values.
Basis weight: 80 gsm
Available sizes: A4, A3
Features: High whiteness and good printability

Thai Paper Co., Ltd. in SCG Paper
1 Siam Cement Rd. Bangsue, Bangkok, 10800, Thailand
Tel +66 2 586 1000  Fax +66 2 586 2070
E-mail nuttavuv@scg.co.th
URL http://thaipaper.com

Available in: Thailand
EP-6-145  Household goods and equipment  recycled paper

CLEAR LOTUS RECYCLED PAPER (OA)

Environmental performance
This product is certified by PEFC™. Use part of the Waste/Recycled pulp. Conservation and effective utilization of Forestry Resource. Components: Has least 60% recycled paper content.

Product performance
Basis weight: 45～180gsm
Format: Rolls/Sheets
End-use: Copy paper, Dot matrix printer paper, General Writing and printing, Direct mail.
Made in Taiwan.

YUEN FOONG YU PAPER MFG. CO., LTD.
371, SEC.4, CHUNG HSING RD., TAITUNG, TAIWAN, R.O.C.,
URL http://www.yfy.com

EP-6-146  Household goods and equipment  recycled paper

RECYCLED TWO SIDES COATED SOLID CARD BOARD

Environmental performance
This product is certified by PEFC™. Use part of the Waste/Recycled pulp. Conservation and effective utilization of Forestry Resource. Components: Has least 40% recycled paper content.

Product performance
Basis weight: 190～450gsm
Format: Rolls/Sheets
End-use: Business cards, Calendars, Compliment slips, Covers, Envelopes, text and cover, Folders, General printing, Greeting cards, Inserts, Invitations, Leaflets, Letterheads, Menus, Posters.
Made in Taiwan.

YUEN FOONG YU PAPER MFG. CO., LTD.
371, SEC.4, CHUNG HSING RD., TAITUNG, TAIWAN, R.O.C.,
URL http://www.yfy.com
CLEAR LOTUS RECYCLED PAPER

**Environmental performance**
This product is certified by PEFC™. Use part of the Waste/Recycled pulp. Conservation and effective utilization of Forestry Resource. Components: Has least 50% recycled paper content.

**Product performance**
Basis weight: 45～180gsm
Format: Rolls/Sheets
End-use: Books, Brochures, Business forms, Calendars, Catalogues, Direct mail, General printing, Inserts, Leaflets, Magazines, Posters.
Made in Taiwan.

YUEN FOONG YU PAPER MFG. CO., LTD.
371, SEC.4, CHUNG HSING RD., TAITUNG, TAIWAN, R.O.C.,
URL http://www.yfy.com

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CLEAR LOTUS RECYCLED PAPER BOARD

**Environmental performance**
This product is certified by PEFC™. Use part of the Waste/Recycled pulp. Conservation and effective utilization of Forestry Resource. Components: Has least 40% recycled paper content.

**Product performance**
Basis weight: 160～450gsm
Format: Rolls/Sheets
End-use: Business cards, Calendars, Clothing tags, Compliment slips, Covers, Envelopes, text and cover, Folders, General printing, Greeting cards, Inserts, Invitations, Leaflets, Menus, Posters, General printing.
Made in Taiwan.

YUEN FOONG YU PAPER MFG. CO., LTD.
371, SEC.4, CHUNG HSING RD., TAITUNG, TAIWAN, R.O.C.,
URL http://www.yfy.com
Eco-product // Household goods and equipment

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**EP-6-149**  
**Household goods and equipment**

**RECYCLED KRAFT PAPER BOARD**

**Environmental performance**  
This product is certified by PEFC™. Use part of the Waste/Recycled pulp. Conservation and effective utilization of Forestry Resource. Components: Has least 40% recycled paper content.

**Product performance**  
Basis weight: 60～190gsm  
Format: Rolls/Sheets  
End-use: Carrier bags, Flat bags, Wrappers, Gift Wrap, Interleave. Made in Taiwan.

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**YUEN FOONG YU PAPER MFG. CO., LTD.**  
371, SEC.4, CHUNG HSING RD., TAITUNG, TAIWAN, R.O.C.,  
URL http://www.yfy.com

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**EP-6-150**  
**Household goods and equipment**

**COATED DUPLEX BOARD WITH WHITE/GREY BACK**

**Environmental performance**  
This product is certified by PEFC™. Use part of the Waste/Recycled pulp. Conservation and effective utilization of Forestry Resource. Components: Has least 80% post-consumer waste paper.

**Product performance**  
Basis weight: 200～550gsm  
Format: Rolls/Sheets  
End-use: Packaging, Lightweight packaging, Box lamination. Made in Taiwan.

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**YUEN FOONG YU PAPER MFG. CO., LTD.**  
371, SEC.4, CHUNG HSING RD., TAITUNG, TAIWAN, R.O.C.,  
URL http://www.yfy.com
### EP-6-151

#### Household goods and equipment

**CHIP BOARD**

**Environmental performance**
This product is certified by PEFC™. Use 100% Waste/Recycled pulp. Conservation and effective utilization of Forestry Resource. Components: Use 100% post-consumer waste paper.

**Product performance**
Basis weight: 312~2106gsm
Format: Rolls/Sheets
End-use: Cover liner, Box lamination, Packaging.
Made in Taiwan.

**YUEN FOONG YU PAPER MFG. CO., LTD.**
371, SEC.4, CHUNG HSING RD., TAITUNG, TAIWAN, R.O.C.,
URL http://www.yfy.com

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### EP-6-152

#### Household goods and equipment

**CORE BOARD**

**Environmental performance**
This product is certified by PEFC™. Use 100% Waste/Recycled pulp. Conservation and effective utilization of Forestry Resource. Components: Use 100% post-consumer waste paper.

**Product performance**
Basis weight: 300~500gsm
Format: Rolls/Sheets
End-use: High strength chemical fiber tubes, Yarn bobbins, Industrial paper tubes for paper milling and plastic film. Made in Taiwan.

**YUEN FOONG YU PAPER MFG. CO., LTD.**
371, SEC.4, CHUNG HSING RD., TAITUNG, TAIWAN, R.O.C.,
URL http://www.yfy.com
Eco-product // Household goods and equipment

EP-6-153 Household goods and equipment

**Coated Duplex Board (Grey Back)**

**Environmental performance**
Produced with recycled waste paper, it contains over 90% of waste paper utilization ratio, and utilizes high levels of waste regenerated bio-matters to replace fossil fuel.

**Product performance**
It is applied in color printing to supply the manufacturing of packing paper boxes, hang tags and such.
* with Taiwan Green Mark
* with FSC certified

No.18, Zhaonan, Zhunan Township, Miaoli County, Taiwan, 350, Republic of China
Tel +886-37-477715  Fax +886-37-476668
E-mail kycm_sale@umail.hinet.net
URL http://www.kyp.com.tw

Available in: Asia, Oceania, U.S.A.

EP-6-154 Household goods and equipment

**Biodegradable Products**

**Environmental performance**
We developed eco-friendly raw materials with degradable materials to produce applied eco-friendly goods.
Harmless to both nature and human
It does not release harm substances like dioxin and does not cause skin trouble like atopy, and it feels soft when it touches skin.
Back to nature by degradation
It is back to nature after certain period by microorganisms such as bacteria, molds, and so on.

MorningTouch Co., Ltd.
427-2 Jinmok-ri, Pocheon-si, Republic of Korea
Tel 82-31-532-8686  Fax 82-31-532-1723
E-mail ecorang@yahoo.co.kr
URL http://www.morningtouch.co.kr

Available in: Central America, Middle and Near East, U.S.A., Republic of Korea
## EP-6-155  
**Household goods and equipment**  
*EP-4-015 Office supplies/furniture printing & writing paper*

**Sutera**

**Environmental performance**
- Energy efficiency - reduce 40% of energy (4000 KWh) of electricity  
- Reduces solid waste disposal - save 14% of landfill space  
- Forest sustainability to our environment  
- Reduces water and air pollution  
- Reduces Carbon Dioxide Emission.

**Product performance**
- Basis weight: 45gsm & 48.8gsm (Newsprint)  
- Format: Rolls  
- End-usage: Newspaper

**Malaysian Newsprint Industries Sdn Bhd**

Level 3, Block A, Bangunan PanGlobal, 1A Jalan Tandang, Petaling Jaya, 46050, Malaysia  
Tel 603 7785 9988  Fax 603 7785 2288  
E-mail JT@mnipaper.com  
URL http://www.newsprint.com.my

Available in: Asia, Indonesia, Singapore, Malaysia, China

## EP-6-156  
**Household goods and equipment**  
*EP-4-016 Office supplies/furniture printing & writing paper*

**Recycled-PrW**

**Environmental performance**
- Energy efficiency - reduce 40% of energy (4000 KWH) of electricity  
- Reduce Solid Waste disposal - save 14% of landfill space  
- Forest sustainability to our environment  
- Reduces water and air pollution  
- Reduce Carbon Dioxide

**Product performance**
- Basis weight: 50gsm - 80gsm  
- Format: in roll form  
- End usage: Copy Paper, Book, general printing.

**Malaysian Newsprint Industries Sdn Bhd**

Level 3, Block A, Bangunan PanGlobal, 1A Jalan Tandang, Petaling Jaya, 46050, Malaysia  
Tel 603 7785 9988  Fax 603 7785 2288  
E-mail JT@mnipaper.com  
URL http://www.newsprint.com.my

Available in: Asia, Indonesia
Dandelion Eco-Friendly Interfolded Toilet Paper 814800F

**Environmental performance**
1. Using recycled resources: Dandelion Eco-Friendly Interfolded Toilet Paper is made from 100% recycled pulp. Each ton of paper recycled saves approximately 20 trees from being felled and cuts 9.3 times as much carbon dioxide equivalent (CO₂e) emissions as when virgin pulp is used (Data source: the Life Cycle Assessment software Gabi4 and database).
2. Saving energy and resources: Part of the electricity used in manufacturing Dandelion Eco-Friendly Interfolded Toilet Paper comes from wind power, which is a clean energy source. This reduces the use of fossil fuel and CO₂ emissions.

**Product performance**
Dandelion Eco-Friendly Interfolded Toilet Paper is high-temperature sterilized and free of fluorescent brightening agent. It is also highly water-absorbent, high-wet strength, hygienic and pollution-free.

Environmental protection certifications received:
1. Taiwan Green Mark
2. FSC™ Certification

**Cheng Loong Corp.**
27F., No. 3, Sec. 1, Minsheng Rd., Banqiao District, New Taipei City, Taiwan, 220, Republic of China
Tel +886-2-22225131-222 Fax +886-2-22226110
E-mail 1004925@mail.clc.com.tw
URL http://www.clc.com.tw/

Available in: Asia, Oceania, Europe, North America, Central America, South America, U.S.A., Taiwan (Rep. of China)

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Dandelion Eco-Friendly Small Toilet Paper Roll 812800

**Environmental performance**
1. Using recycled resources: Dandelion Eco-Friendly Small Toilet Paper Roll is made from 100% recycled pulp. Each ton of paper recycled saves approximately 20 trees from being felled and cuts 9.3 times as much carbon dioxide equivalent (CO₂e) emissions as when virgin pulp is used (Data source: the Life Cycle Assessment software Gabi4 and database).
2. Saving energy and resources: Part of the electricity used in manufacturing Dandelion Eco-Friendly Small Toilet Paper Roll comes from wind power, which is a clean energy source. This reduces the use of fossil fuel and CO₂ emissions.

**Product performance**
Dandelion Eco-Friendly Small Toilet Paper Roll is high-temperature sterilized and free of fluorescent brightening agent. It is also highly water-absorbent, high-wet strength, hygienic and pollution-free.

Environmental protection certifications received:
1. Taiwan Green Mark

**Cheng Loong Corp.**
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E-mail 1004925@mail.clc.com.tw
URL http://www.clc.com.tw/

Available in: Asia, Oceania, Europe, North America, Central America, South America, U.S.A., Taiwan (Rep. of China)
### EP-6-159
**Dandelion Eco-Friendly Large Toilet Paper Roll 816800**

**Environmental performance**
1. Using recycled resources: Dandelion Eco-Friendly Large Toilet Paper Roll is made from 100% recycled pulp. Each ton of paper recycled saves approximately 20 trees from being felled and cuts 9.3 times as much carbon dioxide equivalent (CO₂e) emissions as when virgin pulp is used (Data source: the Life Cycle Assessment software Gabi4 and database).
2. Saving energy and resources: Part of the electricity used in manufacturing Dandelion Eco-Friendly Large Toilet Paper Roll comes from wind power, which is a clean energy source. This reduces the use of fossil fuel and CO₂ emissions.

**Product performance**
Dandelion Eco-Friendly Large Toilet Paper Roll is high-temperature sterilized and free of fluorescent brightening agent. It is also highly water-absorbent, high-wet strength, hygienic and pollution-free.

**Environmental protection certifications received:**
1. Taiwan Green Mark

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**Cheng Loong Corp.**

27F., No. 3, Sec. 1, Minsheng Rd., Banqiao District, New Taipei City, Taiwan, 220, Republic of China
Tel +886-2-22225131-222    Fax +886-2-22226110
E-mail 1004925@mail.clc.com.tw
URL http://www.clc.com.tw/

Available in: Asia, Oceania, Europe, North America, Central America, South America, U.S.A., Taiwan (Rep. of China)

### EP-6-160
**Tender Interfold Toilet Paper**

**Environmental performance**
* Have 100% recycled paper content
* Only FSC or PEFC certified virgin pulp shall be used in the manufacturing of the product.

**Product performance**
A toilet paper offering environmental yield.

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**Juei Fong Paper Co., Ltd.**

No.345, Sec. 1, Yaofeng Rd., Puxin Township, Changhua County, Taiwan, 513, Republic of China
Tel +886-4-8296161    Fax +886-4-8296165
E-mail sunti.jf@msa.hinet.net

Available in: Taiwan (Rep. of China)
Eco-product // Household goods and equipment

### EP-6-161

**Household goods and equipment**

**toilet paper**

**Tender Jumbo Toilet Paper Roll**

**Environmental performance**

* Have 100% recycled paper content
* Only FSC or PEFC certified virgin pulp shall be used in the manufacturing of the product.

**Product performance**

A toilet paper offering environmental yield.

**Juei Fong Paper Co., Ltd.**

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Available in: Taiwan (Rep. of China)

### EP-6-162

**Household goods and equipment**

**towels of paper**

**Dandelion Hand Towel 874800F**

**Environmental performance**

1. Using recycled resources: Dandelion Hand Towel is made from 100% recycled pulp. Each ton of paper recycled saves approximately 20 trees from being felled and cuts 9.3 times as much carbon dioxide equivalent (CO₂e) emissions as when virgin pulp is used. (Data source: the Life Cycle Assessment software Gabi4 and database).
2. Saving energy and resources: Part of the electricity used in manufacturing Dandelion Hand Towel comes from wind power, which is a clean energy source. This reduces the use of fossil fuel and CO₂ emissions.

**Product performance**

Dandelion Hand Towel is high-temperature sterilized and free of fluorescent brightening agent. It is also highly water-absorbent, high-wet strength, hygienic and pollution-free.

Environmental protection certifications received:

1. Taiwan Green Mark
2. FSC™ Certification
3. Taiwan Carbon Label.

**Cheng Loong Corp.**

27F., No. 3, Sec. 1, Minsheng Rd., Banqiao District, New Taipei City, Taiwan, 220, Republic of China

Tel +886-2-22225131-222  Fax +886-2-22226110

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Available in: Asia, Oceania, Europe, North America, Central America, South America, U.S.A., Taiwan (Rep. of China)
Eco-product // Household goods and equipment

**EP-6-163**

**Household goods and equipment**

**towels of paper**

**Dandelion Hand Towel-Jumbo 876800F**

*Environmental performance*

1. Using recycled resources: Dandelion Hand Towel-Jumbo is made from 100% recycled pulp. Each ton of paper recycled saves approximately 20 trees from being felled and cuts 9.3 times as much carbon dioxide equivalent (CO₂e) emissions as when virgin pulp is used (Data source: the Life Cycle Assessment software Gabi4 and database).
2. Saving energy and resources: Part of the electricity used in manufacturing Dandelion Hand Towel-Jumbo comes from wind power, which is a clean energy source. This reduces the use of fossil fuel and CO₂ emissions.

*Product performance*

Dandelion Hand Towel-Jumbo is high-temperature sterilized and free of fluorescent brightening agent. It is also highly water-absorbent, high-wet strength, hygienic and pollution-free.

Environmental protection certifications received:
1. Taiwan Green Mark
2. FSC™ Certification

**Cheng Loong Corp.**

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Available in: Asia, Oceania, Europe, North America, Central America, South America, U.S.A., Taiwan (Rep. of China)

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**EP-6-164**

**Household goods and equipment**

**towels of paper**

**Tender Hand Towel**

*Environmental performance*

* Have 100% recycled paper content
* Only FSC or PEFC certified virgin pulp shall be used in the manufacturing of the product.

*Product performance*

A hand towel offering environmental yield.

**Juei Fong Paper Co., Ltd.**

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Available in: Taiwan (Rep. of China)
### Eco-product // Household goods and equipment

**EP-6-165**

#### Household goods and equipment

**Urinal Flusher DK-326**

**Environmental performance**

This product is water-saving, and most of the materials used are recyclable and reusable to reduce the use of raw materials.

**Product performance**

Designed for use with urinals, this product begins and stops flushing automatically when pressed. The water release time can be adjusted to save water.

**LIYIH MAKE CO., Ltd.**

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Available in: Taiwan (Rep. of China)

### EP-6-166

#### Household goods and equipment

**Energy Recovery Ventilator (LOSSNAY) for Commercial Use**

**Environmental performance**

- **Material / Resource saving**: Saving industrial resources.
- **Energy saving**: Total heat exchange efficiency of over 66%.
- **Toxicity / Chemical substances reduction**: Eliminated the use of the six substances specified by the EU’s RoHS directive.

**Product performance**

Loaded with the Hyper Eco Element which offers high total heat exchange efficiency, the Energy Recovery Ventilator realizes an energy saving ventilation. Thanks to the new ventilation pattern function, microcomputer type offers more precise control of ventilation to reduce the air conditioning/heating load caused by ventilation.

**Mitsubishi Electric Corporation**

2-7-3, Marunouchi Chiyoda-ku, Tokyo, 100-8310, Japan

Tel +81-3-3218-9024  Fax +81-3-3218-2465

E-mail eqd.eco@pj.MitsubishiElectric.co.jp


Available in: Japan, Asia, Europe
Eco-product // Household goods and equipment

EP-6-167

Household goods and equipment

Energy Recovery Ventilator: Recycling Air-conditioning Energy by Heat Exchange Ventilation

**Environmental performance**

----<< Energy saving >>----

- "Lossnay" is an energy-saving ventilation system using a specially treated paper heat exchanger that recycles heat energy which is normally wasted by ventilation.
- DC brushless motors powered by a DC power source, significantly reducing power consumption compared with conventional models.
- "Hyper Eco", our original efficent heat exchanger greatly boosts heat exchange efficiency to realize even further energy savings.

----<< Toxicity / Chemical substances reduction >>----

Eliminated the use of the six substances specified by the EU’s RoHS directive.

**Product performance**

This system is a single unit that ventilates an entire household. The heat exchanger ensures ventilation without sacrificing the comforts of air-conditioning, and its large air flow ensures that even in large housing complexes and cluster housing with numerous rooms, a single system suffices for one floor ventilation.

**Mitsubishi Electric Corporation**

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URL http://global.mitsubishielectric.com/index.html

Available in: Japan

EP-6-168

Household goods and equipment

Photovoltaic Inverter with Industry’s Highest Power Conversion Efficiency

**Environmental performance**

----<< Energy saving >>----

This photovoltaic inverter for house use in Japan realizes the industry’s highest 97.5% power conversion efficiency (at rated power input/output of PV-PN40G) in our investigation at September 2011. The industry's first "gradation control inverter method" generates pseudo sine wave nearly the same as alternating current using three inverter units. Newly developed MOSFET module for the gradation control reduces 44% of power conversion loss from conventional models.

**Mitsubishi Electric Corporation**

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Available in: Japan
### EP-6-169

**EcoDuo PV Module PM220P00**

**Environmental performance**
- EcoDuo PM220P00 directly converts the inexhaustible sun light into clean electric energy, reduces carbon emissions and is therefore helpful in alleviating global warming.
- This product is the world's first photovoltaic module that received the "PAS 2050" Product Carbon Footprint Certificate from SGS. Carbon emission percentage in each stage of the manufacturing process is clearly disclosed (with materials taking up 82%, production 17%, and transportation 1%) to serve as a foundation for the improvement of carbon emission reduction of next generation products.
- The materials used in this product are free of hazardous elements such as Cd and Te.
- AUO's photovoltaic module, when disposed of after 25 or more years of service, can be recycled, free of charge, through PV Cycle collection points all over the world.

**Product performance**
- With a conversion rate approaching 15% and a rated output power ranging from 220W to 250W, AUO's EcoDuo PM220P00 is suitable for large-scale solar power plants, power generation systems of commercial buildings, and small rooftop solar power generation systems for household uses.
- This product has received the IEC (Europe), UL (North America), Golden Sun (China), MCS (UK), CEC (State of California, USA), and CEC Australia verifications.
- The materials used in this product are free of hazardous elements such as Cd and Te.
- AUO's photovoltaic module, when disposed of after 25 or more years of service, can be recycled, free of charge, through PV Cycle collection points all over the world.

**AU Optronics Corporation**

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Available in: Asia, Europe, Middle and Near East, U.S.A., South Africa

### EP-6-170

**Highly Efficient Photovoltaic Module**

**Environmental performance**

The high output modules achieve a power output of up to 235W per module, by incorporating four bus-bar cells and a larger module size.

--- Energy saving ---

By increasing the number of bus bars from two to four, the internal resistance in each PV cell has been reduced, increasing individual cell output by 3% compared to those used in previous Mitsubishi Electric models.

Increasing the number of cells in each module from 50 to 60 has also contributed to the increased output per module.

--- Material / Resource saving ---

The Width of the new bus bars used in the cells are half that of our previous bus bars, delivering greater efficiency without increasing the amount of material used.

A newly designed frame allows the module to pass the IEC static load test of 5400Pa, even with the larger module size.

--- Toxicity / Chemical substances reduction ---

Uses lead-free solder to lessen impact on the environment.

**Mitsubishi Electric Corporation**

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URL http://global.mitsubishielectric.com/index.html

Available in: Asia, North America
**SUNGEN Thin Film Amorphous Silicon Solar Module**

**Environmental performance**
- High resistance against shadowing effect;
- High performance stability at high temperature;
- Output at a wider range of light intensity;
- Less sensitive to mounting angle and can achieve over 10% increase of output in any installation alignments;
- Yield 10% higher operating performance over c-Si products.

**SUNGEN International Limited**

Units 1-7 6/F, Metro Loft, 38 Kwai Hei Street, Kwai Chung, N.T., Hong Kong, Hong Kong  
Tel 852-3583-5286  Fax 852-3106-2801  
E-mail kelvin.ng@sungen.com  
URL http://www.sungen.com

Available in: Worldwide
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<tr>
<th>EP-7-001</th>
<th>Building and civil engineering</th>
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<tr>
<td><strong>Environmental performance</strong></td>
<td>An innovative insulation frame having a honeycomb structure to effectively block indoor-outdoor thermal conduction and reduce energy consumption of air conditioning. When used with double Low-E glass, the product’s energy saving and acoustic insulation performances are significantly enhanced, and its esthetics and eco-friendliness become more prominent. This product is a certified high-performance Green Construction Material.</td>
</tr>
<tr>
<td><strong>Product performance</strong></td>
<td>The interconnected multi-lock metal structure provides excellent air-tightness and anti-burglar protection. The unique tilt-and-turn opening approach not only allows natural indoor-outdoor air convection to reduce indoor stuffiness, but also facilitates cleaning of the window.</td>
</tr>
<tr>
<td><strong>Vita Manufacturing CO., LTD.</strong></td>
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<tr>
<td>6F., No.192, Da Dung Rd., Taichung, Taiwan, 408, Republic of China</td>
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<tr>
<td>Tel +886-4-2471-2188  Fax +886-4-2471-2131</td>
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<tr>
<td>E-mail <a href="mailto:sales@alsacewindows.com">sales@alsacewindows.com</a></td>
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<td>URL <a href="http://www.alsacewindows.com">http://www.alsacewindows.com</a></td>
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**EP-7-003**

**Casement Window YE-661C**

**Environmental performance**
Recyclable aluminum parts and non-toxic metal accessories are used.

**Product performance**
The casement window is one type of aluminum alloy windows that use stainless steel four-bar linkages to facilitate opening. High-quality rainproof strips are used to provide watertightness, air-tightness and acoustic insulation. YE-661C casement window provides at least 35db acoustic insulation and is a high-performance Green Construction Material. The sash and the frame of the casement window have a hidden drainage system that works despite blowing wind to prevent rainwater from flowing into the room. The casement window can be opened at the desired angle to keep ventilation and thereby save energy. It also functions as an emergency exit.

**YUANGEE INDUSTRIAL CO , Ltd**

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E-mail ye@yuangee.com.tw
URL http://www.yuangee.com.tw

Available in: Taiwan (Rep. of China)

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**EP-7-004**

**NAN YA PLASTIC-STEEL WINDOW - Casement Window NW08 (White)**

**Environmental performance**
Its heat insulation is able to conserve 30% energy consumption compared with metal windows, with sound insulation rated at 35dB.

**Product performance**
As opening components for the home environment and buildings.

**Nan Ya Plastics Corporation**

Room 310, B-6F, No. 201, Tun Hwa North Road, Taipei City, Taiwan, 105, Republic of China
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URL http://www.npc.com.tw

Available in: Taiwan (Rep. of China)
### EP-7-005

**NAN YA PLASTIC-STEEL WINDOW - Sliding Window NW08**

**Environmental performance**
Its heat insulation is able to conserve 30% energy consumption compared with metal windows, with sound insulation rated at 35dB.

**Product performance**
As opening components for the home environment and buildings.

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**Nan Ya Plastics Corporation**
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Available in: Taiwan (Rep. of China)

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### EP-7-006

**NAN YA PLASTIC-STEEL WINDOW - Picture Window NW08**

**Environmental performance**
Its heat insulation is able to conserve 30% energy consumption compared with metal windows, with sound insulation rated at 35dB.

**Product performance**
As opening components for the home environment and buildings.

---

**Nan Ya Plastics Corporation**
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Available in: Taiwan (Rep. of China)
**Environmental performance**

"Mirror-duct System" can extend daylight deep within interior spaces. The proposed system that we have developed captures natural sunlight from the building exterior and sends it via a highly efficient, light-transmitting ductwork (or tubes) into the building interior, where it is dissipated uniformly and economically throughout the interior. When the exterior light source is deficient due to variations depending on the time of day or seasonal or climatic changes, the system will compensate to 100% requirement by augmenting artificial light with an automatically-controlled dimmer. The proposed system is expected to find widespread application in communal housing, underground spaces, vegetation-cultivating facilities, etc. and above all as a realistic way to drastically cut the energy cost of lighting an office building.

**NIKKEN SEKKEI Tokyo Building "Prototype Openings for Next Generation Buildings"**

**Environmental performance**

- Technologies
  Electric exterior blinds can block solar radiation effectively to reduce a cooling load. Heat-generating double glazing has a transparent metal layer on the inside glass. The glass temperature can be kept warm to prevent cold drafts, and condensation by electric current. Horizontal integration system with Open Network Interface connects automatic controls of the electric exterior blinds, heat-generating glasses and air conditioning on the same floor, and can get interoperability.

- Features
  This system can reduce energy consumption of air conditioning and electric lighting for perimeter zone. Perimeter air conditioning systems are not needed due to enhanced thermal performance. Further, this system creates comfortable space near the window glass and expands the effective working space. The appearance of facades change by angle of exterior blind slats and moving up and down.

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Environmental performance
Pola Museum of Art nestles among the trees in Fuji-Hakone-Izu National Park. We carried out a ten-year project on the theme of how to protect and coexist with the natural environment. The first year, we surveyed the flora and fauna of the site in detail, the position allowed the conservation of all the beech trees. The substructure is hemispherical to avoid interrupting the flow of aquifers. Only indigenous local plants were planted on the site, to avoid bringing in outside strains. Cypress trees that had been planted on the site were felled and seeds gathered on the site were grown into saplings and planted, in an attempt to restore the forest to its underlying vegetation types. The saplings included a variety of beech that only yields seeds once in seven years. As trees grow, they help prevent global warming by absorbing carbon dioxide from the air, storing carbon in trees and soil.

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Environmental performance
This training facility, standing on a small mountain and surrounded by greenery, is the center of the Toyota Institute. The building was situated with the aim of leaving all of the existing trees standing on the site and using the borrowed scenery of the foliage to create a rich interior environment. The T-shaped building layout conforms to the topography of the site. To minimize excavations and reduce fossil-fuel use and emissions of heavy-construction-equipment and dump trucks, the height difference within the site was exploited. So that the accommodation block has five floors on the west side and three above ground level on the east. The training block and the lecture theater have green roofs that acts as insulation from the sun and wind and can decrease energy consumption of air conditioning, to help prevent Global Warming.

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### EP-7-011

**Nakashibetsu Junior High School "Realizing an eco school at -20°C"**

**Environmental performance**

This is an Eco School, achieved without the burden of initial costs through a concentration of everyday technologies. Nakashibetsu has a wide range of temperatures, from -20deg in winter to 30deg in summer, so the reduction of thermal loads was a major theme. Reduced surface area of exterior walls, external insulation, highly-insulating sash windows were employed to enhance the thermal performance of the skin. Two multipurpose rooms with a three storey height were constructed as a way of letting in the heat and light of the sun while protecting the interior from the bitter cold outside, creating a healthy, open space. It also serves as an environmental device, as a path for wind and light. The students and teachers who attend this school have gained a greater awareness of the environment, and an environmentally-friendly kind of development has begun in the town.

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**Available in:** Worldwide

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### EP-7-012

**Amami Hospital for Foundation Jiaikai "The Wind Terrace Draws Breezes into the Wards"**

**Environmental performance**

The typical image of a psychiatric hospital is of sealed windows. The aim of this hospital was to make a "healing building," which would enjoy the benefits of Amami's abundant nature. The climate of Amami is subtropical, but there is a pleasant breeze in the shade of the trees. The building has deep eaves to take the strong sunlight gently into the interior. They allow open windows even on rainy days, so that the breeze flows throughout the building. The four wards have big bay windows, called "Wind Terraces." When the bay windows are opened, a natural breeze moves through the day room. Groundwater at a stable year-round temperature of 21deg is used for drinking, and also for cooling outside air. Roof planting and a solar water heating system are among other measures used, with the combined result that energy consumption is 1/3 of the consumption per unit area in a standard hospital.

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**Available in:** Worldwide
Environmental performance

The extension of building life spans goes beyond structural measures. The designer must take a broader perspective, including consideration for urban scenery, the formation of office spaces able to respond flexibly to social changes, and the pursuit of easy maintenance and efficient replacement of building equipment and services. We wanted to make the exterior appearance of the building something that would be loved long into the future, by considering the historic character of the surrounding urban scenery. The office space on the typical floor has 2,000 m² of flexible, columnless space, with some of the floor panels made detachable, ensuring the freedom to link floors as necessary with added staircases and multi-floor openings. Each floor is equipped with two sets of toilets, so that one set can be used as the other is renewed while the floor remains occupied and in use.

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Available in: Worldwide

Environmental performance

In an office building it is difficult to reconcile structural elements, which are hard to change, with the routes for a horizontal extension of air conditioning services, and with fast-changing sanitary facilities. There are also limits to the potential for predicting and preparing for future social shifts. This situation led us to propose a new office form, called the "Void Core" for this building. The Void Core takes outside space and inserts it vertically through the center of the office core. This space is used as a route for natural ventilation using the chimney effect, as well as for bringing natural light. It can also be used for future expansion of building service routes, and a temporary elevator route. Thus the Void Core is a sustainable solution for high-rise buildings and can reduce carbon footprints of demolition and new construction.

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Available in: Worldwide
I-Garden Air "Joining together city-center greenery"

Environmental performance
The government of Japan said that they would promote decarbonization of urban areas through improving the thermal environment by Urban Greening and other heat island countermeasures in the "Kyoto Protocol Target Achievement Plan". The main theme for I-Garden Air, a district developed on the site of the lidamachi freight station, was to make the new green space of the development into an axis linking the green masses of the nearby Imperial Palace and Koishikawa Korakuen. This attitude to uniting nearby green areas was shared from an early stage with local people, government and businesses as a common development principle, bringing together design concepts for planning and landscaping. As a result, the streets have a unified setback to the building walls, creating a tree-lined pedestrian avenue that extends for 300m.

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Available in: Worldwide

Harumi Island Triton Square "Urban Planning & management to cut environmental loads"

Environmental performance
This large-scale urban redevelopment project opened in April 2001. It has achieved an unprecedented reduction in environmental load by considering such reductions over the area as a whole, not just for individual buildings. In this concentrated business and compound zone, it is easy to deploy large scale, high-efficiency equipment, and the energy required for conveying heat can be reduced. The plant for electrical power and the district heating and cooling (DHC) system are centralized and located to achieve a compact equipment infrastructure with short conveyance distances. At the operating stage, management activities are pursued at the district level to cut environmental loads. The end result is a 23% reduction in primary energy consumption, a 36% reduction in mains water usage and a 48% reduction in waste volume in the business and multi-purpose zone.

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Available in: Worldwide

Area energy management achieves a district with high energy efficiency.
Eco-product // Building and civil engineering

**R3plas Eco-label Recycled Plastic Resins**

**Environmental performance**
R3plas Recycled Resin from closed-loop system. From collecting post industrial plastics waste to consumer plastics waste to reprocess with our technology from Disassembly, Sorting, Crushing, Pellet extrusion, color compounding (pigments, additives and testing, etc) tooling, manufacturing to export of finished products.

**Product performance**
- Good performance as prime virgin resin
- Innovative products and environment friendly
- Awards design for green products
- Green label awards
- Meet ISO14000 and green purchasing policy

**WINRIGO (S) PTE LTD**

No. 21 Toh Guan Road East #04 - 09 Toh Guan Centre, 608609, Singapore
Tel +6598715058   Fax +6565154557
E-mail salewin@singnet.com.sg
URL http://www.winrigo.com.sg

Available in: Worldwide

**Eco-Friendly Beautifying Brick RNST001**

**Environmental performance**
Helps reduce 80% of waste masonry materials.

**Product performance**
This product is mass-produced by a stamping machine entirely from 100% recycled waste masonry materials and is available in various shapes.

**CHENG CHUAN MARBLE FACTORY CO., LTD.**

No. 52, Meigong Rd., Hualien City, Hualien County, Taiwan, 970, Republic of China
Tel +886-3-8233611   Fax +886-3-8223079
E-mail baoder@baoder.com.tw
URL http://www.baoder.com.tw/

Available in: Taiwan (Rep. of China)
Compressed Concrete Paving Units

**Environmental performance**
Adopting recycled stone material scraps, it helps to reduce stone material quarrying, carbon dioxide emissions, and it also reduces waste materials that pollute the environment.

**Product performance**
1. Compressed to shape with ultra high pressure, making it sturdy and durable.
2. A variety of colors with great variations.
3. Having an extremely high density and low moisture absorption ratio.
4. Varied in dimensions and specifications.
5. Same thickness for quickly switch application.
6. Varied in surface treatment methods.

JING TAY CEMENT PRODUCT CO., LTD.
No. 37, Xizikou, Shanshang Dist., Tainan City, Taiwan, 743, Republic of China
Tel +886-6-5781345  Fax +886-6-5782313
E-mail jtcpc.ltd@msa.hinet.net

Available in: Taiwan (Rep. of China)
### EP-7-021 Building and civil engineering
**High Pressure Crystallization Brick (J31, J32, J33, J34, J35, J36)**

**Environmental performance**
Adopting recycled stone material scraps, it helps to reduce stone material quarrying, carbon dioxide emissions, and it also reduces waste materials that pollute the environment.

**Product performance**
1. Compressed to shape with ultra high pressure, making it sturdy and durable.
2. A variety of colors with great variations.
3. Having an extremely high density and low moisture absorption ratio.
4. Varied in dimensions and specifications.
5. Same thickness for quickly switch application.
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No. 37, Xizikou, Shanshang Dist., Tainan City, Taiwan, 743, Republic of China
Tel +886-6-5781345  Fax +886-6-5782313
E-mail jtccp.ltd@msa.hinet.net

Available in: Taiwan (Rep. of China)

### EP-7-022 Building and civil engineering
**Coconut Butt-Jointed Wall Panel**

**Environmental performance**
Helps prevent over-exploitation of rainforests. Uses non-toxic, formaldehyde-free latex.

**Product performance**
Coconut decorative panels made from farmed trees in Southeastern Asia. Hard wood with prominent grain and rich colors. 100% developed and made in Taiwan. Available in various types. Durable and highly workable. Featuring artistic beauty and ecofriendliness.

**Pacific Hardwood Company**
No.51, Chen Hsing Rd., Heng Shan Vil., Ta-Ya Dist., Taichung City, Taiwan, 428, Republic of China
Tel +886-4-25684118  Fax +886-4-25683831
E-mail pcfk@ms2.hinet.net
URL http://www.phcwood.com.tw

Available in: Japan, Oceania, Europe, North America, Central America, South America, U.S.A., China
## EP-7-023  \( \text{Building and civil engineering} \)

### Palm Relief Wall Panel

**Environmental performance**
Helps prevent over-exploitation of rainforests. Uses non-toxic, formaldehyde-free latex.
* FSC certified

**Product performance**
Palm decorative panels made from farmed trees in Southeastern Asia. Hard wood with prominent grain and rich colors. 100% developed and made in Taiwan. Available in various types. Durable and highly workable. Featuring artistic beauty and ecofriendliness.

### Pacific Hardwood Company

No.51, Chen Hsing Rd., Heng Shan Vil., Ta-Ya Dist., Taichung City, Taiwan, 428, Republic of China
Tel +886-4-25684118  Fax +886-4-25683831
E-mail pcfk@ms2.hinet.net
URL http://www.phcwood.com.tw

Available in: Japan, Oceania, Europe, North America, Central America, South America, U.S.A., China

## EP-7-024  \( \text{Building and civil engineering} \)

### Coconut Integrated Wall Panel

**Environmental performance**
Helps prevent over-exploitation of rainforests. Uses non-toxic, formaldehyde-free latex.
* FSC certified

**Product performance**
Coconut decorative panels made from farmed trees in Southeastern Asia. Hard wood with prominent grain and rich colors. 100% developed and made in Taiwan. Available in various types. Durable and highly workable. Featuring artistic beauty and ecofriendliness.

### Pacific Hardwood Company

No.51, Chen Hsing Rd., Heng Shan Vil., Ta-Ya Dist., Taichung City, Taiwan, 428, Republic of China
Tel +886-4-25684118  Fax +886-4-25683831
E-mail pcfk@ms2.hinet.net
URL http://www.phcwood.com.tw

Available in: Japan, Oceania, Europe, North America, Central America, South America, U.S.A., China
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<td><strong>Environmental performance</strong></td>
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</table>
Eco-product // Building and civil engineering

EP-7-027  
Recycle Soundproof Plate RPCSW-04-01～05  

Environmental performance  
The main raw material comprises 100% recycled material. The scraps generated in the production process can all be fully turned into reuse, achieving near-zero pollution in the production process and an ideal state of zero scraps. It does not contain heavy metals, halogens, asbestos, radioactive substances, toxic chemical materials announced by Taiwan’s Environmental Protection Administration, or regulated chemical products stipulated by the Montreal Protocol.

Product performance  
The product has great diversity, and can be used as soundproof walls, grassplanting ties, and wall surface furnishing, with a soundproof rating as high as 50dB in laboratory testing. It can be rapidly assembled coordinated to the C-shaped steel, steel wedges, or old brick walls, and has optional colors to choose from. It is suitable for various types of configured wall installation applications market.

SUN RUBBER WORKS CO., LTD.  
No. 63, Ln.22, Sec.1, Hsin Ren Rd., Taiping Dist., Taichung City, Taiwan, 411, Republic of China  
Tel +886-4-22781058    Fax +886-4-22780837  
E-mail shan@rubbers.com.tw  
URL http://www.rubbers.com.tw

Available in: Worldwide

EP-7-028  
Pressurized Concrete Floor Tiles  

Environmental performance  
By recycling scrapped glass, construction waste, furnace slag and so forth, it helps to reduce waste pollution and environment messiness. The product can be used repeatedly, thereby saving energy and reducing carbon dioxide emissions.

Product performance  
The product is durable and can be used repeatedly. With water-percolating surfacing, the floor tiles help to reduce the urban hot island effect and can supplant the groundwater resources.

Team Joy Enterprise Co., Ltd.  
No. 17, Ln. 376, Niupu S. Rd., Xiangshan Dist., Hsinchu City, Taiwan, 300, Republic of China  
Tel +886-3-5309111    Fax +886-3-5300783  
E-mail liou5258@cm1.hinet.net  
URL http://www.teamjoy.com.tw/

Available in: Taiwan (Rep. of China)
### EP-7-029
#### Grass-Planting Tiles

**Environmental performance**
By recycling scrapped glass, construction waste, furnace slag and so forth, it helps to reduce waste pollution and environment messiness. The product can be used repeatedly, thereby saving energy and reducing carbon dioxide emissions.

**Product performance**
The product is durable and can be used repeatedly. With water-percolating surfacing, the floor tiles help to reduce the urban hot island effect and can supplant the groundwater resources.

---

**Team Joy Enterprise Co., Ltd.**
No. 17, Ln. 376, Niupu S. Rd., Xiangshan Dist., Hsinchu City, Taiwan, 300, Republic of China
Tel +886-3-5309111  Fax +886-3-5300783
E-mail liou5258@cm1.hinet.net
URL http://www.teamjoy.com.tw/

Available in: Taiwan (Rep. of China)

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### EP-7-030
#### Fence Wall Tiles

**Environmental performance**
By recycling scrapped glass, construction waste, furnace slag and so forth, it helps to reduce waste pollution and environment messiness. The product can be used repeatedly, thereby saving energy and reducing carbon dioxide emissions.

**Product performance**
The product is durable and can be used repeatedly. With water-percolating surfacing, the floor tiles help to reduce the urban hot island effect and can supplant the groundwater resources.

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**Team Joy Enterprise Co., Ltd.**
No. 17, Ln. 376, Niupu S. Rd., Xiangshan Dist., Hsinchu City, Taiwan, 300, Republic of China
Tel +886-3-5309111  Fax +886-3-5300783
E-mail liou5258@cm1.hinet.net
URL http://www.teamjoy.com.tw/

Available in: Taiwan (Rep. of China)
Slope Protective Tiles

**Environmental performance**
By recycling scrapped glass, construction waste, furnace slag and so forth, it helps to reduce waste pollution and environment messiness. The product can be used repeatedly, thereby saving energy and reducing carbon dioxide emissions.

**Product performance**
The product is durable and can be used repeatedly. With water-percolating surfacing, the floor tiles help to reduce the urban hot island effect and can supplant the groundwater resources.

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No. 17, Ln. 376, Niupu S. Rd., Xiangshan Dist., Hsinchu City, Taiwan, 300, Republic of China
Tel +886-3-5309111 Fax +886-3-5300783
E-mail liou5258@cm1.hinet.net
URL http://www.teamjoy.com.tw/

Available in: Taiwan (Rep. of China)

Precast Concrete Edge Stones

**Environmental performance**
By recycling scrapped glass, construction waste, furnace slag and so forth, it helps to reduce waste pollution and environment messiness. The product can be used repeatedly, thereby saving energy and reducing carbon dioxide emissions.

**Product performance**
The product is durable and can be used repeatedly. With water-percolating surfacing, the floor tiles help to reduce the urban hot island effect and can supplant the groundwater resources.

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E-mail liou5258@cm1.hinet.net
URL http://www.teamjoy.com.tw/

Available in: Taiwan (Rep. of China)
**EP-7-033**  
**GYPSUM BOARD GB-F**

**Environmental performance**
Contains no controlled substances per the Montreal Protocol, and free of any harmful substances, and does not generate harmful business waste.
Adopting recycled paper as the main covering material, it adopts coal power generation plant’s by-product flue gas desulfurization (FGD) as the main ingredient; no wastewater is generated in the process, and the rejects derived from the production process can be fully recycled as an additive in the reprocess flow, making it a recyclable, low-pollution process.

**Product performance**
1. Sound insulation: With good sound insulation reaching D40 or STC50dB or higher depending on the thickness and varied combinations.
2. Fire proof: The unique plaster core material offers excellent fire prevention properties.
3. Heat insulation: With a low heat conductivity ratio, it has excellent heat insulation properties.
4. Workability: Easy and quick to install.
5. Stability: The material is very stable, and does not contract or bend with distortion as affected by temperature or humidity. The seams sealed off with epoxy also do not crack.
6. Shock resistance: With lower rigidity, it is less prone to fracture in earthquakes.
7. Humidity regulating: Utilizing its unique material characteristics, it is able to regulate the home and working environment humidity, creating a comfortable and healthy living space.

**UNIVERSAL CEMENT CORPORATION**
10F., No. 125, Sec. 2, Nanjing E. Rd., Zhongshan Dist., Taipei City, Taiwan, 104, Republic of China
Tel +886-3-3543056  Fax +886-3-3541711
E-mail hai-fu@ucctw.com
URL http://www.ucctw.com/

Available in: Singapore, Taiwan (Rep. of China), China

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**EP-7-034**  
**GYPSUM BOARD GB-S**

**Environmental performance**
Contains no controlled substances per the Montreal Protocol, and free of any harmful substances, and does not generate harmful business waste.
Adopting recycled paper as the main covering material, it adopts coal power generation plant’s by-product flue gas desulfurization (FGD) as the main ingredient; no wastewater is generated in the process, and the rejects derived from the production process can be fully recycled as an additive in the reprocess flow, making it a recyclable, low-pollution process.

**Product performance**
1. Sound insulation: With good sound insulation reaching D40 or STC50dB or higher depending on the thickness and varied combinations.
2. Fire proof: The unique plaster core material offers excellent fire prevention properties.
3. Heat insulation: With a low heat conductivity ratio, it has excellent heat insulation properties.
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6. Shock resistance: With lower rigidity, it is less prone to fracture in earthquakes.
7. Humidity regulating: Utilizing its unique material characteristics, it is able to regulate the home and working environment humidity, creating a comfortable and healthy living space.

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10F., No. 125, Sec. 2, Nanjing E. Rd., Zhongshan Dist., Taipei City, Taiwan, 104, Republic of China
Tel +886-3-3543056  Fax +886-3-3541711
E-mail hai-fu@ucctw.com
URL http://www.ucctw.com/

Available in: Singapore, Taiwan (Rep. of China), China
GYPSUM BOARD GB-R

**Environmental performance**
Contains no controlled substances per the Montreal Protocol, and free of any harmful substances, and does not generate harmful business waste. Adopting recycled paper as the main covering material, it adopts coal power generation plant's by-product flue gas desulfurization (FGD) as the main ingredient; no wastewater is generated in the process, and the rejects derived from the production process can be fully recycled as an additive in the reprocess flow, making it a recyclable, low-pollution process.

**Product performance**
1. Sound insulation: With good sound insulation reaching D40 or STC50dB or higher depending on the thickness and varied combinations.
2. Fire proof: The unique plaster core material offers excellent fire prevention properties.
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6. Shock resistance: With lower rigidity, it is less prone to fracture in earthquakes.
7. Humidity regulating: Utilizing its unique material characteristics, it is able to regulate the home and working environment humidity, creating a comfortable and healthy living space.

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Tel +886-3-3543056 Fax +886-3-3541711
E-mail hai-fu@ucctw.com
URL http://www.ucctw.com/

Available in: Singapore, Taiwan (Rep. of China), China

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GYPSUM BOARD GB-D

**Environmental performance**
Contains no controlled substances per the Montreal Protocol, and free of any harmful substances, and does not generate harmful business waste. Adopting recycled paper as the main covering material, it adopts coal power generation plant's by-product flue gas desulfurization (FGD) as the main ingredient; no wastewater is generated in the process, and the rejects derived from the production process can be fully recycled as an additive in the reprocess flow, making it a recyclable, low-pollution process.

**Product performance**
1. Sound insulation: With good sound insulation reaching D40 or STC50dB or higher depending on the thickness and varied combinations.
2. Fire proof: The unique plaster core material offers excellent fire prevention properties.
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E-mail hai-fu@ucctw.com
URL http://www.ucctw.com/

Available in: Singapore, Taiwan (Rep. of China), China
**EP-7-037**  
**Building and civil engineering**  
**EP Bricks B2, C2, D2**  

**Environmental performance**  
The water-permeable bricks are made from recycled glass and waste ceramic materials to reduce the amount of wastes, extend the service lives of waste treatment sites, and reuse recyclable materials.

**Product performance**  
The porous structure of the bricks provides high permeability so that rain water on the brick surface can permeate through the bricks into the underlying soil layer. The bricks prevent people and cars from slipping in the rain, minimize rainwater splashing and fogging, reduce thermal effects, cut energy consumption, relieve the load on drainage facilities, and save the expenses for constructing drainage facilities.

**You Bo Environmental Protection Industry Co., Ltd.**  
No. 1, Ln. 448, Zhongzheng 3rd Rd., Yingge Dist., New Taipei City, Taiwan, 23942, Republic of China  
Tel +886-2-86781668   Fax +886-2-86781670  
E-mail youbo.com@msa.hinet.net  
URL http://www.youbo.com.tw

Available in: U.S.A., Singapore, Taiwan (Rep. of China)

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**EP-7-038**  
**Building and civil engineering**  
**ceramic wall and floor tile**  

Pavement block "NOXER" for preventing air pollution by photo-catalysis

**Environmental performance**  
NOXER is a pavement block that has a function to decompose harmful substances by oxidation in the surface layer of concrete blocks. The function is based on the photocatalytic reaction that is caused by titanium oxide.  
Formation of active oxygen takes place by the action of photocatalytic reaction when titanium oxide in the surface layer of the block is exposed to ultraviolet rays in sunlight.  
The formed active oxygen oxidizes the harmful substances, and decomposes them.

**Product performance**  
1m$^2$ of "NOXER" removes 1.5mmol of nitrogen oxides (field test result).

**Mitsubishi Materials Corporation**  
KeidanrenKaikan 1-3-2, Otemachi, Chiyoda-ku, Tokyo, 100-8117, Japan  
Tel +81-3-5252-5308   Fax +81-3-5252-5344  
E-mail kkawabat@mmc.co.jp  

Available in: Japan
Freya Series

**Environmental performance**

* Made from recovered wastes
* Easy to maintain (no need for cleaning chemicals)
* Raw material does not contain any hazardous substance (its gamma dose equivalency shall be equal to or less than 0.2 micro sievert per hour (including cosmic ray dosage)

**Product performance**

Combining technology, environmental conservation and art, it creates value in ceramic tiles by turning flat ceramic tiles into a 3D configuration, and simplifying the maintenance. Consumers can choose to create different styles of patterns on their own. The computer does the universal edge finish with consistent dimensions for easier hanging. The floor tiles adopt a matte finish with special glazing, making the skid-proof index to be higher than most floor tiles, providing a safer living safeguard.

**White Horse Ceramic Co., Ltd.**

No.27-1, Beigao Shanding, Yangmei City, Taoyuan County, Taiwan, 326, Republic of China
Tel +886-3-4903111-656 Fax +886-3-4203813
E-mail joanliu@devannotile.com
URL http://www.whitehorse.com.tw

Available in: Japan, Southeast Asia, Taiwan (Rep. of China)

Demeter Series

**Environmental performance**

Recycling and reusing plant-scraped raw materials to achieve waste reduction, and mitigate environmental issues.

**Product performance**

With the product adopting a vintage wood design utilizing the dark and light coordinated lines, coupled with the recessed and relieved relieved pattern design, it creates an ancient vintage wood’s look of peeling, discolored grains and a rustic touch. It is a quartz wood-grain tile with glazing, and is characterized as wear resistant, acidity/alkalinity resistant, and having a low moisture absorption ratio.

Product Series: 13163, 13162 (Special), 13161 (Special), 13160 (Special), 13863, 13862 (Special), 13861 (Special), 13860 (Special)

**White Horse Ceramic Co., Ltd.**

No.27-1, Beigao Shanding, Yangmei City, Taoyuan County, Taiwan, 326, Republic of China
Tel +886-3-4903111-656 Fax +886-3-4203813
E-mail joanliu@devannotile.com
URL http://www.whitehorse.com.tw

Available in: Japan, Southeast Asia, Taiwan (Rep. of China)
Eco-product // Building and civil engineering

**EP-7-041**

**Gaea Series**

**Environmental performance**
Recycling and reusing plant-scraped raw materials to achieve waste reduction, and mitigate environmental issues.

**Product performance**
The product, a collaboration with Italian technicians, adopts an advanced 3D dry powder coating technology that overcomes the blind spot of incomplete glazing on ceramic tiles' recessed and relieved surfaces to create a ceramic tile that fully manifests the natural texture and dextral feel of the earth's stone material.

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No.27-1, Beigao Shanding, Yangmei City, Taoyuan County, Taiwan, 326, Republic of China
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E-mail joanliu@devannotile.com
URL http://www.whitehorse.com.tw

Available in: Japan, Southeast Asia, Taiwan (Rep. of China)

**EP-7-042**

**Doris 14110, 14111**

**Environmental performance**
Recycling and reusing plant-scraped raw materials to achieve waste reduction, and mitigate environmental issues.

**Product performance**
The dry pallet coating technique is used to produce the three-dimensional effect on the ceramic title surface's crisscross lines in relief. The quarter ceramic panels are cured at a high temperature, high pressure has a water absorption rate of less than 0.1%; a sturdy feature for as high as seven on the Mohs scale of mineral hardness, offering more than fine snapping and pressure resistance, but also with great wear resistance.

White Horse Ceramic Co., Ltd.
No.27-1, Beigao Shanding, Yangmei City, Taoyuan County, Taiwan, 326, Republic of China
Tel +886-3-4903111-656  Fax +886-3-4203813
E-mail joanliu@devannotile.com
URL http://www.whitehorse.com.tw

Available in: Japan, Southeast Asia, Taiwan (Rep. of China)
Amazon Wooden

Environmental performance
* Made from recovered wastes
* Easy to maintain (no need for cleaning chemicals)
* Raw material does not contain any hazardous substance (its gamma dose equivalency shall be equal to or less than 0.2 micro sievert per hour (including cosmic ray dosage)

Product performance
The product features an ultra low moisture absorption ratio, with advantages of not being prone to expand in heat or contract in cold. It withstands wear and tear, is resistant to acidity and alkalinity, not prone to humidity, resistant to insects and corrosion, and easy to clean and maintain. It is flame retardant, does not corrode or discolor, withstands wear and tear, is easy to clean, and is easier to clean than a wooden floor. Besides, it is also safe, environmentally friendly, durable and convenient.

White Horse Ceramic Co., Ltd.
No.27-1, Beigao Shanding, Yangmei City, Taoyuan County, Taiwan, 326, Republic of China
Tel +886-3-4903111-656  Fax +886-3-4203813
E-mail joanliu@devannotile.com
URL http://www.whitehorse.com.tw

Available in: Japan, Southeast Asia, Taiwan (Rep. of China)

Woodchip-board 'Artificial soil for re-vegetation'

Environmental performance
This product recycles woodchips from trees that have been cut down and abandoned after land formation. A grout coating ensures that the chips combine firmly, producing a woodchip board with outstanding durability. It has consecutive voids, providing an environment where plants can grow even in severe conditions such as acid soil or concrete walls.

Obayashi Corporation
Shinagawa Intercity Tower B, 2-15-2, Konan, Minato-ku, Tokyo, 108-8502, Japan
Tel +81-3-5769-1006  Fax +81-3-5769-1065
URL http://www.obayashi.co.jp/english/index.html
URL http://www.obayashi.co.jp/english/csr/

Available in: Japan

Tip-board (500An X500An X30mm)
## Energy Saving Lighting Products T5-SL Series Sensor Light

**Environmental performance**  
Intelligent Auto Dimming Circuitry.  
High Efficiency Energy Saving.

**Worldwide Support Trading Pte Ltd**  
Bld 51 #05-07 Ayer Rajah Crescent, Ayer Rajah Industrial Estate, Singapore 139948, Singapore  
Tel 65-67794367 Fax 65-67795508  
E-mail tpfwst@singnet.com.sg

Available in: Singapore

## Eco-Pro Paint

**Environmental performance**  
Cost Effective: Saves Money  
Help reduce potential environmental impact.  
Payback is immediate, you will see the saving the following month.  
Once painted, the surface is cool to touch unlike normal paint.  
Prevent cool air loss internally and prevent heat penetration from external heat source.

**Product performance**  
Reduce electricity bills as the air-con needs a shorter time to cool the place.  
Help reduce potential environmental impact.  
Payback is immediate, you will see the saving the following month.  
Once painted, the surface is cool to touch unlike normal paint.  
Prevent cool air loss internally and prevent heat penetration from external heat source.

**Worldwide Support Trading Pte Ltd**  
Bld 51 #05-07 Ayer Rajah Crescent, Ayer Rajah Industrial Estate, Singapore, 139948, Singapore  
Tel 65-67794367 Fax 65-67795508  
E-mail tpfwst@singnet.com.sg

Available in: Singapore
Shirasu Balloon Paint - saves energy using the properties of shirasu (volcanic ash sediment), a natural material from Kagoshima

Environmental performance
Shirasu Balloon Paint features multiple levels of thermal conductivity and solar reflectance that enhance its heat-shielding and insulation properties. Coating roofs and walls with this paint reduces the temperatures of surfaces and their reverse sides by 20 and 10 - 15°C, respectively, enabling the maintenance of a comfortable indoor environment throughout the year and helping to reduce air-conditioning costs as well as CO2 emissions. Its heat-shield performance has been confirmed in test construction as well as by its use in the field, and calculation examples of its heat shield and insulation effects can also be shown based on figures relating to heat-shield performance, such as heat conductivity and solar reflectance. The product has passed a test involving 3,000 hours of accelerated weathering using a xenon lamp (representing 10 years of weathering).

Product performance
Shirasu Balloon Paint is a water-based substance that uses no paint thinner, and is produced by processing Shirasu - a material produced throughout Kagoshima Prefecture - into Shirasu balloons (hollow bodies). The paint shields and insulates against heat, making it friendly to people, the environment, and buildings. It can also be applied to helmets and sheets as well as buildings to take advantage of its characteristics. In addition to the paint itself, the manufacturer also offers a product called Shirasu Wall - an interior/exterior finishing material with the same properties as Shirasu-based paint that requires no maintenance for a period of 20 years. This product won the 2007 Minister of the Environment Award for Global Warming Mitigation Activities in the Category of Mitigation Technology Introduction and Dissemination.

EARTH KAKEN Corporation
2052 MIYAZAKI CYOU SATSUMASENDAI-CITY KAGOSHIMA, 895-0013, Japan

Available in: Japan

EP-7-048

Non-Freon spray-on thermal insulating material 'Ceramilite-ecoG'

Environmental performance
In this construction method, we use spray-on thermal insulating material on-site. It does not use Freon-gas, Freon-gas substitute or VOCs which cause 'sickhouse'syndrome. It also contributes to environmental conservation by using recycled products from fractured styrene foam waste as a main material of an insulator. Moreover, because Ceramilite-ecoG (Non flammable) does not cause explosive burning like Polyurethane foam does, it obtained high safety against fire. This method received a prize of Ministry of Land, Infrastructure, Transport and Tourism Government on the 1st Ecoproducts award 2004.

Obayashi Corporation
Shinagawa Intercity Tower B, 2-15-2, Konan, Minato-ku, Tokyo, 108-8502, Japan
Tel +81-3-5769-1006 Fax +81-3-5769-1065
URL http://www.obayashi.co.jp/english/index.html
URL http://www.obayashi.co.jp/english/csr/

Available in: Japan, Asia
EP-7-049  Building and civil engineering  interior building materials

Thermosetting Resin Decorative Laminates Sheets

**Environmental performance**
With the product containing low permeation of formaldehyde, its total evaporative organic substances' permeating characteristics help to reduce pollution to the air quality of indoors.

**Product performance**
With enriching surface colors, patterns, and easy to process, it is widely used as a surfacing material in interior decoration.

Sunflower Corporation
12F., No.82, Sung Chiang Rd., Taipei City, Taiwan, 104, Republic of China
Tel +886-3-469-6296-200  Fax +886-3-469-6300
E-mail tqc@sunflower.com.tw
URL  http://www.sunflower.com.tw/tc/

Available in: Japan, Singapore, Taiwan (Rep. of China), China

EP-7-050  Building and civil engineering  interior building materials

Decorative Particleboard  18mm (6510) U-Type F3

**Environmental performance**
With the product containing low permeation of formaldehyde, its total evaporative organic substances' permeating characteristics help to reduce pollution to the air quality of indoors.

**Product performance**
A material used for indoor furniture.

Sunflower Corporation
12F., No.82, Sung Chiang Rd., Taipei City, Taiwan, 104, Republic of China
Tel +886-3-469-6296-200  Fax +886-3-469-6300
E-mail tqc@sunflower.com.tw
URL  http://www.sunflower.com.tw/tc/

Available in: Japan, Singapore, Taiwan (Rep. of China), China
Coconut Palm Wood Decking

**Environmental performance**
- Made from 100% Solid Coconut Timber
- 100% Eco-friendly and Biodegradable
- High quality & durable
- Natural beautiful texture
- Kiln dried solid hardwood
- Reversible boards: choose between smooth and grooved (anti-slip) surface
- Vacuum Pressure Treated for protection against fungal decay, borers and termites
- Eco-friendly
- 100% Biodegradable
- Termite Free
- Natural beautiful texture
- Kiln-dried solid hardwood
- Highly-Durable and Non-slip

**Product performance**
- Application
  - Boardwalks
  - Garden Floor Decks
  - Patios/Balconies
  - Planter Boxes
  - Roof Decks

**ENiTo Flooring Pte Ltd**
56 Serangoon North Ave 4 #06-04, 555851, Singapore
Tel 64884595    Fax 65 6257 6591
E-mail info@enitoflooring.com
URL [http://www.enitoflooring.com](http://www.enitoflooring.com)

Available in: Worldwide

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**Grass Brick**

**Environmental performance**
Using 100% regenerated pulp for recycling and reuse, the paper molded grass bricks when installed will decompose naturally, without causing secondary public harm.

**Product performance**
Economical, time saving, easy installation, environmentally friendly, with good air ventilation and water percolation. It can be used in foundation projects, steep slope projects, general flooring and car park projects.

**CHANG TAI ENVIRONMENTAL .CO., LTD.**
No.191, Sec. 2, Zhangshui Rd., Puyan Township, Changhua County, Taiwan, 516, Republic of China
Tel +886-4-8653126    Fax +886-4-8657308
E-mail moulded.pulp@msa.hinet.net

Available in: Taiwan (Rep. of China)
# Eco-product // Building and civil engineering

## EP-7-053

<table>
<thead>
<tr>
<th>Nippon Odour-less AirCare</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental performance</strong></td>
</tr>
<tr>
<td>- Absorbs harmful formaldehyde &amp; refreshes the air</td>
</tr>
<tr>
<td><strong>Product performance</strong></td>
</tr>
<tr>
<td>- Near zero VOC &amp; low odour</td>
</tr>
<tr>
<td>- Superior Washability and scrub resistance</td>
</tr>
<tr>
<td>- Anti-Bacterial</td>
</tr>
</tbody>
</table>

**Nippon Paint (M) Sdn. Bhd**

Lot 1-17 Taman Perindustrian Subang Utama, Jalan SU 4, 40300 Shah Alam, 40300, Malaysia  
Tel +603-5125-0888  Fax +603-5191-4849  
E-mail mlwong@nipponpaint.com.my  
URL http://www.nipponpaint.com.my

Available in: Malaysia

## EP-7-054

<table>
<thead>
<tr>
<th>Nippon Hydro-Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental performance</strong></td>
</tr>
<tr>
<td>- Low odour &amp; VOC</td>
</tr>
<tr>
<td><strong>Product performance</strong></td>
</tr>
<tr>
<td>- Fungus Resistant</td>
</tr>
<tr>
<td>- Prevent wood from rotting and metal from rusting</td>
</tr>
<tr>
<td>- Waterbased</td>
</tr>
</tbody>
</table>

**Nippon Paint (M) Sdn. Bhd**

Lot 1-17 Taman Perindustrian Subang Utama, Jalan SU 4, 40300 Shah Alam, 40300, Malaysia  
Tel +603-5125-0888  Fax +603-5191-4849  
E-mail mlwong@nipponpaint.com.my  
URL http://www.nipponpaint.com.my

Available in: Malaysia
Eco-product // Building and civil engineering

**EP-7-055**

**Nippon Hydro-Matt**

**Environmental performance**
Low Odour & VOC

**Product performance**
- Fungus Resistant
- Prevent wood from rotting and metal from rusting
- Waterbased

**Nippon Paint (M) Sdn. Bhd**

Lot 1-17 Taman Perindustrian Subang Utama, Jalan SU 4, 40300 Shah Alam, 40300, Malaysia
Tel +603-5125-0888  Fax +603-5191-4849
E-mail mlwong@nipponpaint.com.my
URL http://www.nipponpaint.com.my

Available in: Malaysia

**EP-7-056**

**Nippon Weatherbond Solareflect**

**Environmental performance**
- Reflect heat and cool your house
- ultra low voc and odour

**Product performance**
- Heat Resistant with Sunblock Technology
- 2X UV resistant
- 2x tougher against dirt, fungus, algae, flaking and efflorescence

**Nippon Paint (M) Sdn. Bhd**

Lot 1-17 Taman Perindustrian Subang Utama, Jalan SU 4, 40300 Shah Alam, 40300, Malaysia
Tel +603-5125-0888  Fax +603-5191-4849
E-mail mlwong@nipponpaint.com.my
URL http://www.nipponpaint.com.my

Available in: Malaysia
### EP-7-057

<table>
<thead>
<tr>
<th>Nippon Vinilex 5200 Wall Sealer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental performance</strong></td>
</tr>
<tr>
<td>- Low odour &amp; VOC</td>
</tr>
<tr>
<td><strong>Product performance</strong></td>
</tr>
<tr>
<td>- To promote better adhesion</td>
</tr>
<tr>
<td>- For interior use</td>
</tr>
</tbody>
</table>

**Nippon Paint (M) Sdn. Bhd**

Lot 1-17 Taman Perindustrian Subang Utama, Jalan SU 4, 40300 Shah Alam, 40300, Malaysia  
Tel +603-5125-0888    Fax +603-5191-4849  
E-mail mlwong@nipponpaint.com.my  
URL http://www.nipponpaint.com.my

Available in: Malaysia

### EP-7-058

<table>
<thead>
<tr>
<th>Nippon Vinilex 5100 Wall Sealer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental performance</strong></td>
</tr>
<tr>
<td>- Low VOC and odour</td>
</tr>
<tr>
<td><strong>Product performance</strong></td>
</tr>
<tr>
<td>- To promote better adhesion</td>
</tr>
<tr>
<td>- Good efflorescence resistance</td>
</tr>
<tr>
<td>- For Exterior Use</td>
</tr>
</tbody>
</table>

**Nippon Paint (M) Sdn. Bhd**

Lot 1-17 Taman Perindustrian Subang Utama, Jalan SU 4, 40300 Shah Alam, 40300, Malaysia  
Tel +603-5125-0888    Fax +603-5191-4849  
E-mail mlwong@nipponpaint.com.my  
URL http://www.nipponpaint.com.my

Available in: Malaysia
### Eco-product // Building and civil engineering

#### EP-7-059

**Nippon Solaroof**

**Environmental performance**
- Reflect heat and cools your house
- Low VOC and odour

**Product performance**
- Fungus resistant
- Dirt resistant

**Nippon Paint (M) Sdn. Bhd**

Lot 1-17 Taman Perindustrian Subang Utama, Jalan SU 4, 40300 Shah Alam, 40300, Malaysia  
Tel +603-5125-0888  Fax +603-5191-4849  
E-mail mlwong@nipponpaint.com.my  
URL http://www.nipponpaint.com.my

Available in: Malaysia

#### EP-7-060

**NVIRO Eco-Safe Permaseal Products**

**Environmental performance**  
AMON Marketing Corporation's brand NVIRO are construction products developed of high quality standards exploiting the company's contribution to the environment as earth-friendly in connection with the global warming issues and the thrust to Go Green Building.

**Product performance**  
NVIRO is the first and so far the only paint brand in the Philippines that passed the evaluation and is licensed by the National Ecolabelling Programme by Green Choice Philippines (www.pcepsdl.org.ph) which is accredited by the GLOBAL ECOLABELLING NETWORK (www.globalecolabelling.net).

**AMON Marketing Corporation**  
(new address) E. Rodriguez Ave. cor Cpl. Cruz Street, Bagong Ilog, Pasig City, Metro Manila, Philippines  
Tel +63-2-8196113  Fax +63-2-6710358  
E-mail nviroproducts@ymail.com  

Available in: Philippines
Heat ray shielding paint with energy saving and CO₂ reduction effects

Environmental performance
Due to the characteristics of its good weatherability and radio-wave permeability, as well as high-transparency, our heat-rays shielding paint has been widely applied to glass for automobile, train, and housing windows. This paint contributes significantly to reduce both energy consumption and CO₂ emission as a result of reducing the air conditioning load.

Product performance
Our heat-rays shielding paint is a clear coating-material containing highly dispersed ultra-fine ceramic particles absorbing heat rays in sun light. Application of this paint as direct glass coating or coated film on glass surface enables glass to reduce insolation permeability ratio to less than 70% while keeping 90% of visible radiation permeability.

Mitsubishi Materials Corporation
1-6-1 Yokoami, Sumida-ku, Tokyo, 130-0015, Japan
Tel +81-3-5819-7325 Fax +81-3-5819-7327

Available in: Worldwide

Photocatalytic road-paving method, Optical Randix Method

Environmental performance
Optical Randix Method is air purification technology for pavement by using photocatalytic coating. Resin, which is developed for photocatalysis and has excellent durability and adherability, is used as a binder in this construction method, resulting in roads becoming more tolerant against wear from vehicles. Thanks to excellent effect to decrease road temperature, this method can also be utilized as a countermeasure against the heat-island phenomenon.

Product performance
1) Dense grade asphalt concrete pavement, semi-flexible pavement and porous asphalt pavement are available.
2) Excellent adhesive strength and durability
3) According to the results a year after the test construction, NOₓ removal performance was superior (1.94 µmol*), having long-term durability.
4) The method’s remarkable construction property allows traffic to resume more quickly than conventional construction.
*Test conducted under the air purification test procedure, JIS R1701-1

Mitsubishi Materials Corporation
KeidanrenKaikan 1-3-2, Otemachi, Chiyoda-ku, Tokyo, 100-8117, Japan
Tel +81-3-5252-5308 Fax +81-3-5252-5344
E-mail kkawabat@mmc.co.jp

Available in: Japan
Sidewalk 'Wet pavement' system to counter heat island phenomenon

**Environmental performance**

The 'wet pavement' system (water sprinkling road system) can reduce summer daytime temperature of road surfaces by approximately 20 degree Celsius lower than asphalt pavement. The wet pavement surface reduces radiation heat. A special textile and special bricks provide a continuous cooling effect even if fine weather continues for several days. Water quantity required is 5-6L/m² for a typical fine day in summer.

**Obayashi Corporation**

Shinagawa Intercity Tower B, 2-15-2, Konan, Minato-ku, Tokyo, 108-8502, Japan

Tel +81-3-5769-1006  Fax +81-3-5769-1065

URL http://www.obayashi.co.jp/english/index.html

URL http://www.obayashi.co.jp/english/csr/

Available in: Japan

Wet Pavement System (Uchimizu-Pave)

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**EP-7-064**

**Building and civil engineering**

**plastics**

**Environmentally Friendly Low Profile Access Floor ECOSeries CA400A/CA500A/CA600A**

**Environmental performance**

Using 100% recycled plastic, the main component used includes plastic steel material that can be recycled and reproduced, where 80~90% of the main components can be used repeatedly.

**Product performance**

It is applied in a variety of wiring layouts, management and repair for offices and equipment chambers with a host of wiring boxes on offer, where the parts can be easily extended, and is lightweight, with extended operating life cycle, easy to install, providing high efficiency.

**NETFLOOR, INC.**

7F., No. 214, Sec. 3, Ta-Tung Rd., Hsi-Chih Dist., New Taipei City, Taiwan, 22103, Republic of China

Tel +886-2-8647-1849  Fax +886-2-8647-3208

E-mail frank.wang@net-floor.biz

URL http://www.net-floor.biz

Available in: Japan, Oceania, Europe, South America, Middle and Near East, U.S.A., Singapore, Malaysia, Republic of Korea, Taiwan (Rep. of China), China
**Eco-product // Building and civil engineering**

### EP-7-065

**NAN YA DELUXE VINYL TILE**

**Environmental performance**
This product does not contain heavy metals, and is free of any harmful chemical substances.

**Product performance**
With even patterns inside and out, and of identical patterns from the top to the bottom, it offers a superb wear resistant effect, and is suitable for offices, hotels, restaurants, department stores, hospitals, and schools.

Product Series: 50124, 50224, 50524, 50624, 50724, 50924, 51724, 52224, 53124, 53624, 54224, 54324, 54624, 55224, 56724, 58124, 58424, 58724, 59524, 59824

**Nan Ya Plastics Corporation**

Room 289, B-3F, No. 201, Tun Hwa North Road, Taipei City, Taiwan, 105, Republic of China
Tel +886-2-27178226  Fax +886-2-25140628
E-mail patrick-d@npc.com.tw
URL http://www.npc.com.tw

Available in: Taiwan (Rep. of China)

### EP-7-066

**Rubber Safety Tile DN12**

**Environmental performance**
Made of 100% recycled waste rubber pellets, the product can be recycled and reused when replaced.

**Product performance**
- **Dimensions:**
  - 50x50x4.5~9cm
  - 60x60x4.5~9cm
- **Colors:** black, red, green, yellow, blue, purple, orange, and gray.
- It can be widely applied in various indoor and outdoor space, such as children’s playground, garden landscaping, fitness centers, pedestrian walkways and so forth, and comes in multiple colors, dimensions and thicknesses to choose from. The product is accredited with several domestic and foreign certifications, including the ISO9001: 2008, EN1177, ASTM F1292, CNS12634, the safe toy certificate and Taiwan's Green Mark.

**Jun Lung Rubber Industries Co., Ltd.**

No. 11, Gong Ye North 2nd Road, Nangang Industrial Park, Nantou City, Taiwan, 54066, Republic of China
Tel +886-49-2254236  Fax +886-49-2256432
E-mail jun.lung11@msa.hinet.net
URL http://www.junlung.com.tw

Available in: Taiwan (Rep. of China)
**EP-7-067**  
**Building and civil engineering**  
**flooring and tile**

### X-Lock Interlocking Rubber Tile DN70

**Environmental performance**

Made of 100% recycled waste rubber pellets, the product can be recycled and reused when replaced.

**Product performance**

Dimensions: 50x50x2.5—10cm  
Colors: black, red, green, yellow, blue, purple, orange, gray.  
Product feature:  
* An internally proprietary R&D of an X-shaped pin design.  
* Quick and simple installation and replacement.  
* No adhesive is needed when installing the X-shaped rubber pin safely onto soft soil or hard ground surface.

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**Jun Lung Rubber Industries Co., Ltd.**

No. 11, Gong Ye North 2nd Road, Nangang Industrial Park, Nantou City, Taiwan, 54066, Republic of China  
Tel +886-49-2254236 Fax +886-49-2256432  
E-mail jun.lung11@msa.hinet.net  
URL http://www.junlung.com.tw

Available in: Taiwan (Rep. of China)

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**EP-7-068**  
**Building and civil engineering**  
**flooring and tile**

### Rubber Safety Tile DN59

**Environmental performance**

Made of 100% recycled waste rubber pellets, the product can be recycled and reused when replaced.

**Product performance**

Dimensions: 50x50x2—4cm  
Colors: black, red, green, yellow, blue, purple, orange, and gray.  
It can be widely applied in various indoor and outdoor space, such as children's playground, garden landscaping, fitness centers, pedestrian walkways and so forth, and comes in multiple colors, dimensions and thicknesses to choose from. The product is accredited with several domestic and foreign certifications, including the ISO9001: 2008, EN1177, ASTM F1292, CNS12634, the safe toy certificate and Taiwan's Green Mark.

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**Jun Lung Rubber Industries Co., Ltd.**

No. 11, Gong Ye North 2nd Road, Nangang Industrial Park, Nantou City, Taiwan, 54066, Republic of China  
Tel +886-49-2254236 Fax +886-49-2256432  
E-mail jun.lung11@msa.hinet.net  
URL http://www.junlung.com.tw

Available in: Taiwan (Rep. of China)
### EP-7-069  
**Rubber Safety Tile DN11**

**Environmental performance**
Made of 100% recycled waste rubber pellets, the product can be recycled and reused when replaced.

**Product performance**
- **Dimensions:**
  - 50x50x1～1.5cm
  - 60x60x1～1.5cm
- **Colors:** black, red, green, yellow, blue, purple, orange, and gray.
- It can be widely applied in various indoor and outdoor space, such as children’s playground, garden landscaping, fitness centers, pedestrian walkways and so forth, and comes in multiple colors, dimensions and thicknesses to choose from. The product is accredited with several domestic and foreign certifications, including the ISO9001: 2008, EN1177, ASTM F1292, CNS12634, the safe toy certificate and Taiwan’s Green Mark.

**Jun Lung Rubber Industries Co., Ltd.**

No. 11, Gong Ye North 2nd Road, Nantou City, Nantou County, Taiwan, 54066, Republic of China  
Tel +886-49-2254236  Fax +886-49-2256432  
E-mail jun.lung11@msa.hinet.net  
URL http://www.junlung.com.tw

Available in: Taiwan (Rep. of China)

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### EP-7-070  
**Anti-Slip Interlocking Rubber Tile DN11_11**

**Environmental performance**
Made of 100% recycled waste rubber pellets, the product can be recycled and reused when replaced.

**Product performance**
- **Dimensions:**
  - 30x30x1～1.5cm
  - 60x60x1～1.5cm
- **Colors:** black, red, green, yellow, blue, purple, orange, and gray.
- Suitable sites: gyms, fitness centers, commercial buildings.
- It can be widely applied in various indoor and outdoor space, such as children’s playground, garden landscaping, fitness centers, pedestrian walkways and so forth, and comes in multiple colors, dimensions and thicknesses to choose from.

**Jun Lung Rubber Industries Co., Ltd.**

No. 11, Gong Ye North 2nd Road, Nangang Industrial Park, Nantou City, Taiwan, 54066, Republic of China  
Tel +886-49-2254236  Fax +886-49-2256432  
E-mail jun.lung11@msa.hinet.net  
URL http://www.junlung.com.tw

Available in: Taiwan (Rep. of China)
### EP-7-071  Building and civil engineering

tiles and bricks

#### Floor and wall coverings fired from renewable energy and recycled materials

**Environmental performance**

Glazed ceramic floor and wall tiles are fired/cooked using renewable energy, thereby reducing the carbon dioxide from fossil fuels by 30%. It is also composed of raw materials from waste of biomass and other recyclable materials, including use of recycled wastewater. These are labeled with the “Type I Eco-label” by Third-Party practitioner.

**Product performance**

Aside from its superior design, the glazed ceramic floor and wall tiles are durable for floor and wall coverings, passing the PNS/ISO 13006 Standard.

**Mariwasa Siam Ceramics, Inc.**

Brgy. San Antonio, Sto. Tomas, Batangas, 4234, Philippines  
Tel +63437782939   Fax +63437782934  
E-mail hotline@mariwasa.com  
URL http://www.mariwasa.com

Available in: Japan, Asia, Oceania, Southeast Asia, ASEAN, Thailand, Philippines, South Africa

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### EP-7-072  Building and civil engineering

tiles and bricks

**Eco-Glass**

**Environmental performance**

The strong water permeability of our Eco Glass pavers is effective in flood prevention control and enhances safety for pedestrian/vehicular usage. In addition, the pores also act as air pockets, which help in heat insulation, thus keeping surfaces cool despite the high temperatures in Singapore. Eco Glass pavers meet minimum threshold required by LEED in reducing urban island heat effect.

**Cheung Kwong Fine Chemical SG Pte Ltd**

150 Orchard Road #08-17, 238841, Singapore  
Tel 6567321666   Fax 6567336531  
E-mail jean.chen@ckfcs.com  
URL http://ckfcs.com

Available in: Worldwide
Ecocarat: superior health-promoting building materials to support both comfort and health

Environmental performance
Ecocarat, a material produced from waste glass and other recycled materials, controls by itself the humidity of rooms where it is used by absorbing moisture in the air in humid conditions and giving off moisture when the air is dry. The low-temperature firing used in its production means that energy consumption and CO₂ emissions are reduced compared with those of existing tiles.

Product performance
Ecocarat, a material that controls by itself the humidity of rooms in a natural way, also works to absorb VOCs (the airborne compounds that cause Sick Building Syndrome), thus providing a comfortable and healthful interior environment. This is Japan's first formaldehyde-reducing building material certified by the Building Center of Japan.

LIXIL Corporation
36F, Kasumigaseki Building, 3-2-5 Kasumigaseki, Chiyoda-ku, Tokyo, 100-6036, Japan
URL http://global.lixil.co.jp/

Available in: Worldwide

MICROGUARD, INAX anti-fouling technology for the external wall of housing and building

Environmental performance
Tile that is treated with MICRO-GUARD functions to prevent the fouling of the external walls of houses and buildings and to maintain the beautiful appearance of the wall for a long period. MICRO-GUARD is a technology to process tiles with INAX's original anti-fouling method in order to maintain and beautify the landscape of urban areas in severe environmental conditions including air pollution. MICRO-GUARD enhances the surface hydrophilicity of conventional tile. Thereby, the condition of the tile surface is always covered with a water film that absorbs water molecules from the air. As a result, it prevents the generation of static electricity which attracts air-borne dust. Moreover, the tile effectively becomes "self-cleaning" since dust and grime are flushed from tile surface when it rains thanks to the MICRO-GUARD treatment.

LIXIL Corporation
36F, Kasumigaseki Building, 3-2-5 Kasumigaseki, Chiyoda-ku, Tokyo, 100-6036, Japan
URL http://global.lixil.co.jp/

Available in: Asia
### Recycled-material Tile: wall and floor materials made from waste resources

**Environmental performance**

Recycled-material Tile is a wall/floor tile made from recycled materials. LIXIL makes every effort to use up all materials generated during the various production processes at its factories, ranging from mill ends and waste materials to the clay contained in wastewater. Materials used in large quantities are "ceramic-industry waste-mud" (recovered from the excavation of ceramic raw materials), "Kira" (a material generated during the mining of silica sand - one of the raw materials of glass), and "pottery chips" (formed by crushing ceramic products such as tiles).

**LIXIL Corporation**

36F, Kasumigaseki Building, 3-2-5 Kasumigaseki, Chiyoda-ku, Tokyo, 100-6036, Japan
URL http://global.lixil.co.jp/

Available in: Japan

Recycled Material: IPF-150

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### Thermo Tile: saying good-bye to chilly bathroom tiles

**Environmental performance**

Thermo Tile is a floor tile for bathrooms that offers the function of preventing the chill often felt when walking on tiled floors. It does not need energy sources such as electricity or gas; rather, it works on the principle of forming a heat-insulating layer on the tile surface. Thermo Tile has a surface layer that contains many small hollow balloon-like bubbles, which lowers the thermal conductivity of the tile itself and reduces the heat transfer rate (i.e., the thermal flux value). Consequently, those walking on the tiles do not feel much of a chill.

**Product performance**

Thermo Tile's rugged surface means that it is not slippery even with wet feet. The coefficient of slip resistance for bathrooms (C.S.R·B) is set at a value suitable for use in large bathhouses.

**LIXIL Corporation**

36F, Kasumigaseki Building, 3-2-5 Kasumigaseki, Chiyoda-ku, Tokyo, 100-6036, Japan
URL http://global.lixil.co.jp/

Available in: Japan

TERMO TILE: IFT-300/ML-301N
Eco-product // Building and civil engineering

EP-7-077  Building and civil engineering
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Self-Luminous Emergency Signs (SED4, SED5 & SED6)

**Environmental performance**

Maintenance Free, Weather Proof, Fire Safety & Emergency Signage.
Require No: Bulb, Wiring, Electricity, Battery Pack & Running Cost.

**Product performance**

Energy Efficiency & Saving.

**Worldwide Support Trading Pte Ltd**

B1k 51 #05-07 Ayer Rajah Crescent, Ayer Rajah Industrial Estate, Singapore, 139948, Singapore
Tel 65-67794367  Fax 65-67795508
E-mail tpf0wst@singnet.com.sg

Available in: Singapore

EP-7-078  Building and civil engineering
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Geo Wing Pile™ II steel pipe pile for the rotary penetration method

**Environmental performance**

Geo Wing Pile™ II steel pipe pile is an environmentally friendly method which produces no excavation surplus soil and which involves low noise and vibration.

**Product performance**

Geo Wing Pile™ II, a new-structure steel pipe pile installed by the rotary penetration method and used for the construction of medium-height buildings, has a truncated cone shape wing on the toe of this pile. The product is characterized by its improvement to the workability of the penetration process.

**Sumitomo Metal Industries, Ltd.**

1-8-11 Harumi, Chuo-ku, Tokyo, 104-6111, Japan
Tel +81-3-4416-6183  Fax +81-3-4416-6793
E-mail chikyu-kan@sumitomometals.co.jp
URL http://www.sumitomometals.co.jp

Available in: Worldwide
CLeanWell® DRY, OCTG Premium Connection

**Environmental performance**

CLEANWELL® DRY is an environmentally-friendly premium connection of VAM® used in connecting oil country tubular goods (OCTG). When a connection is connected to a pipe, the thread surface is coated with grease called "dope". This was necessary to satisfy the specifications for both anti-galling performance and gas-tightness. As the dope contains heavy metals such as lead, there was a concern that heavy metals might result in a detrimental impact on marine creatures or humans. CLEANWELL® DRY is not used of "dope". CLEANWELL® DRY premium connection enables oil and gas development with no discharge of products that are harmful to the environment.

**Product performance**

CLEANWELL® DRY is "dope-free" by using a special surface treatment and coating with an excellent lubricating solid film for both anti-galling performance and gas-tightness. Environmentally-friendly CLEANWELL® DRY is used in the area with the most stringent environmental regulation in the world, and so on with greatly desire.

**Sumitomo Metal Industries, Ltd.**

1-8-11 Harumi, Chuo-ku, Tokyo, 104-6111, Japan
Tel +81-3-4416-6183 Fax +81-3-4416-6793
E-mail chikyu-kan@sumitomometals.co.jp
URL http://www.sumitomometals.co.jp

Available in: Worldwide

Miracool Paint

MIRACOOL Co., Ltd.

1-11-15-4F, Nihonbashi-horidomecho, Chuo-ku, Tokyo, 103-0012, Japan
Tel +81-3-3249-0272 Fax +81-3-3249-0270
E-mail oversea@miracool.jp
URL http://www.miracool.jp/english/
URL http://www.miracool.jp/company/

Available in: Japan, Asia, Southeast Asia, Indonesia, Singapore, Thailand, Philippines, Malaysia, Republic of Korea, Taiwan (Rep. of China), China
**Gas engine heat pump air conditioner equipped with power generator**

**Environmental performance**
High-power EXCEL realizes air conditioning and power generation simultaneously. A compressor driven by a gas engine provides space heating/cooling and an engine generates electricity supplied to air conditioner pumps and buildings. It exercises a maximum rated capacity of 2 to 4 kW and supplies 1 to 3 kW of electricity per outdoor unit in the building. With its high energy-saving features, this system contributes to cutting electricity consumption in the peak hours of electricity demand.

*Compared to a conventional case using gas heat pump and electricity from the electricity grid, the Hi-power Excel reduces CO2 emission by approximately 10%.

**Product performance**
It boasts the industry-leading seasonal efficiency (*1), reaching 1.86, and the generating efficiency (LHV(*2)), 44%, exceeds the average generating efficiency at the consuming end of thermal power plants in Japan, 40%.

*1 Annual Performance Factor (primary energy base): rate of air conditioning capacity of consumed energy on a year-round operation under certain conditions.
*2 LHV: Lower Heating Value. The amount of heat generated by complete combustion of the combustion gas, minus the latent heat of vaporization of the water vapor generated in the process.

**Osaka Gas Co., Ltd.**

4-1-2, Hirano-machi, Chuo-ku, Osaka-shi, Osaka, 541-0046, Japan
Tel +81-6-6205-4605  Fax +81-6-6202-1040
URL http://www.osakagas.co.jp/indexe.html
URL http://www.osakagas.co.jp/csr_e/index.html

Available in: Japan

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**Multi System CDU for Building with All-Inverter Compressor**

**Environmental performance**
- Mitigation of climate change: improvement of efficiency have obtained 5.0 Annual Performance Factor (APF), exceeding the standard value for 2015.
- Efficient use of resources: 7% reduction in quantity compared to our conventional model. As for 14 and 16HP models, 40% reduction in footprint was achieved by making the conventional two-unit connection system into one chassis.
- Management of chemicals: The use of lead-free soldering and chromium-free steel plating have contributed to reducing hazardous chemicals.

**Product performance**
- Energy-saving: The use of the new DC compressor and the Intelligent VRF control, etc. has contributed to achieve top-line APF in the industry.
- About 40% reduction in footprint in case of connecting 2 outdoor units: Achieved by the new line-up in 14 and 16HP with 3 compressor and 3 inverters.
- Piping design flexibility: About 25% increase in longest piping length and 40% increase in total piping length.

**Toshiba Carrier Corporation**

3-23-17 Takanawa, Minato-ku, Tokyo, 108-8580, Japan
Tel +81-3-6409-1735  Fax +81-3-5447-8101
URL http://www.toshiba.co.jp/index.htm
URL http://www.toshiba-aircon.jp/aboutus/environment.htm
Eco-product // Machines and equipment

EP-8-003  Machines and equipment

OH Saver (Optimized HVAC Control Systems for Energy Saving)

**Environmental performance**

This system specifies the target setting values for each individual equipment, so that heat sources and various equipment can be operated at the point where the overall air conditioning energy consumption is lowest (the optimal point), while maintaining the thermal environment in the room. A 20% reduction in energy usage was achieved by using enhanced software, which improves the efficiency of the Primary Source System and the Secondary System. (in-house comparison)

*The figure is based on the optimization test result conducted at our in-house facility (2000RT turbo chiller)*

**Product performance**

During the design stage, total system parameters are simulated to assist in obtaining the high energy saving on any air-conditioning configuration.

Hitachi Plant Technologies, Ltd.

RISE ARENA BLDG. 5-2, Higashi-Ikebukuro 4-Chome, Toshima-ku, Tokyo, 170-8466, Japan
Tel +81-3-5928-8100  Fax +81-3-5928-8701
URL http://www.hitachi-pt.com

Available in: Japan, Asia, Southeast Asia, Middle and Near East, ASEAN, Indonesia, Singapore, Thailand, Philippines, Malaysia, China (Except for Iran)

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EP-8-004  Machines and equipment

Energy Saving Heat Source System

**Environmental performance**

This system is composed of free cooling system enabling long term usage in a year which produces cold water in a cooling tower using cool outdoor air and the technology optimizing heat source system operations depending on outdoor air temperatures and heat load. Furthermore, it is capable of reducing energy consumption by 50% (our in-house comparison) when combined with inverters, the highly efficient control equipment.

**Product performance**

It can reduce the circulation power of fans and pumps by controlling chilled water flux and temperatures depending on outdoor air temperatures, heat load conditions and equipment characteristics, in order to optimize heat source system operations. It also can be flexibly installed into existing air conditioning systems.

Hitachi Plant Technologies, Ltd.

RISE ARENA BLDG. 5-2, Higashi-Ikebukuro 4-Chome, Toshima-ku, Tokyo, 170-8466, Japan
Tel +81-3-5928-8100  Fax +81-3-5928-8701
URL http://www.hitachi-pt.com

Available in: Japan, Asia, China
Eco-product // Machines and equipment

**EP-8-005**

**Energy Efficiency Service for HVAC by using ICT**

**Environmental performance**

- Mitigation of climate change: 10-20% reduction of energy consumption by the reduced consumption of cool water, hot water and fan power and the prevention of excessive cooling and heating.
- Efficient use of resources: Control is executed by software. Minimization of hardware means resource saving in the manufacturing phase.

**Product performance**

- Comfortable environment: Air-conditioning control based on Predicted Mean Vote (PMV) maintains comfortable indoor environment.
- Product spec: Need BACnet/IP used as communication protocol with existing BMS (Building Management System).

TOSHIBA CORPORATION Smart Community Div.

1-1, Shibaura 1-Chome, Minato-Ku, Tokyo, 105-8001, Japan
Tel +81-3-3457-3043  Fax +81-3-5444-9312
URL http://www.toshiba.co.jp/index.htm

Available in: Japan

**EP-8-006**

"AIR ZEUS", HITACHI Oil-Free Screw Compressor

**Environmental performance**

- New type air block improving efficiency and energy consumption can reduce CO₂ emissions by approximately 31 tons annually*.
- It is equipped with our unique power saving control systems. End pressure control with active power control can reduce CO₂ emissions by approximately 91 tons annually * and precision pressure control with power saving control can reduce CO₂ emissions by approximately 24 tons annually * when average load factor is 70% respectively.

*Our in-house comparison
Note: Reduction amount of CO₂ emissions (CO₂ emission coefficient:0.555kg-CO₂/kWh) is based on the comparison of previous model number SDS-S and current SDS-U280 (motor output:280kW).

**Product performance**

- Air block fluid analysis applying our advanced computational fluid dynamic technology simulates to assist in optimising shapes of air flow path, inlet, and rotor and as a result improves efficiency and energy consumption.

Hitachi Plant Technologies, Ltd.

RISE ARENA BLDG. 5-2, Higashi-Ikebukuro 4-Chome, Toshima-ku, Tokyo, 170-8466, Japan
Tel +81-3-5928-8100  Fax +81-3-5928-8701
URL http://www.hitachi-pt.com

Available in: Japan, Asia, Oceania, Europe, Southeast Asia, Indonesia, Singapore, Thailand, Philippines, Malaysia, Republic of Korea, Taiwan (Rep. of China), China
Eco-product // Machines and equipment

EP-8-007	Machines and equipment


Environmental performance
- Mitigation of climate change: Compared to conventional hot water supply system, namely, the boiler, this highly efficient Heat Pump hot water supply system generates only half of CO₂ emissions, and reduces its operating cost approximately to one-third.

Product performance
- Simple installation: Drastic improvement in piping and wiring was achieved compared to our conventional model.
- Energy-saving operation: The multi-function remote controller enables different settings required by various industries to achieve energy-saving operation.
- Optimum system: The system allows up to 8-unit connection to satisfy different applications and wide-ranging hot water demands (1 to 27 tons).

Toshiba Carrier Corporation
Shinagawa Center Building, 23-17, Takanawa 3-chome, Minato-ku, Tokyo, 108-8580, Japan
Tel +81-3-6409-1735 Fax +81-3-5447-8101
URL http://www.toshiba.co.jp/index.htm
URL http://www.toshiba-aircon.jp/aboutus/environment.htm

EP-8-008	Machines and equipment

"ClearBallast", Hitachi Ballast Water Purification System

Environmental performance
This ballast water purification equipment is used to protect ocean ecosystems and prevent pandemic spread. It causes no secondary marine pollution and is an environment conscious system, as it does not use any disinfecting agents.

Product performance
An epoch-making ballast water purification system, which rapidly removes seawater organisms in ballast water on board using coagulant and magnetic separation method.

Hitachi Plant Technologies, Ltd.
RISE ARENA BLDG. 5-2, Higashi-Ikebukuro 4-Chome, Toshima-ku, Tokyo, 170-8466, Japan
Tel +81-3-5928-8100 Fax +81-3-5928-8701
URL http://www.hitachi-pt.com

Available in: Japan
Environmental performance

This is an advanced treatment system for sewage treatment nitrification promotion type. Polymer gels immobilized nitrifying bacteria comprehensive "Bio-N-cubes" by introducing into the reaction, to enable the processing of advanced treatment systems in less time traditional. We aimed at saving energy based on experience maneuvering data and developed it newly. As a result, we succeeded in evolving this treatment process more.

- Approximately 20% reduction in the amount of air required by optimizing the design air volume (our ratio).
- Approximately 35% (our ratio) of energy-saving effect is in this way possible than type conventionally.

* dual-mixer: Energy saving agitator our proprietary.

Product performance

About 1/2 processing time compared to traditional circulation nitrification denitrification process (comparison) can be, and reactor Space saving can be achieved.

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Hitachi Plant Technologies, Ltd.

RISE ARENA BLDG. 5-2, Higashi-Ikebukuro 4-Chome, Toshima-ku, Tokyo, 170-8466, Japan

Tel +81-3-5928-8100    Fax +81-3-5928-8701

URL http://www.hitachi-pt.com


Available in: Worldwide (Except for Iran)

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CD-Measurement SEM "CG4100"

Environmental performance

The CD-SEM for from 45nm to 22nm. Measurement repeatability, throughout and up-time improvement. Throughput of automatic measuring of microscopic semiconductor circuit patterns on Wafer is enhanced by 17% (36wafers/h→42wafers/h) under Hitachi’s standard evaluation conditions) in comparison with previous model CG4000 (Sales start in March, 2009).

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Hitachi High-Technologies Corporation

24-14, Nishi-Shimbashi 1-chomem, Minato-ku, Tokyo, 105-8717, Japan

Tel +81-3-3504-7562    Fax +81-3-3504-3959

E-mail sugawara-kazunari@nst.hitachi-hitec.com


Available in: Japan, Asia, Oceania, Europe, North America, Central America, South America, Southeast Asia, Middle and Near East, ASEAN, U.S.A, Indonesia, Singapore, Thailand, Philippines, Malaysia, Republic of Korea, Taiwan, Rep. of China, Israel, South Africa (Except Iran)
Environmental performance
This system consists of a facility where high concentration of organic wastewater and process residue are treated while regenerating energy from the organic matter in the form of biogas which is then converted and effectively used as electric power or steam.

Energy efficiency/Waste reduction: Utilizing anaerobic microorganisms in the treatment of organic matter results to 80% power consumption reduction and 90% less waste sludge compared to conventional aerobic treatment.

Energy regeneration: biogas obtained from organic wastes can be converted to and used as electric power and/or steam.

Product performance
The system’s strong points are the energy efficiency of the treatment process and its waste reduction feature. Upon necessity, pre-treatment, aerobic treatment, and sludge treatment facilities may also be installed as accessory equipment. Moreover, energy efficiency may be increased through the use of the 2-stage UASB and bio-desulphurizer technology original to the company.

TOSHIBA CORPORATION Social Infrastructure Systems Company
1-1, Shibaura 1-Chome, Minato-Ku, Tokyo, 105-8001, Japan
Tel +81-3-3457-4340
URL http://www.toshiba.co.jp/sis/page/1_6_01.htm

Environmental performance
- Mitigation of climate change: The CO₂ reduction effect is larger than that of the incineration system, because the feeding of extra fuel is unnecessary for the running of process, and because solid carbon is separated owing to the thermal decomposition of the charged organic materials.

Product performance
- The system consists of the main facilities for Dryer, Thermal decomposition furnace, combustion furnace, the equipment of heat-source and gas-cleaning. It is possible to take out carbide (char) of high utility value from the charge, and thereby high recyclability is realized.
- Neighborhood factories using steam can use carbon fuel as a bio-fuel that is neutral for CO₂ discharge.
- As for solid fuel, long-term storage is possible because its main component is stable carbides. Moreover, problems due to bad smell seldom happen.

TOSHIBA CORPORATION Social Infrastructure Systems Company
1-1, Shibaura 1-Chome, Minato-Ku, Tokyo, 105-8001, Japan
Tel +81-3-3457-4187
URL http://www.toshiba.co.jp/sis/page/1_1_2_10.htm
**EP-8-013**

**Toshiba original wastewater treatment system without using coagulants**

**Environmental performance**
- Toshiba's unique wastewater treatment equipment, which considerably reduces running costs (reducing of chemical and chemical-derived sludge) in the process of inorganic-based effluent treatment at manufacturing equipment plant, etc.
- Conventional coherent filtering and high pressure floating treatment method using coagulants are employed in the past in case size of SS is fine and filtration resistance of wastewater is high. Therefore we have developed chemical-free filtration system employing magnetic functional powder without using coagulants.

**Product performance**
- Recycling system by using recycling functional powder
- Density of suspended solids with a minimum diameter 2 μm over, can be reduced to 20mg/L or less.
- At least 99.9% of functional powder can be recovered per batch by using the magnetic separation unit and washing equipment.

**TOSHIBA CORPORATION Social Infrastructure Systems Company**

1-1, Shibaura 1-Chome, Minato-Ku, Tokyo, 105-8001, Japan
Tel +81-3-3457-4340

**EP-8-014**

**High-efficiency absorption chiller with two-stage absorption and evaporation**

**Environmental performance**
RFW series efficiency reaches steam consumption ratio 3.5 kg/h USRT, by improving approximately 20% from the current running series. Besides, RFW series flow rate of chilled/cooling water is decreased with large temperature head, which contributes to savings of pumping energy.

**Product performance**
Steam-driven double effect absorption chiller RFW series is awarded "PRESIDENT OF THE JAPAN MACHINERY FEDERATION AWARD" in "IMPLEMENTATION OF ENERGY CONSERVING MACHINERY AWARDS" as high efficient absorption chiller with dual evaporation/absorption cycle. RFW series has steam consumption ratio 3.5 Kg/h USRT, highest efficient ratio in the world, covering in the range of 1,864 kW (530 USRT) to 10,549kW (3000 USRT).

**EBARA CORPORATION**

11-1 Haneda Asahi-cho, Ohta-ku, Tokyo, 144-8510, Japan
Tel +81-3-3743-6111  Fax +81-3-5736-3121
E-mail webmaster@ebara.com
URL http://www.ebara.co.jp/en/
URL http://www.ebara.co.jp/en/csr/

Available in: Japan and 17 countries

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**Eco-product // Machines and equipment**
Eco Cooling Ace

**Environmental performance**
Eco Cooling Ace is a cooling support system for many kinds of outdoor units. (refrigerator/remote-condenser/chiller/EHP/GHP)
Tap water is sprinkled over the cooling filter, and then intake air gets cooled when it goes through the filter.
What the Eco Cooling Ace brings (at EHP 10HP)
*Energy saving:
High side pressure reduction and freezing/air cooling-ability increased by through the filter gives a 25% cut.
*CO₂:
2.2 tons/year of CO₂ emissions can be cut. (the electricity conversion value)
*Reducing "Heat-Island Effect":
The discharged air is 3-4°C cooler through the cooling filter.

**Product performance**
The filter also works as a filter for the protection of fins against dust, exhaust gas, etc.

FUJIKOKI CORPORATION
7-17-24, Todoroki, Setagaya-ku, Tokyo, 158-0082, Japan
Tel +81-3-3702-5141
URL http://www.fujikoki.co.jp

Available in: Japan

Chiller

**Environmental performance**
- Innovative technologies are applied for the design and development of the compressor, refrigerant cycle, and chiller itself to realize this R410A screw chiller. R410A refrigerant and optimized design of equipment for R410A achieved COP value dramatically improved to become more than 5.1 for all models.

**Product performance**
- Hitachi has succeeded to introduce R410A refrigerant in all its range of products, ranging from room air-conditioners, package air-conditioners to currently released SCREW CHILLER. Using R410A refrigerant, the cooling capacity per unit volume were increased. It makes the system compact and achieves less impact on the environment.

Hitachi Appliances, Inc.
Hitachi Atago Bldg., 15-12, Nishi Shimbashi 2-chome, Minato-ku, Tokyo, 105-8410, Japan
Tel +81-3-3502-2111  Fax +81-3-3506-1442
URL http://www.hitachi-ap.com/

Available in: Asia (Except for 60Hz Market such as Korea, Philippines and Taiwan)
### EP-8-017  
**Adsorption Chiller making a cold water at a low cost**

**Environmental performance**  
This is a chemical refrigeration compressor using one of the NWFs, H\(_2\)O and adsorbent. It can produce chilled water from the low grade heat source of less than 75 degrees Celsius. Main body does not require electricity. In addition, the maintenance cost is nearly negligible.

**Product performance**  
AdrefNoa can produce chilled water 5°C to 15°C using waste water 60°C to 80°C. This unit is ideal for renewable energy and biomass energy applications and contributes to environmental sustainability through reduced CO2 emissions. Using water as the refrigerant this next generation chiller boasts a system COP of 10 with extremely low absorbed power.

**Mayekawa Mfg.Co.,Ltd.**

3-14-15, Botan, Kotou-ku, Tokyo, 135-8482, Japan  
Tel 81-3-3642-8181  Fax 81-3-3643-7094  
E-mail public@mayekawa.co.jp  
URL http://www.mayekawa.co.jp

**Available in:** Japan

### EP-8-018  
**Air refrigeration system, "Pascal Air"**

**Environmental performance**  
Air is the ultimate NWF from the viewpoint of safety and environment. This is the latest refrigeration system which uses air as a refrigerant. The major feature is to suck the air in the refrigerated room, and to lower the temperature of sucked air by compressing and expanding, and then to burst out into the refrigerated room again. High coefficient of performance is realized by the expander integrated turbo-compressor, and 50% energy saving can be fulfilled compared with the former system.

**Mayekawa Mfg.Co.,Ltd.**

3-14-15, Botan, Kotou-ku, Tokyo, 135-8482, Japan  
Tel 81-3-3642-8181  Fax 81-3-3643-7094  
E-mail public@mayekawa.co.jp  
URL http://www.mayekawa.co.jp

**Available in:** Japan
### EP-8-019
**Hybrid cooling unit**

**Environmental performance**
This is a hybrid cooling unit with one of the NWFs, NH3 which is equipped with an IPM motor and a semi-hermetic type compound screw compressor which is proud of world’s best coefficient of performance (COP). It is optimum for the re-modeling and the renewal of the existing refrigerated warehouses and/or the food processing factories.

**Product performance**
NewTon3000 is a new high efficiency energy saving NH3/CO2 cooling system purpose designed for cold storage refrigeration. We have reduced adsorbed power by 20% in comparison to conventional HFC refrigerators. Safety is improved by using CO2 as the secondary refrigerant and reducing the amount of NH3 refrigerant to 1/6 the amount a conventional ammonia system would use.

**Mayekawa Mfg.Co.,Ltd.**
3-14-15, Botan, Kotou-ku, Tokyo, 135-8482, Japan
Tel 81-3-3642-8181  Fax 81-3-3643-7094
E-mail public@mayekawa.co.jp
URL http://www.mayekawa.co.jp

Available in: Japan

### EP-8-020
**Highly Efficient, Energy-saving Air-cooled Heat Source Unit for Wide-ranging Temperatures - Only Small Footprint and Installation Work Needed**

**Environmental performance**
- Mitigation of climate change: 65% reduction in CO2 emissions compared to absorption chillers.
- Efficient use of resources: 15% reduction in the product weight per refrigeration capacity, has contributed to reducing the use of raw materials. 98% of the materials used are recyclable.

**Product performance**
- High performance: With 6.3 COP for cooling, energy-saving operation in wide-ranging temperatures, such as 25°C hot water or 30°C chilled water, was achieved.
- Modular configuration: Can be connected up to 96 units. The modular connection method for saving space reduces 58% of the footprint.
- Built-in Circulation Pump: Successfully reduced installation work and transportation power by variable flow control depending on the required load.

**Toshiba Carrier Corporation**
3-23-17, Takanawa, Minato-ku, Tokyo, 108-8580, Japan
Tel +81-3-6409-1735  Fax +81-3-5447-8101
URL http://www.toshiba.co.jp/index.htm
URL http://www.toshiba-aircon.jp/aboutus/environment.htm

Air-cooled HP Chiller, Universal Smart X: RUA-SP series
Eco-product // Machines and equipment

**EP-8-021**

**Machines and equipment**

**chiller**

Highly-efficient, Energy-saving, Space-saving Chiller with Greatly Increased Cooling Capacity for Quick Installation

**Environmental performance**
- Mitigation of climate change: 15% reduction in primary energy consumption compared with the benchmark model thanks to improved efficiency.
- Efficient use of resources: 40% reduction in weight resulting in a reduced amount of materials used. 98.4% of the materials are recyclable.

**Product performance**
- Large capacity: 60% or 45% improvement in cooling capacity compared with the standard specifications and the high-efficiency specifications, respectively.
- Modular design: 50% reduction in carbon footprint thanks to a space-saving modular structure.
- Built-in circulation pump: Quick installation and reduced transfer power due to variable flow rate control according to the load.

**Toshiba Carrier Corporation**
3-23-17, Takanawa, Minato-ku, Tokyo, 108-8580, Japan
Tel +81-3-6409-1735 Fax +81-3-5447-8101
URL http://www.toshiba.co.jp/index.htm
URL http://www.toshiba-aircon.jp/aboutus/environment.htm

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**EP-8-022**

**Machines and equipment**

**chiller**

Highly-efficient, Compact Chiller with Greatly Increased Cooling Capacity

**Environmental performance**
- Mitigation of climate change: 31% reduction in primary energy consumption compared with the benchmark model thanks to improved efficiency.
- Efficient use of resources: 46% reduction in weight resulting in a reduced amount of materials used. 99.9wt% of the materials are recyclable.
- Management of chemicals: The exterior is largely uncoated, resulting in a reduced use of volatile organic compounds (VOC).

**Product performance**
- Large capacity: 58% improvement in cooling capacity compared with the previous model of the same size in the series.
- Ease of installation: Modular structure with each module sufficiently compact for transportation in an 11-passenger-class elevator.
- Ease of use: Batch control available using a touch-panel computer.

**Toshiba Carrier Corporation**
3-23-17, Takanawa, Minato-ku, Tokyo, 108-8580, Japan
Tel +81-3-6409-1735 Fax +81-3-5447-8101
URL http://www.toshiba.co.jp/index.htm
URL http://www.toshiba-aircon.jp/aboutus/environment.htm
Eco-product // Machines and equipment

**EP-8-023**  
Machines and equipment  
chip mounter

**Compact Premium Modular Mounter Σ-G4/Σ-G5**

**Environmental performance**

1. Deep cut in power consumption by 39.6% (Σ-G4), 34.5% (Σ-G5) and realized excellent progress of productivity by 270% comparing to Hitachi standard models (TCM-X210(1)).

2. Provides more quiet environment for the operation by 11.8% (Σ-G4), 2.2% (Σ-G5) and realized excellent progress of productivity by 270% comparing to Hitachi standard models (TCM-X210(1)).

3. Decrease of product mass by 22.7% (Σ-G4), 18.1% (Σ-G5) comparing to Hitachi standard models (TCM-X210 (2003)).

*Comparison with our standard model TCM-X210 (2003)

**Product performance**

1. Throughput 140,000cph (Under optimum conditions)

2. Wide range component size: 0.4 × 0.2mm～55 × 55mm, 100 × 26mm

3. Mounting accuracy 40 μm (3 σ)

**Hitachi High-Technologies Corporation**

24-14, Nishi-Shimbashi, 1-chome, Minatoku, Tokyo, 105-8717, Japan

Tel +81-3-3504-7562  Fax +81-3-3504-3959

E-mail sugawara-kazunari@nrf.hitachi-hitec.com


Available in: Japan, Asia, Oceania, Central America, South America, Southeast Asia, Europe, USA, Indonesia, Singapore, Thailand, Philippines, Malaysia, Republic of Korea, Taiwan, Rep. of China, China

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**EP-8-024**  
Machines and equipment  
composting/fermentation machine

**Bio-Mate**

**Environmental performance**

Bio-Mate is a high-speed on-site organic wastes reduce, reuse and recycle fermentation system. It reduces organic waste from going to landfills and help save our environment. Using our enzymes (Inozyme), organic waste can be converted into nutrient-enriched fertilizer or high quality animal feed within 8-48 hours. Organic waste can be continuously fed into Bio-Mate and discharged on a daily or weekly basis resulting in vermin and pathogen free end products. Reduces green house gaseous emission by 4 times when compared to landfill as proven in SIRIM technical report, ETRC257/16/1020 (R150/11) *

**PROMISE EARTH (M) SDN BHD**

48A-1, 1ST FLOOR, LEBUH ENGGANG, OFF JALAN MERU, 41050, Malaysia

Tel 03-33448113  Fax 03-33440939

E-mail enson@promiseearth.com.my


Available in: Asia and Oceania, Malaysia
**EP-8-025**

**Energy-saving belt “BEATRON”**

**Environmental performance**

In the operation of a conveyor belt, energy consumption grows by the roll over resistance generated when the belt passes over the rollers. Energy-saving belt “BEATRON” can decrease the roll over resistance by uniting the optimization design of the rubber viscoelasticity and the HELLO theory (the theory of optimized belt design). As a result, about 30% and more energy-saving has been verified when applied to an actual long distance conveyor line.

※The efficiency value depends on the specification of conveyer and term of use.

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**Bridgestone Corporation**

1-6-6, Yaesu, Chuo-ku, Tokyo, 103-0028, Japan  
Tel +81-3-5202-6851  Fax +81-3-5202-6854  
URL http://www.bridgestone.com  

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**EP-8-026**

**Traction Motor for Rolling Stock which achieved Saving Energy, Reduction of CO₂, and Low-noise by using Permanent Magnet and Totally Enclosed Structure**

**Environmental performance**

- Mitigation of climate change: More than 20% reduction in power consumption through the pursuit of high efficiency.
- Efficient use of resources: Reduced need of maintenance because of little internal contamination thanks to the totally enclosed structure

**Product performance**

- Reduced loss: Around 5% improvement in efficiency compared with the conventional motor thanks to reduced internal loss.
- High reliability: Enhanced reliability of the motor thanks to the totally enclosed design.
- Reduction operating cost: Reduced running cost thanks to high efficiency.
- Low noise: Noise-reduction of about 6dBA achieved by adopting the totally enclosed structure.

**TOSHIBA CORPORATION Social Infrastructure Systems Company**

1-1, Shibaura 1-Chome, Minato-Ku, Tokyo, 105-8001, Japan  
Tel +81-3-3457-4573  Fax +81-3-5444-9267  
URL http://www.toshiba.co.jp/index.htm  

Available in: Japan, Worldwide
### EP-8-027 Machines and equipment

**Deodorizer**

**Environmental performance**
Deodorizer is a unit attached to Bio-Mate composting/fermentation machine to absorb the smell from releasing into the environment. Foul smell emitted is neutralized through activated carbon to prevent pest and vermin.

**PROMISE EARTH (M) SDN BHD**

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Tel 03-33448113  Fax 03-3340939
E-mail enson@promiseearth.com.my

Available in: Asia and Oceania, Malaysia

### EP-8-028 Machines and equipment

**Dry Type of the Amorphous Metal Core Transformer-H**

**Environmental performance**
With a low noise, low heat emissions, super high efficiency, low steel loss design in safety, energy saving and fire prevention, it helps to reduce the power loss on power systems.

**Product performance**
Used for low-voltage power distribution and high safety demand sites, such as highrise buildings, factories, department stores, hospitals, schools, hotels and so forth.
Incorporating H-grade Dupont Nomex R 220°C high heat-resistant, advanced safety insulation material.
Adopting non-silica steel core and a resonation-resistant design, the excellent heat ventilation design frees any heat aggregation phenomenon. When operating at a high efficiency, the steel core is kept to a low temperature.

**Klean Power Energy Technology Co., Ltd.**

No. 50-5, Dajuewei, Shuishang Township, Chiayi County, Taiwan, 608, Republic of China
Tel +886-5-2601838  Fax +886-5-2601837
E-mail gpr966@gpr.com.tw
URL http://www.klean-power.com.tw

Available in: Worldwide
## EP-8-029

### Super Energy Efficient Dry Vacuum Pump

**Environmental performance**

Unveil innovative dry vacuum pump, EV-M type series for harsh duty applications. EV-M type series equips ambitious on-demand motor torque control function coping with resistance in the pump module. It also reduced an energy consumption during normal operation even for harsh duty application usage.

**Product performance**

Wide range coverage enables to support from smaller size process chamber to LCD/Photovoltaic CVD applications.

EBARA also offers many types of energy saving dry vacuum pumps for various applications. Please feel free to contact for information.

**EBARA CORPORATION**

4-2-1 Honfujisawa, Fujisawa-shi, 251-8502, Japan  
Tel +81-466-83-7447  
E-mail nambu.isao@ebara.com  
URL http://www.ebara.co.jp/en/  
URL http://www.ebara.co.jp/en/csr/

Available in: Japan, Europe, U.S.A, Singapore, Republic of Korea, Taiwan (Rep. of China), China

### FTIR Gas Analyzer for Semiconductor and FPD Processes

**Environmental performance**

The FTIR gas analyzers enable the detection and measurement of a wide variety of substances, such as greenhouse gases, whose reduction is required to prevent global warming, PFCs, semiconductor and flat panel display (FPD) process gases. The management of emissions through the quantitative measurement of emitted concentration encourages industries to act to reduce these substances with the appropriate operation of factories and development of productive processes for semiconductors.

- The compact products can be easily carried and installed in small spaces.
- Single and dual cell models available.
- The products are miniaturized by 44% in area occupancy and by 20% in quantity compared with conventional models.
- Thanks to its energy saving design, power consumption is reduced by 44% (220 VA) compared with conventional models.

**HORIBA, Ltd.**

2 Miyano-higashi, Kishoin, Minami-ku, Kyoto, 601-8510, Japan  
Tel 81-75-313-8121  
Fax 81-75-321-6621  
E-mail info@horiba.co.jp  
URL http://www.horiba.com  

Available in: Worldwide
Ambient Air Pollution Gas Analyzer

Environmental performance
An analyzer to continuously measure critical components (NOx, SO2, CO, THC, O3) in the air as well as a monitor to continually supervise the condition of air pollution based on the Air Pollution Control Law for local or regional governments. The units are set at Ambient Air Pollution Monitoring Stations and Roadside Air Pollution Monitoring Stations to observe the conditions of air pollution.

- A lead-free solder alloy is used for the print substrate.
- Compared with conventional models, the product offers a reduction of nearly 13% in power consumption and roughly 21% in the mass of the analyzer (compared with the average value of the five models in this series).

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URL http://www.horiba.com
Available in: Worldwide

Continuous Emission Stack Gas Monitoring System

Environmental performance
This is a continuous stack gas emission monitoring system to measure up to five components (NOx, SO2, CO, CO2, O2) with one system. The facilities having combustion process for power generation and refuse incineration utilize the system not only for environmental pollution control but also to conduct adequate management to meet the total volume control standard by each local or regional government.

- Lead-free solder alloy is used for the print substrate.
- The product is reduced by 52% in volume, by 28% in mass and by 25% (200 VA) in power consumption compared with conventional models.

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E-mail info@horiba.co.jp
Available in: Worldwide
<table>
<thead>
<tr>
<th><strong>EP-8-033</strong></th>
<th>Machines and equipment</th>
<th>Portable Gas Analyzer PG-300</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental performance</strong></td>
<td>Unique Multi Gas Analyzer and Sample Handling/Conditioning in one compact, self-contained unit. Simultaneously measures up to 5 gas components (NOx, SO2, CO, CO2, and O2); availability to measure methane (CH4) for biomass, fuel cells, and other applications.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>· A lead-free solder alloy is used for the print substrate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>· Extremely portable with rugged side guards; unit is 20% lighter than previous models</td>
<td></td>
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<tr>
<td></td>
<td>· Energy efficient with up to 35% reduction in power consumption compared with previous model</td>
<td></td>
</tr>
</tbody>
</table>

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URL http://www.horiba.com

Available in: Worldwide

<table>
<thead>
<tr>
<th><strong>EP-8-034</strong></th>
<th>Machines and equipment</th>
<th>Automatic COD Monitor CODA-500</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental performance</strong></td>
<td>Fully automated monitor that measures Chemical Oxygen Demand (COD) in the water as an indicator of the degree to which water is polluted. Depending on the types of samples, either Acid Potassium Permanganate Method or alkaline Potassium Permanganate Method is used, and these methods are based upon Japanese Industrial Standards (JIS).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>· A lead-free solder alloy is used for the print substrate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>· Enabling the same measurement accuracy with only 1/10 the reagent quantity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>· Energy efficient with up to 50% reduction in power consumption compared with previous model</td>
<td></td>
</tr>
<tr>
<td></td>
<td>· Direct heating method requires no cooling water</td>
<td></td>
</tr>
</tbody>
</table>

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Available in: Worldwide
Eco-product // Machines and equipment

EP-8-035

Energy Measuring Unit "EcoMonitorPro"

**Environmental performance**
Following is its environmental performance features compared to our previous model (per 1 circuit).

----<< Material / Resource saving >>----
45% reduction of resource consumption and non-recycling resource

----<< Energy saving >>----
51% reduction of electricity consumption when used and 82% reduction of electricity consumption on standby

----<< Toxicity / Chemical substances reduction >>----
Compliant with EU RoHS Directive

**Product performance**
"EcoMonitorPro" can support your energy saving activity. It is capable of accurately measuring the electric consumption of each facility or assembling line. The line-up is for 1, 3, 5, and 7 circuits. It can be connected to our field-network, CC-Link.

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2-7-3, Marunouchi Chiyoda-ku, Tokyo, 100-8310, Japan
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E-mail eqd.eco@pj.MitsubishiElectric.co.jp
URL http://global.mitsubishielectric.com/index.html

Available in: Worldwide

EMU2 - RD7 - B

EP-8-036

Breaker with Energy Measuring Function and Display

**Environmental performance**
Following is its features in environmental conscious design compared to the previous MDU breaker.

----<< Material / Resource saving >>----
31% reduction of resource consumption (MDU part only)

----<< Energy saving >>----
37% reduction of electricity consumption (MDU part only)

----<< Toxicity / Chemical substances reduction >>----
Compliant with RoHS

**Product performance**
MDU breaker (a breaker with measuring function and display) is capable of measuring, displaying and transmitting circuit information with having VT and CT inside of the body and Measuring Display Unit outside of the body. Wide-range line-up of MDU breakers and capability of connecting to our field network, CC-Link, can contribute to your saving energy activity.

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URL http://global.mitsubishielectric.com/index.html

Available in: Worldwide

NF400-SEP with MDU
Eco-product // Machines and equipment

EP-8-037  
Machines and equipment 
electric measuring instruments

Energy Measuring Unit for MELSEC-Q Series

Environmental performance

---<< Energy saving >>---
Reduction of energy and costs can be expected through productivity improvement by connecting this device to the MELSEC-Q Series sequencer to measure the amount of electricity used for each product and production process in production facilities and lines.

---<< Toxicity / Chemical substances reduction >>---
Meets the RoHS Directive of Europe.

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URL http://global.mitsubishielectric.com/index.html

Available in: Worldwide

EP-8-038  
Machines and equipment 
electric measuring instruments

Demand Controllers, energy saving, peak cut, electricity charge reduction supporting

Environmental performance

[Energy Saving]  
Power obtain and control by Demand monitoring, revising the contract power, so electricity charges reduction and peak cut is possible.

[Efficient use of resources]  
DM-100CPS: reduce the number of parts by 26%
MES-DM1000: reduce the number of parts by 5%

Product performance

With E-Energy Web function, current demand graph display, Auto-load control (Maximum 12circuits) function, the realtime demand monitoring is possible. And, co-operation with Mitsubishi Web air condition control—[G-150AD], more effective and efficient air conditioning operation will be possible.

[DEMACON Series], data logging and display on mainbody from simple installation and setting, Auto-load control (Maximum 8circuits), so suitable for on-site demand management. And also possible for data management by PC from USB communication.

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Available in: Worldwide
Eco-product // Machines and equipment

### EP-8-039

**Machines and equipment**

**Electric measuring instruments**

**High performance and crystal clear display supports measuring and monitoring systems**

#### Environmental performance

-----<< Material / Resource saving >>-----

- 15% reduction in parts number.
- 40% less kinds of connection improves ease of dismantling.

-----<< Energy saving >>-----

This instrument is installed onto power receiving and distributing equipment in factories, then measures Voltage, Current, Power and Watthour, displays them on itself and sends their data in order to be controlled for total energy saving of the factory.

- 30% less energy is consumed from our previous model.

-----<< Toxicity / Chemical substances reduction >>-----

RoHS-compliant

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URL http://global.mitsubishielectric.com/index.html


Available in: Asia, Europe

### EP-8-040

**Machines and equipment**

**Electrical machinery, equipment and supplies**

#### Laser type On-line Thickness Measuring Sytem

**Environmental performance**

(1) The laser type is to measure the thickness of the plastic films and sheets (=web) in the manufacturing process

(2) It equalize the thickness of the web in measuring the thickness and as a result, it is expected to decrease the consumption of the oil resources which are the materials for plastic

(3) The conventional method of measuring by hands using micrometers needs much labor. However it improves the accuracy and speed of measuring in using our system. The comparison is more than 100 times with the measurement points *

(4) Our system is able to measure in the process which save the loss in manufacturing and it consequently contribute to save the resource

*Comparison with JIS K 7130 3.3.5 b) c)

**Product performance**

(1) Range: 3 mm (MAX)

(2) Resolution: 0.1 µm

(3) Measuring pitch: 1 mm

(4) Sensor scanning speed: 100 mm/s

(5) Non-contact

**YAMABUN ELECTRONICS CO., LTD.**

2-13, Shinjyonishi, Higashiosaka, Osaka, 578-0964, Japan

Tel +81-6-6745-3048  Fax +81-6-6745-8482

E-mail yamabun@mxal.mesh.ne.jp

URL http://www.yamabun-ele.co.jp

Available in: Japan, Asia, Southeast Asia
## Eco-product // Machines and equipment

### EP-8-041

**Machines and equipment**

**Electrical machinery, equipment and supplies**

### Desk-top Film-Sheet Thickness Measuring System

#### Environmental performance

1. Our Desk-top Film-Sheet Thickness Measuring System is the equipment which measures the thickness of the cut piece of plastic films and sheets from products for quality control purpose.
2. The conventional method of measuring by hands using micrometers needs much labor. However it improves the accuracy and speed of measuring in using our thickness measuring system. The comparison is more than 100 times with the measurement points.*
   *Comparison with JIS K 7130 3.3.5 b) c)

#### Product performance

1. **Measuring range:** "TOF-5R" 0.02-0.2 mm, "TOF-4R" 0.03-3 mm
2. **Measurement resolution:** "TOF-5R" 0.1 µm, "TOF-4R" 0.5 µm, 1.0 µm
3. **Measuring pitch:** 1 mm
4. **Films and sheets feed speed:** "TOF-5R" 36 mm/s, "TOF-4R" 58 mm/s (With films and sheets automatic feed device)

---

### EP-8-042

**Machines and equipment**

**Electrical machinery, equipment and supplies**

### Soft X-ray type On-line Thickness Measuring System

#### Environmental performance

1. The X-ray type is to measure the thickness of the plastic films and sheets (=web) in the manufacturing process
2. It equalizes the thickness of the web in measuring the thickness and as a result, it is expected to decrease the consumption of the oil resources which are the materials for plastic
3. Safe operation is ensured by no active radiation source in the system
4. Our system is able to measure in the process which save the loss in manufacturing and it consequently contribute to save the resource

#### Product performance

1. **Range:** 1-1000 µm
2. **Resolution:** 0.01 µm
3. **Measuring pitch:** 1 mm
4. **Sensor scanning speed:** 10-350 mm/s
5. **Non-contact**

---

### YAMABUN ELECTRONICS CO., LTD.

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E-mail yamabun@mxa.mesh.ne.jp

URL http://www.yamabun-ele.co.jp

Available in: Japan, Asia, Southeast Asia
Eco-product // Machines and equipment

EP-8-043

Machines and equipment
electrical relay switches

Highly-reliable, Low Power-consumption Protection Relay with Five Times Faster Processing

Environmental performance
- Mitigation of climate change: 60% reduction in power consumption thanks to a reduced number of printed circuit boards and low-power consumption design.
- Efficient use of resources: 30% reduction in the number of printed circuit boards thanks to the adoption of high performance MPU and high-capacity FPGA.

Product performance
- Enhanced Reliability: Enhanced reliability thanks to a reduced number of printed circuit boards and suppressed temperature increase.
- Improved maintainability: Improved maintainability thanks to enriched guidance functions and simple structure.

TOSHIBA CORPORATION Social Infrastructure Systems Company
1-1, Shibaura 1-Chome, Minato-Ku, Tokyo, 105-8001, Japan
URL http://www.toshiba.co.jp/index.htm

EP-8-044

Machines and equipment
electrical relay switches

Compact, Lightweight, Low Power-consumption Protection Relays which Support Stable Operation of Power Distribution Networks

Environmental performance
- Mitigation of climate change: 50% reduction in power consumption compared to the conventional product, due to optimizing of circuitry by applying one-chip microcomputer etc.
- Efficient use of materials: 60% reduction in weight compared to the conventional product, due to employment of plastic molded case, optimization in structure and weight reduction of parts.

Product performance
- The line-up is enhanced to accommodate with various power distribution apparatus.
- Compliant with international standards (e.g. IEC-60255 series) and other overseas standards.
- Dual ratings are supported in the same model (current input 1A/5A, auxiliary supply and BI 110V/220V, etc.)
- Various communication protocols are supported.

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URL http://www.toshiba.co.jp/index.htm
Eco-product // Machines and equipment

EP-8-045

Machines and equipment

electronic indicators

Operation ease and viewable pursuing electronic multi-measuring instrument -- ME110Super-S

Environmental performance
[Efficient use of resources]
ME110SSR-B: reduce the number of parts by 16%

[Efficient use of energy]
Compliant with European RoHS.

Product performance
Mounting at receiving and distributing equipment of building and factory, for understand of powered situation, measuring voltage, current, power, energy and other items, displaying these measuring data on meter mainbody, and transferring these data remotely by communication function.

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URL http://global.mitsubishielectric.com/index.html

Available in: Japan, Asia, Europe

EP-8-046

Machines and equipment

TOSHIBA MACHINE-ROOM-LESS ELEVATORS “New SPACEL-EX”

Environmental performance
- Mitigation of climate change: The new LED system realizes a lifespan 8 times longer than that of conventional fluorescent lights. Its down light provides energy saving around 85% per light and 20 times longer lifespan in comparison with the conventional system.
- Management of chemicals: The new LED system reduces approximately 90% of the mercury usage in 10 years due to longer lifespans and less replacements. Elevator floor is made of resin that generates no harmful incinerated gas and lead is no longer used for wire rope terminals.

Product performance
- Earthquake countermeasures: The countermeasure against long-period ground motion is equipped as a standard feature. Emergency operation works simultaneously with the Earthquake Early Warning.
- Safe and easy: A liquid-crystal display is employed for in-car and hall indicators. It provides easy-to-understand displays by using larger displays and animations based on the concept of universal design. The antibacterial elevator buttons and the antibacterial resin in-car operating panel are employed to put user comfort first.


TOSHIBA ELEVATOR AND BUILDING SYSTEMS CORPORATION
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Tel +81-3-5423-3332  Fax +81-3-5423-4465
URL http://www.toshiba-elevator.co.jp

Available in: Japan
### Quick Elevator Refurbishment Thanks to Addition of New Control Panel

#### Environmental performance
- Mitigation of climate change: Reduction in power consumption due to the change from conventional control to inverter control.
- Efficient use of resources: Possible to perform refurbishment work without removing the existing motor, hoist, car, and platform facilities. Elimination of unnecessary replacement for the efficient utilization of existing resources.

#### Product performance
- Short work period: Reduced time required for transport and replacement work because of the division of the control panel into compact units.
- Reduced frequency of trouble: Change from a relay system to a microcomputer controlled system brings enhanced reliability as there are fewer replacement parts.
- Remote surveillance: Remote surveillance for 24 hours x 365 days.


#### TOSHIBA ELEVATOR AND BUILDING SYSTEMS CORPORATION
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URL [http://www.toshiba-elevator.co.jp](http://www.toshiba-elevator.co.jp)

Available in: Japan

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### TOSHIBA COMPACT MACHINE ROOM ELEVATORS "ELCOSMO" (for Global)

#### Environmental performance
- Mitigation of climate change: The newly developed LED system provides energy savings up to 90% over incandescent bulbs and 50% over fluorescent lights for the same illuminance.
- Management of chemicals: The new LED lighting system is mercury free. (Adopted in new car design SL-1, SL-2, SL-3, and TL-1)

#### Product performance
The top class compact-machine-room elevator ELCOSMO has been developed based on Toshiba's accumulated experience in high-end PMSM technology as typified by the world's fastest elevator*. It offers layout flexibility, space saving, energy saving and wide line-ups. ELCOSMO is well-suited to all type of buildings as the elevator with compact machine room.


#### TOSHIBA ELEVATOR AND BUILDING SYSTEMS CORPORATION
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URL [http://www.toshiba-elevator.co.jp](http://www.toshiba-elevator.co.jp)

Available in: Asia, Middle East
Eco-product // Machines and equipment

EP-8-049 Machines and equipment
elevators

TOSHIBA MACHINE-ROOM-LESS ELEVATORS "SPACEL-UNI" (for Global)

Environmental performance
- Mitigation of climate change: The newly developed LED system provides energy savings around 90% over incandescent bulbs and 50% over fluorescent lights for the same illuminance.
- Management of chemicals: The new LED lighting system is mercury free. (Adopted in new car design SL-1, SL-2, SL-3, and TL-1)

Product performance
The top class machine-room-less elevator SPACEL-UNI has been developed based on Toshiba's accumulated experience in high-end PMSM technology as typified by the world’s fastest elevator*. It offers layout flexibility, space saving, energy saving and wide line-ups.

Available in: Asia, Middle East

TOSHIBA ELEVATOR AND BUILDING SYSTEMS CORPORATION
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URL http://www.toshiba-elevator.co.jp

EP-8-050 Machines and equipment
escalators

Eco Consious Designed Escalator

Environmental performance
-----<< Material / Resource saving >>-----
- Scale down of the truss chords and other parts has resulted in overall weight reduction.
- Recyclable thermoplastic polyurethane handrails and rollers were installed.

-----<< Energy saving >>-----
The adoption of an automatic operation function helps make the escalator more energy efficient. A line of VVVF inverter-based products that stop or slow down when not in use has been prepared. And variable speed functionality results in expanded application for automatic operation functions.

-----<< Toxicity / Chemical substances reduction >>-----
- ROHS-compliant parts and materials are positively used. (hexavalent chromium-free plating are used.)
- Reduced usage of toluene, xylene, and other atmospheric and soil contaminants.

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URL http://global.mitsubishielectric.com/index.html

Available in: Worldwide

Escalator ZJ-S
**TOSHIBA Escalator "Kindmover" (for Global)**

**Environmental performance**
- Mitigation of climate change: The LED system realizes mercury free, energy-saving and long life. It reduces energy consumption by 70%, provides 8 times longer lifespan, and lowers CO2 emission. (Adopted for a balustrade lighting, skirt guard lighting, step lighting, and comb lighting.)
- Mitigation of climate change: The automatic operation system is equipped as a standard feature which shifts the escalator automatically to the energy saving mode with a lower operation speed only when no user is present. Such standby mode operation reduces energy consumption by 30% and lowers CO2 emission.

**Product performance**
The Kindmover escalator incorporates numerous universal design features based on the concepts of “Kind to passengers and Kind to maintenance-persons” for the materialization of a new escalator that is easy for people to use and to maintain. It provides a standby mode with a low operation speed and a variety of LED lightings for energy saving, and also a skirt brush deflector to prevent shoes and sandals from being caught in and an inlet brush deflector to prevent fingers from touching the inlet for safety improvement.


TOSHIBA ELEVATOR AND BUILDING SYSTEMS CORPORATION

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Tel +81-3-5423-3332 Fax +81-3-5423-4465
URL http://www.toshiba-elevator.co.jp

Available in: Japan, Asia, Middle East

**Fanless Embedded Controller AEC-6872**

**Environmental performance**
- The eco-friendly, energy-saving AEC-6872 embedded controllers received the ENERGY STAR certification of USA.
- AEC-6872 uses low-power consumption processors, an internationally patented nofan design, green production processes and environmentally friendly packaging, with a view to reducing greenhouse gas emissions.

**Product performance**
- AEC-6872 has an internationally patented heat dissipating housing that is formed with rectangular aluminum fins. It works on Intel's D510 1.6GHz processor and supports two 200-pin DDR2 SODIMM RAM, the maximum capacity being 4GB. AEC-6872 can be used with one 2.5” SATA I hard drive and is built-in with a type 2 CF card slot.
- In I/O, AEC-6872 includes two Gigabit Ethernet LAN ports for network connection; and one VGA connector, one Line-out connector and one Mic-in connector for AV applications. It also has three RS 232 connection ports, one RS 232/422/485 connection port and one PCI or PCIe interface for expansion. The input power range is 9~30V DC, and the operating temperature spans from -10 to 55°C.

AAEON Technology Inc.

5F., No. 135, Lane 235, Pao-Chiao Rd., Hsin-Tien Dist., New Taipei City, Taiwan, 231, Republic of China
Tel +886-2-89191234 Fax +886-2-89191056
E-mail efenchung@aaeon.com.tw
URL http://www.aaeon.com

Available in: Asia, North America, Central America, South America, U.S.A.
Green Embedded Fanless Controller AEC-6625

Environmental performance
* The eco-friendly, energy-saving AEC-6625 embedded controllers received the ENERGY STAR certification of USA.
* AEC-6625 uses low-power consumption processors, an internationally patented no-fan design, green production processes and environmentally friendly packaging, with a view to reducing greenhouse gas emissions.

Product performance
* AEC-6625 has an internationally patented heat dissipating housing that is formed with rectangular aluminum fins. It works on Intel's P4500 1.86GHz processor and supports one 204-pin DDR3 SODIMM RAM, the maximum capacity being 4GB.
* AEC-6625 can be used with one 2.5" SATA II hard drive and is built-in with a type 2 CF card slot.
* In I/O, AEC-6625 includes two Gigabit Ethernet LAN ports for network connection; and one VGA connector, one DVI-D connector, one Line-in connector and one Lineout connector for AV applications. It also has three RS 232 connection ports (or one RS 232/422/485 connection port), one PCI-104 interface, and four or six USB 2.0 connectors for expansion. The input power range is 9～30V DC, and the operating temperature spans from -20 to 50°C.

AAEON Technology Inc.
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E-mail efenchung@aaeon.com.tw
URL http://www.aaeon.com

Available in: Asia, Europe, North America, Central America, South America, U.S.A.

Green Embedded System GES-1100F

Environmental performance
* The eco-friendly energy-saving GES-1100F embedded controllers received the ENERGY STAR verification of USA.
* GES-1100F uses low-power consumption processors, green production processes and eco-friendly packaging, with a view to reducing greenhouse gas emissions.

Product performance
* Working on Intel's Atom N270 1.6G processor and supporting one 240-pin DDR2 400/533/667 DIMM as system memory (1GB). Featuring low power consumption and a no-fan design.
* Including one super high speed Ethernet connector and one 2.5" SATA II hard drive.
* Supporting VGA and DVI-D single-screen display. Providing four COM ports, six USB 2.0 ports and one 8-bit digital I/O.
* Providing one 12V DC power input for transportation industry applications. Desktop or wall-mounted installation as appropriate.

AAEON Technology Inc.
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URL http://www.aaeon.com

Available in: Asia, Europe, North America, Central America, South America, U.S.A.
### EP-8-055  Machines and equipment

**Flexible Embedded System FES-5130**

**Environmental performance**
*The eco-friendly energy-saving FES-5130 embedded controllers received the ENERGY STAR verification of USA.*
*FES-5130 uses low-power consumption processors, green production processes and eco-friendly packaging, with a view to reducing greenhouse gas emissions.*

**Product performance**
*FES-5130 features a no-fan design and possesses a powerful heat dissipation mechanism. Working on Intel's Atom N270 1.6GHz processor, equipped with Intel's 945GSE+ICH7M chipset, and supporting 200-pin DDR2 400/533 SODIMM as system memory (max. capacity: 2GB).*
*FES-5130 supports one 10/100/1000Base-TX super high speed Ethernet port and is optionally provided with one 802.11b/g Mini-PCIe module for wireless network transmission.*

**AAEON Technology Inc.**
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E-mail efenchung@aaeon.com.tw
URL http://www.aaeon.com

Available in: Asia, Europe, North America, Central America, South America

### EP-8-056  Machines and equipment

**Green Embedded System Controller GES-3300F**

**Environmental performance**
*The eco-friendly energy-saving GES-3300F embedded controllers received the ENERGY STAR verification of USA.*
*GES-3300F uses low-power consumption processors, green production processes and eco-friendly packaging, with a view to reducing greenhouse gas emissions.*

**Product performance**
*GES-3300F uses Intel's Celeron M processor and supports two 240-pin DDR2 400/533/667 DIMMs as system memory, the maximum capacity being 4GB. Intel's 945GME+ICH7M chipset is also used.*
*Including two super high speed Ethernet connectors, one 2.5" SATA II hard drive, and one CF card. Supporting VGA and DVI-D single-screen display. Providing four COM ports, six USB 2.0 ports and one 8-bit digital I/O.*
*Providing one 12V DC power input for transportation industry applications. Desktop or wall-mounted installation as appropriate.*

**AAEON Technology Inc.**
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E-mail efenchung@aaeon.com.tw
URL http://www.aaeon.com

Available in: Asia, Europe, North America, Central America, South America, U.S.A.
EP-8-057

**Cogeneration system with micro-gas engine: GENELIGHT**

**Environmental performance**
GENELIGHT is an energy-saving gas cogeneration system which generates electricity with a gas engine and heats water utilizing generated exhaust heat. This system is ideal for small and mid-sized hotels, hospitals and restaurants because of its energy-saving features and capacity to supply a large amount of hot water.

CO₂ emission reduction: 30% or more*
*Compared with the amount of CO₂ emitted under conditions where the same amount of electricity is drawn from the grid and the same amount of heat is produced by the boiler.

**Product performance**
Generation efficiency of 35 kW: 34% (the highest in the capacity class) *
*Achieved by employing the newly-developed Miller cycle gas engine, inverter and generator, as well as reducing pump loss.
When the power source is suspended, some models can supply electricity according to predetermined loads.

**Osaka Gas Co., Ltd.**
4-1-2, Hirano-machi, Chuo-ku, Osaka-shi, Osaka, 541-0046, Japan
Tel +81-6-6205-4605  Fax +81-6-6202-1040
URL http://www.osakagas.co.jp/indexe.html
URL http://ene.osakagas.co.jp/product/cogeneration/cat_genelite.html
URL http://www.osakagas.co.jp/csr_e/index.html

Available in: Japan

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EP-8-058

**Air-Curtain Fume Hood ACFH**

**Environmental performance**
1. It can effectively prevent toxic gas contamination in laboratory-operated air curtain ventilation cabinets to achieve zero leakage, helping to protect the safety of the operators and the laboratories.
2. It adopts the inverter control design to reduce electricity consumption.
3. It is produced by adopting voluminous recyclable metal, allowing the product to achieve a 99% resource-recycling ratio.

**Product performance**
By utilizing fluid dynamics' "tied-load" theory through the adoption of concurrent air blowing and air suctioning, an air curtain is formed at the air cabinet opening to shield off the mass exchange between the air cabinet and the ambient environment to greatly reduce the leakage volume. As tested by flow range analysis and tracking the gas leak concentration, all inert and interactive test results come to a near zero level of leakage, helping to enhance the air cabinet's performance and reduce any personnel's exposure, thereby maintaining health.

**HUNG-TAI STEEL CO., LTD.**
No.50, Baozhong 3rd St., East Dist., Chiayi City, Taiwan, 600, Republic of China
Tel +886-5-2767308  Fax +886-5-2754289
E-mail htsc@ms4.hinet.net
URL http://www.htsc.com.tw

Available in: Taiwan (Rep. of China)
EP-8-059  
**Machines and equipment**

**Fatigue testing machine**

**ECU1/ECU2 Energy-Conservation Units for Shimadzu Servopulser Fatigue Testing Machines**

**Environmental performance**

Fatigue tests run continuously over long periods. Testing machines rarely exceed 70% maximum performance. Electro-hydraulic fatigue testing machines are hydraulically driven and the hydraulic power supply runs at maximum performance even when the machine is not at full capacity. The ECU series matches the hydraulic power supply motor speed and supply pressure to the test conditions to achieve up to 50% energy savings.

ECU1 Series: Variable hydraulic power supply motor speed
25% to 40% max. power savings

ECU2 Series: Variable hydraulic power supply motor speed and supply pressure
45% to 50% max. power savings

**Product performance**

The hydraulic power is minimized during test setup. After testing starts, software automatically controls the hydraulic power supply by determining optimal motor speed and hydraulic pressure from the test conditions and operating status. Series includes 5.5 kW to 37 kW models.

**SHIMADZU CORPORATION**

1, Nishinokyo-Kuwabaracho, Nakagyo-ku, Kyoto, 604-8511, Japan
Tel +81-75-823-1113  Fax +81-75-823-2062
URL http://www.shimadzu.com/index.html
URL http://www.shimadzu.com/about/environmental/index.html

Available in: Countries not subject to the CE marking

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EP-8-060  
**Machines and equipment**

**Food waste recycling**

**Eco-Wiz Wet System**

**Environmental performance**

Eco-Wiz Wet System: Eco-Wiz™ Wet System rapidly decomposes all food waste into crystal-clear usable water that is virtually odourless for multiple applications like watering plants and washing floor

ECO-Wiz™ technology increases the speed of the natural decomposition process through biological means like maintaining optimal levels of aeration, moisture and temperature. Under these controlled conditions, microorganisms safely decompose food waste at a rate much faster than under natural conditions which are subjected to soil and groundwater contamination. Our leading-edge technology provides a sustainable eco-friendly environment. It eliminates onsite food waste storage which attracts vermin and reduces carbon footprints as trucking of food waste to landfills is eliminated, thus totally revolutionizing the waste management industry.

**Product performance**

The "ECO-Wiz™" is a totally self-contained, continual feed, organic waste disposal system designed to biologically recycle solid food waste materials into crystal-clear usable water. Using a process perfected by nature, it decomposes food waste, and through advanced technology perfected by Eco-Wiz R&D team, turning them into crystal-clear water that is virtually odourless for multiple applications like watering plants and washing floor.

The "ECO-Wiz™" safely and quickly decomposes any kind of food waste including vegetable/fruit scraps, raw and cooked meats, fishes, poultries and dairy products.

**Eco-Wiz Group**

No. 1 Bukit Batok Crescent, WCEGA Plaza, Singapore
Tel 65-65700500  Fax 65-65700900
E-mail info@eco-wiz.com
URL http://www.eco-wiz.com

Available in: Worldwide

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Eco-Wiz Dry System

Environmental performance
Eco-Wiz™ Dry System recycles all food waste into compost which is a soil-amendment and a key ingredient in organic farming. It can also be applied for landscaping or disposed off with ordinary wastes.

ECO-WIZ™ technology increases the speed of the natural decomposition process through biological means like maintaining optimal levels of aeration, moisture and temperature. Under these controlled conditions, microorganisms safely decompose food waste at a rate much faster than under natural conditions which are subjected to soil and groundwater contamination. Our leading-edge technology provides a sustainable eco-friendly environment. It eliminates onsite food waste storage which attracts vermin and reduces carbon footprints as trucking of food waste to landfills is eliminated, thus totally revolutionizing the waste management industry.

Product performance
The "ECO-WIZ™" is a totally self-contained, continual feed, organic waste disposal system designed to biologically convert solid food waste materials into compost. Composting your organic wastes not only keeps them out of the landfills, but when applied back into your lawn or garden, it also improves the health of your soil. Nutrients are stored in the decaying organic matter but Compost holds these nutrients in a form that is readily absorbed by plant roots.

The "ECO-WIZ™" safely and quickly decomposes any kind of food waste including vegetable/fruit scraps, raw and cooked meats, fishes, poultries and dairy products.

Eco-Wiz Group

No. 1 Bukit Batok Crescent, WCEGA Plaza, Singapore
Tel 65-65700500    Fax 65-65700900
E-mail info@eco-wiz.com
URL http://www.eco-wiz.com

Available in: Worldwide

FR-F700PJ Designated for fans and pumps

Environmental performance

- Material / Resource saving
  - The principal consumables - the condenser and cooling fan - are designed to last for 10 years.

- Energy saving
  - More energy savings through flow control (RPM control) than on/off flow control.
  - Better motor efficiency with optimal excitation control than with regular V/F control.
  - The IPM motor can be regulated in an energy-saving mode.

- Environmental burden reduction
  - A filter pack, which is attached with a unit including a power factor improving DC reactor, a zero phase reactor (line noise filter) and a capacitive filter (radio noise filter) as standard, is equipped. The filter pack reduces the harmonic outflow current and noise, leading to a reduction in environmental burden. In addition, multiple connections can now be avoided when using optional add-on functions.

Product performance

This product’s space-saving fewer-connection merits are in compliance with the Japanese Guideline for the Reduction of Harmonic Emission, and correspond to the Specifications for Public Works Construction (power equipment work in electrical construction) and the Specifications for Public Works Construction (power equipment work in machine construction) supervised by the Ministry of Land, Infrastructure, Transport and Tourism. As with FREQROL™, this device can control both general purpose motors (squirrel cage motors) and Interior Permanent Magnet (IPM) motors.

Mitsubishi Electric Corporation

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Tel +81-3-3218-9024    Fax +81-3-3218-2465
E-mail eqd.eco@pj.MitsubishiElectric.co.jp
URL http://global.mitsubishielectric.com/index.html

Available in: Worldwide
### Eco-product // Machines and equipment

<table>
<thead>
<tr>
<th>EP-8-063</th>
<th>Machines and equipment</th>
<th>Eco-product // Machines and equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Babcock &amp; Wilcox Volund Wood Biomass Gas-fired Power Generation System</td>
<td>furnace construction work</td>
<td></td>
</tr>
<tr>
<td><strong>Environmental performance</strong></td>
<td>Combining gasification furnace and gas engine, this system efficiently generates power from carbon-neutral biomass. It has realized a comprehensive energy utilizing efficiency rate as high as 80% or more by not only generating power but also utilizing heat.</td>
<td></td>
</tr>
</tbody>
</table>

**JFE Engineering Corporation**

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URL [http://www.jfe-eng.co.jp/](http://www.jfe-eng.co.jp/)

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### EP-8-064

<table>
<thead>
<tr>
<th>Machines and equipment</th>
<th>Eco-product // Machines and equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Efficiency Fired Thermal Abatement Unit  G6 type series</td>
<td></td>
</tr>
<tr>
<td><strong>Environmental performance</strong></td>
<td>Brand new large scale fired thermal abatement for high flow PFCs gases and Hydrogen. Extension from robust G5 technology lives in G6 in terms of maintenanceability, lower utility consumption.</td>
</tr>
<tr>
<td><strong>Product performance</strong></td>
<td>G6 type series is launched to cope with Photovoltaic PE-CVD, TCO, LED MO-CVD and Semiconductor Epitaxial processes which customers are facing DRE issue, lower uptime issue.</td>
</tr>
</tbody>
</table>

**EBARA CORPORATION**

4-2-1 Honfujsawa, Fujisawa-shi, 251-8502, Japan  
Tel +81-466-83-7447  
E-mail nambu.isao@ebara.com  

Available in: Japan, Europe, U.S.A, Singapore, Republic of Korea, Taiwan (Rep. of China), China
"GC-2025" Energy-Saving Capillary Gas Chromatograph

**Environmental performance**

Power consumption can be reduced by at least 30% by replacing the currently used capillary GC with the "GC-2025" because its column oven can be heated with less power and power loss during cooling is reduced. Power and carrier gas consumption at night and during standby can also be reduced because of the function to save gas consumption during analysis, except during sample injection, and also the function to automatically start/stop controlling temperature or the carrier gas, both of which are effective to reduce running costs.

**Product performance**

The "GC-2025" incorporates a high-accuracy digital flow controller to achieve high reproducibility for the retention time and peak area. The highly-sensitive FID with the minimum detection limit of 2 pgC/s enables high-sensitivity analysis of trace components. Space-saving design enables 30% smaller installation area to achieve higher performance for the price.

**SHIMADZU CORPORATION**

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Tel +81-75-823-1113  Fax +81-75-823-2062
URL http://www.shimadzu.com/index.html
URL http://www.shimadzu.com/about/environmental/index.html

Available in: Worldwide

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**GCMS-QP2010 Ultra/GCMS-QP2010 SE Equipped with Ecology Mode**

**Environmental performance**

Equipped with Ecology mode where analysis standby status is automatically recognized by software to turn OFF unnecessary power or start sleep mode. Power consumption during analysis standby is 36% (277 W) less than former Shimadzu instruments. Under normal use, annual power consumption is 26% less and CO₂ emissions are reduced by 1.1 tons less (evaluated by Shimadzu specifications).

Using Ecology mode in production process, CO₂ emissions are reduced by 30% and He carrier gas consumption by 51%. Annually, CO₂ emissions are 28 tons less and He gas is at least 300 cylinders less.

**Product performance**

Gases target samples and performs qualitative/quantitative analysis on trace amounts of organic compounds from several nanograms to several femtograms. Applicable for various purposes such as monitoring minute compounds related to pollution, human health, development/evaluation of highly-functional new materials and chemical products.

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URL http://www.shimadzu.com/products/lab/MS/oh80jt0000001R9G.html
URL http://www.shimadzu.com/about/environmental/index.html

GCMS-QP2010 Ultra / GCMS-QP2010 SE
Eco-product // Machines and equipment

EP-8-067

Machines and equipment generators

Environmentally-friendly System Generating Electricity and Heat Using City Gas or LP Gas

**Environmental performance**
- Mitigation of climate change: 48% reduction in CO₂ emissions per year (equivalent to about 1.5 ton) for a typical household with Fuel Cell System.
- Efficiency use of resources: Weight reduction of Fuel Cell package to about 95kg. Easy to handling.

**Product performance**
- High efficiency: Overall efficiency, combining electric efficiency and heat recovery efficiency of more than 94%.
- Low noise: Quiet operation: 38dB or less. Silence is simular in a library.
- Maintenance saving: Maintenance twice in ten years; Reduced to visit customer.
- Clean: Emissions consist of only water and CO₂.

Toshiba Fuel Cell Power Systems Corp.

2-4, Suehiro-Cho, Tsurumi-Ku, Yokohama, 230-0045, Japan
Tel +81-45-510-5920 Fax +81-45-500-2564
URL http://www.toshiba.co.jp/index.htm

Available in: Japan

EP-8-068

Machines and equipment hand dryer

**JET TOWEL, Environmentally Friendly Hand Dryer**

**Environmental performance**
It eliminates paper waste and fewer natural resources are consumed.

-<< Material / Resource saving >>-
DC brushless motor has the durability of seven years by 1,000 times* of use per one day, which realizes its longer life.
*Depending upon environment and usage conditions.

-<< Energy saving >>-
Approximately 15% lower power consumption compared to previous Mitsubishi Electric model*.
It is equipped with a newly developed "hyper nozzle" that blows off drops of water on hands with a filmy jet blow at a stretch and improves its drying efficiency.
*JT-SB116D

-<< Toxicity / Chemical substances reduction >>-
EU RoHS-compliant parts and materials are used.

Mitsubishi Electric Corporation

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URL http://global.mitsubishielectric.com/index.html

Available in: Asia, Europe, North America, Oceania

JT-SB116GN / JT-SB216GSN

433
JET TOWEL, Environmentally Friendly Hand Dryer

**Environmental performance**

Jet Towel eliminates paper waste and cuts down on natural resource consumption.

---<< Material / Resource saving >>---

The DC brushless motor has a lifespan of seven years based on a usage of 400 times (\(\times 1\)) a day, which realizes the product's longer life.

---<< Energy saving >>---

Approximately 2% lower power consumption and 50% less standby energy compared to the previous Mitsubishi Electric model (\(\times 2\)).

A newly-developed corrugated wavy nozzle has been adopted. The shape of the air outlet allows curled jet blow to be diffused to effectively reduce the noise generated due to jet blow.

---<< Toxicity / Chemical substances reduction >>---

EU RoHS-compliant parts and materials are used.

*1: Depending upon environment and usage conditions.

*2: Comparing the new model, JT-SB216KSN, and the former one, JT-SB216GSN.

Mitsubishi Electric Corporation

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URL http://global.mitsubishielectric.com/index.html

Available in: Asia, Europe, Oceania

EP-8-070

**PSA type nitrogen gas generator BELLSWING™**

**Environmental performance**

**<Summary>** Air Water Inc. has developed the energy saving type PSA (Bellswing™). New NSP® series inherits the design philosophy of our popular SP series, which retains the smallest set up space while increasing the energy saving performance.

**<Characteristics>** A newly developed: high-performance MSC (Molecular Sieving Carbon: adsorbents for gas separation) has been adopted. Power consumption by up to 33% reduction available that means the electricity cost reduction and low CO₂ emission. Maintenance cycle has been extended to 1.5 times. Operation can be made by using the compressor for general purpose. Customers having over 0.7MPaG air sources need no compressor.

**<Effect>** When introducing KN4-60NSP, annual electricity costs will be sliced by about 1,350,000 in JPY, and suppress CO₂ emissions 50ton per year.

**Product performance**

New PSA (KN4-20NSP, KN4-40NSP, KN4-60NSP) attained to generate N₂ of 99.99%, 0.5MPa and 20 to 60Nm³/H by using general compressor of 11 to 30KW.

AIR WATER BELLPEARL INC.

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Tel +81-6-6252-1803    Fax +81-6-6252-1750
E-mail yamashita-mas@awi.co.jp
URL http://www.awi.co.jp/english/
URL http://www.awi.co.jp/bp/e.pg/03.html
URL http://www.awi.co.jp/english/environment/index.html

Available in: Japan, Asia
EP-8-071

Energy-saving Condensing Unit Suitable for Various Refrigeration Systems

Environmental performance
- Mitigation of climate change: 40% improvement in COP compared with the conventional non-inverter model.
- Efficient use of resources: 11% reduction in the weight of raw materials: 15% reduction in sheet steel and 8% reduction in copper tubing.
- Management of chemicals: Adoption of lead-free soldering and chromium-free sheet plating.

Product performance
- Optimum operation: Combination of a rotary compressor and inverter achieves all-around high efficiency operation from the low-rotation to high-rotation range.
- Low noise: Noise value is reduced by 4dB from the previous model and operation is extremely quiet. Standard features include four control modes to suit different systems.

Toshiba Carrier Corporation
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Tel +81-3-6409-1735  Fax +81-3-5447-8101
URL http://www.toshiba.co.jp/index.htm
URL http://www.toshiba-aircon.jp/aboutus/environment.htm

EP-8-072

Energy-conserving air conditioning system for data centres "Ref Assist"

Environmental performance
This air conditioning system combines a cooling system using outdoor air and a natural refrigerant circulation system without transport power. Spot cooling units (Rear Door and Ceiling Unit Type) cool the heated air down and reduce the consumed power by over 60%* compared to a conventional system. (in-house comparison)
*For using a combination of the basic system (chilled water-refrigerant heat exchanger, spot cooling units) and optional equipment (high-efficiency heat sources, free cooling system).

Product performance

<table>
<thead>
<tr>
<th>Type</th>
<th>Cooling Capacity</th>
<th>Air-Volume</th>
<th>Power Consumption</th>
<th>Width</th>
<th>Height</th>
<th>Depth</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rear Door</td>
<td>10kW</td>
<td>2000m³/h</td>
<td>230w</td>
<td>594mm</td>
<td>1,995mm</td>
<td>164mm</td>
<td>85kg</td>
</tr>
<tr>
<td>Ceiling</td>
<td>15kW</td>
<td>3000m³/h</td>
<td>660w</td>
<td>565mm</td>
<td>600mm</td>
<td>1,400mm</td>
<td>120kg</td>
</tr>
</tbody>
</table>

Hitachi Plant Technologies, Ltd.
RISE ARENA BLDG. 5-2, Higashi-Ikebukuro 4-Chome, Toshima-ku, Tokyo, 170-8466, Japan
Tel +81-3-5928-8100  Fax +81-3-5928-8701
URL http://www.hitachi-pt.com

Available in: Japan, Asia, Europe, Middle and Near East (Except for Iran)

A natural refrigerant circulation system
**Eco-product // Machines and equipment**

### EP-8-073

**Clathrate Hydrate Slurry (CHS) Heat Storage Air-conditioning System**

**Environmental performance**

Using clathrate hydrate slurry instead of water, the Clathrate Hydrate Slurry (CHS) Heat Storage Air-conditioning System is a cooling system with excellent energy saving effects. This system substantially reduces power consumption and thereby contributes to global warming prevention. The Kawasaki shopping mall "Azalea" is one of our major clients who have adopted this system. As a form of energy conservation technology created in Japan, it was awarded the Prime Minister Prize in 2006 and the Nikkei Global Environment Technology Prize in 2007.

*JFE Engineering Corporation*

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URL [http://www.jfe-eng.co.jp/](http://www.jfe-eng.co.jp/)

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### EP-8-074

**Nikon Total Station "Nivo Series"**

**Environmental performance**

1. Compact and light body  
   - Reduces 33% of the weight and 35% of the volume compared to the previous series
2. Power consumption efficiency  
   - Improves 35% in angle measurement and 35% in precise distance measurement compared to the previous series (under the Nikon’s same test condition)
3. Reduction of hazardous substances  
   - Meets the Nikon Green Procurement Standards and the criteria of EU RoHS Directive  
   - *Eco-Glass* (lead and arsenic-free optical glass) usage: 100%

**Product performance**

"Nivo series" designed for all surveying and construction measurement users. The Nivo series are supported with Nikon optics to see clear images in both bright and low light conditions. Operated by an easy to use interface all day long, with assistance from hot swappable batteries providing endless power in the field. The Nivo series are compact in size and light weight, making them convenient to carry over long distances.

*NIKON CORPORATION*

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*Available in: Worldwide*
The WINPRO hybrid street light

**Environmental performance**

The WINPRO hybrid street light feature clean hybrid power generation systems incorporating both wind and solar power generation modules. The WINPRO hybrid street light is a clean power generation system that doesn’t exhaust CO₂ that causes global warming. As long as the hybrid power generation system can produce electricity by utilizing such natural energies as wind and sunlight, it can supply sustainable electric power. Therefore, it will be a suitable power supply system for disasters and the like.

**Product performance**

WINPRO vertical axis three blades can start rotation at the lowest wind velocity of 1 m/s, and the blades can continue stable rotation with the wind coming from any direction. The WINPRO wind power generator produces almost no noise at low speeds and thus will not cause any noise pollution. In addition, it will not cause such trouble as vibration, resonance, and electromagnetic interference.

**WINPRO CO.,LTD.**

Publicity Flex Building, Shinko-cho 19-8, Chuo-ku, Niigata-shi, Niigata-ken, 950-0965, Japan
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E-mail winpro@winpro.co.jp
URL http://www.winpro.co.jp/english

Available in: Worldwide

Online Dioxin Precursor Monitor "CP-2000"

**Environmental performance**

The CP-2000 Dioxin Precursor Monitor is an online real-time monitor of chlorophenol which is one of the dioxin precursors (intermediates of dioxin formation). It is known that chlorophenol and dioxin have a high correlation of concentration in flue gas. This monitor can measure with high sensitivity up to a few tens of ppt of chlorophenols in flue gas. And the concentration is automatically calibrated under of the changes in flue gas components and the combustion conditions by continuous automatic calibration. So it can be stable measurement. The CP-2000 can continuously monitor transient emission of chlorophenol, so that the parameters of the incinerator and the combustion conditions can be controlled to reduce the emission of dioxin.

It prized "Nikkei Earth Environment Technical Award in 2000" and "R&D 100 Award in 2001"

**Hitachi High-Tech Trading Corporation**

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E-mail htr-keisou@htr.hitachi-hitec.com

Available in: Worldwide (Except for Iran)
MR Imaging System APERTO Lucent

**Environmental performance**
1. This system consumes less electric power than superconducting MRI equipment because it uses the magnetic field of permanent magnets. Its power consumption power is 4KW, about 1/8 of superconducting MRI equipment (compared to our ECHELON Vega [2006 model]).

**Product performance**
1. A vertical field system we have developed since early stage. Widely open to the left and right, the characteristic of open MRI system, will give ease to claustrophobic patients.
2. Has various types of receiver coils which will fit respective part of human body, image measurement software, and image processing function.

Hitachi Medical Corporation
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URL http://www.hitachi-medical.co.jp/english/index.html

Available in: Worldwide (Except for Iran)

Ultrasound Diagnostic Scanner HI VISION Preirus

**Environmental performance**
This ultrasound diagnostic scanner "HI VISION Preirus" has reduced the unit size, cut weight by 14% (Standard configuration. Compared to our ultrasound diagnostic scanner "HI VISION 900"[2006 model]) and decreased the power consumption by 27% (Standard configuration. Compared to our ultrasound diagnostic scanner "HI VISION 900"[2006 model]), by adopting software based back-end and ASIC.

**Product performance**
HI VISION Preirus has the world's top class performance as middle class ultrasonic diagnostic equipment and is accepted by wide range of customers as of December 2010. It is accepted by the customer in a wide layer.

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Available in: Japan, Asia, Europe, Southeast Asia, U.S.A, China
Eco-product // Machines and equipment

EP-8-079  medical electronic instrument and equipment

Ultrasound Diagnostic Scanner HI VISION Avius

Environmental performance
This ultrasound diagnostic scanner "HI VISION Avius" has reduced the unit size adopting software based back-end and ASIC, cut weight by 4% (Standard Configuration. Compared to our ultrasound diagnostic scanner "EUB-5500" [2003 model]) and decreased the power consumption by 5% (Standard Configuration. Compared to our ultrasound diagnostic scanner "EUB-5500" [2003 model]).

Product performance
HI VISION Avius has the performance of a top class as ultrasonic diagnostic equipment of a low-end class in the world as of December 2010. It is efficient ultrasonic diagnostic equipment accepted by the customer in a wide layer.

Hitachi Medical Corporation

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Available in: Japan, Asia, Europe, Southeast Asia, U.S.A, China

EP-8-080  medical electronic instrument and equipment

Biochemical Analyzer for medical institutions offering improved operability, resource saving

Environmental performance
- Efficient use of resources: Test efficiency is enhanced through sample carry-over reduction technology. Use of blood collection tubes is halved for resource saving.
- Management of chemicals: Reduction in reagent consumption due to a reduction of the minimum reaction volume.

Product performance
- Enhanced test accuracy: The world's lowest impact on the carry-over of samples by a dispensing nozzle ensures data reliability.
- Improvement in operability: Inheritance of the satisfactory operability in high end model "TBA-C series".
- Shorter test time: Optimum operation is possible, such as the function that the priority subject according to urgency can be set up.

TOSHIBA MEDICAL SYSYTEM CORPORATION

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URL http://www.toshiba-medical.co.jp/tmd/english/index.html

Available in: Japan, Europe, North America
Eco-product // Machines and equipment

EP-8-081

Machines and equipment
medical electronic instrument and equipment

MRI System offering diagnostic efficiency and superior image quality

**Environmental performance**
- Mitigation of climate change: 44% reduction in energy consumption per scan thanks to the adoption of a variety of dedicated coils etc.
- Efficient use of resources: A common platform enables the use of many standardized parts.
- Management of chemicals: Major reduction of non-recyclable items as a result of redesigned structure around the magnet.

**Product performance**
- Superior image quality: Improved sensitivity and resolution made possible by combining cutting edge technology and a variety of dedicated coils.
- Simple diagnosis: A coil with a wide acquisition range for simple setting and diagnosis.
- Shorter examination time: Fast imaging made possible by combining dedicated coils and a high-speed processing system.

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Available in: Worldwide

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EP-8-082

Machines and equipment
medical electronic instrument and equipment

X-ray CT system offering cutting-edge technology, superior image quality and low environmental impact

**Environmental performance**
- Mitigation of climate change: 75% reduction per examination in energy consumption thanks to the development of a new detector and increased processing speed. And Development of the first regeneration technology for electric power in a diagnostic CT system

**Product performance**
- Superior image quality: Development of 160mm-wide area detector enables scanning in a single rotation achieves high-definition images of the heart and cardiovascular organs.
- Patient friendly: More detailed examination in a shorter time greatly reduces the burden on the patient (less than 1/10 (As compared to earlier models)).
- Minimizing the exposure dose: Exposure reduced by about 75% with the adoption of cutting-edge dose reduction technologies.

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Available in: Worldwide
Eco-product // Machines and equipment

EP-8-083

Machines and equipment

Medical electronic instrument and equipment

Ultrasound System offering superior diagnostic precision in a small, environmentally friendly unit

Environmental performance
- Efficient use of resources: An impressive 50% reduction in main body volume and extremely lightweight (35% reduction). The consistent use of electronic documentation and option software licensing help save valuable resources.
- Management of chemicals: 75% reduction in use of PVC (polyvinyl chloride) provides an environmentally friendly unit.

Product performance
- Excellent Image Quality: Simply stunning performance, improving both the contrast and the spatial resolution across all applications thanks to original imaging technology.
- More portability and better patient access: Extremely lightweight, impressive reduction in main body volume, and adoption of operator comfortable hand grip enables easy to move.
- Superior diagnostic precision: Premium clinical performance and high-end features thanks to a wide array of probes and Advanced imaging applications.

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Available in: Worldwide

EP-8-084

Machines and equipment

Medical system and equipment

"SDR-100" Digital Imaging System (Component of FLEXAVISION General Purpose R/F Table)

Environmental performance
The system configuration is simplified. Images can be managed and processed using a general PC which is used to be done by special hardware. As a result, energy consumption can be reduced by 44% as compared to the Shimadzu conventional product (DAR-8000i).

Product performance
The FLEXAVISION is a general-purpose R/F table designed based on the concepts (1) Flexibility, (2) Simple & Compact, and (3) User friendly. The introduction cost can be minimized by configuring a system with only the necessary functions such as the table elevation function and the oblique X-ray projection function. Only two units are places in the examination room to satisfy the need to use limited space more efficiently. One of the components, SDR-100 enables simplified and easy radiography.

SHIMADZU CORPORATION

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URL http://www.shimadzu.com/index.html
URL http://www.shimadzu.com/about/environmental/index.html

Available in: Worldwide
**EP-8-085**

**Symmetrical open multipurpose imaging system "EXAVISTA"**

**Environmental performance**

The number of composition units is reduced from 7 to 5, and space-saving is realized. The packaging material is reduced for the efficient use of transport equipment. This equipment also maintains the installation capability at the same level as conventional ones. (compared to "medites CREA" [2003 model])

**Product performance**

It is possible to see through and take upper part of the top board and even lower side up to 15cm at the edge by the wide stroke 150cm, thus patients in wheelchair can easily come to examine test of lower legs and urinary organs. It is possible to recorded in high resolution fluoroscopy option to add fluoroscopy recorder (including external inputs such as endoscopes, ultrasound). The total number of systems can be reduced by multiple-purpose use of this system as well as a multi-modality image display function. (compared to our multipurpose imaging system "medites CREA" [2003 model])

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**Available in**: Japan, Asia

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**EP-8-086**

**Whole-body X-ray CT system SCENARIA**

**Environmental performance**

- The electric power consumption per examination *1 has been reduced to less than 1/2. *2  
  *1 Assumption of the chest-abdomen examination  
  *2 Comparison with our X-ray CT system "ECLOS" [2007 model].

**Product performance**

- The maximum X-ray beam width is 40mm per scan, doubled in comparison with the ordinary system*1. The system allows the 64-slice image at 0.625mm width by one rotation. The maximum speed 0.35s/rotation is achieved during the whole-body examination.  
- The diameter of the semi-large bore is enlarged by 50mm than that of the ordinary aperture *1 gives sufficient space to the subject and gives relief to the child during the examination.  
  *1 Comparison with our X-ray CT system "ECLOS" [2007 model].

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### EP-8-087

#### Machines and equipment

**Medical X-ray equipment**

**X-ray CT system offering state-of-the-art dose reduction technology and powerful performance in a compact and affordable design**

**Environmental performance**

- Mitigation of climate change: 48% reduction in energy consumption in active mode, 40% in standby mode thanks to the adoption of energy-saving techniques, and small but high performance X-ray tube as standard, etc.

- Efficient use of resources: More than 20% reduction in space as compared to conventional systems. It fits easily just in the same space as most conventional single slice CT systems.

**Product performance**

- Minimum space & Quick installation: Delivering powerful performance in a compact system, it has been designed to have a footprint of just 10.4m². And Customer can be up and running in less than 3 days.

- Minimizing the exposure dose: It incorporates the state-of-the-art dose reduction technologies that can eliminate up to 50% of image noise, resulting in a dose reduction of up to about 75%.

- Advanced applications: It supports many of the advanced applications for Toshiba premium level CT systems.

**TOSHIBA MEDICAL SYSTEMS CORPORATION**

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### EP-8-088

#### Machines and equipment

**Metal working machinery**

**Next Generation WEDM: Realizing High-precision Machining and Reduced Running Costs**

**Environmental performance**

----<< Material / Resource saving >>----

Larger size can be handled than the previous model without increasing the amount of cost.

Reduces the number of component parts.

Electrical instruction manual reduces paper consumption.

----<< Energy saving >>----

Machining time is shortened 30% from previous model by newly developed power unit.

Newly added "Wake-up mode" saves standby power requirement, saves almost 69% of total energy.

----<< Toxicity / Chemical substances reduction >>----

The use of lead is drastically restricted.

**Mitsubishi Electric Corporation**

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URL http://global.mitsubishielectric.com/index.html

Available in: Japan
“MOC63u” Moisture Analyzer

Environmental performance
Moisture analyzers feature an electronic balance below a sample pan and drying chamber. The sample is heated and dried on the pan. Moisture content is calculated as the weight difference before and after drying and moisture percentage is the weight difference divided by the weight before drying. High-capacity heaters were used as the heat source for heating rate, sample quantity and temperature uniformity considerations. MOC63u can efficiently dry samples with one lamp due to a compact drying chamber and reflector plate to reduce temperature irregularities. 32% lower power consumption.

Product performance
The Unibloc aluminum weight sensor is little affected by temperature variations to ensure accurate weight measurements.
- Capacity: 60 g
- Minimum readability: 0.001 g
- Temperature range: 50-200 °C (1 °C increments)
- Heat source: Straight halogen lamp
- Pan size: 95 mm dia.
- Rated power: 430 VA

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URL http://www.shimadzu.com/index.html
URL http://www.shimadzu.com/an/balance/moisture/moc63u.html
URL http://www.shimadzu.com/about/environmental/index.html

Available in: Worldwide

EP-8-090

Next-generation remote terminal unit applicable in an IP network environment equipped with fault detection and waveform recording

Environmental performance
- Efficient use of resources: Change of the casing material from Sheet Moulding Compound to recyclable polycarbonate.

Product performance
- High performance and functionality: Equipped with distribution line fault detection, sampled-date recording, and quantitative measuring functions.
- Simple maintenance: Enhanced maintainability thanks to IT.

TOSHIBA CORPORATION Social Infrastructure Systems Company
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Mitsubishi Electric Corporation

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Available in: Worldwide

M700VS Series

"PDA-8000" Energy-Saving High-Resolution Optical Emission Spectrometer

Environmental performance
With the "PDA-8000", circuit design was done to significantly reduce power loss and heat generation to strengthen the shield for reducing the noise due to electrical discharges. When 15 samples were analyzed for 1 hour, 43% energy savings were achieved compared with our previous product. The argon gas consumption was also reduced by about 45%.

Product performance
This product is used for quantitatively analyze components and impurities in solid metals such as steel, copper, and aluminum alloy. By adding a function to monitor in real-time discharge energy consumed between the electrodes and the sample and reviewing the high-voltage generation / discharge energy control circuit design of the optical emission power supply, optimum discharge conditions now can be configured for various analytes with significant improvements in the optical system performance, detection sensitivity and analysis accuracy.

SHIMADZU CORPORATION

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URL http://www.shimadzu.com/index.html
URL http://www.shimadzu.com/about/environmental/index.html

Available in: Worldwide

Optical Emission Spectrometer "PDA-8000"
Eco-product // Machines and equipment

**EP-8-093**

**Machines and equipment**

**GE-PON system uses optical fiber to realize high-speed broadband communications**

**Environmental performance**

---<< Material / Resource saving >>---

Significant reduction in use of virgin material through product size reduction and elimination of metal as a material.

- Reductions from our previous model are following.
  - Iron components: 0.046kg to 0kg
  - Aluminum: 0.306kg to 0kg
  - Plastic: 0.5kg to 0.133kg

---<< Energy saving >>---

- Reduced electricity consumption approximately 65% compared to previous product by eliminating use of a high-electricity-consumption part (FPGA).

---<< Toxicity / Chemical substances reduction >>---

Complies with RoHS Directive adopting lead-free solder.

**Product performance**

The GE-PON system uses optical circuits to realize high-speed broadband communications. The GE-PON-ONU is installed in households and attached to an optical fiber cable as a terminal device.

**Mitsubishi Electric Corporation**

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Available in: Japan, Thailand, South Africa

**EP-8-094**

**Machines and equipment**

**High Concentration Ozone Generation Systems, Contributing to the Reduction of Life Cycle Cost**

**Environmental performance**

---<< Material / Resource saving >>---

- 40% of weight is reduced by downsizing compared to that of our previous model.

---<< Energy saving >>---

- 10% lower energy consumption compared to that of our previous model.

---<< Toxicity Environmental clean-up products >>---

Different from sterilization and oxidation by chlorine, that by ozone does not pollute the environment because it turns into oxygen after treatment.

**Product performance**

Ozone is used at water treatment plants, wastewater treatment plants and factories, owing to its ability of disinfection, decolorization and deodorization. Our product can generate high concentration ozone gas efficiently. It realizes maximum ozone concentration of 240g/m³ (cf. 150g/m³ by our previous product).

**Mitsubishi Electric Corporation**

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Available in: Japan, North America, China
**Hybrid "Dry Air" and Solid Insulation SF6-free Switchgear**

**Environmental performance**

---<< Greenhouse gas free Global warming prevention >>---
The adoption of a composite insulation of solid materials and low pressure, dry air \(\text{at 0.15 MPa-g with moisture removed}\) realizes a 72 kV C-GIS free from SF6 gas.

---<< Material / Resource saving >>---
The number of components was greatly reduced (to 70% from our previous type) applying a simple structure vacuum circuit breaker (VCB) with an electric magnetic operating mechanism.

---<< Energy saving >>---
The VCB operating energy is reduced to 70%. The power dissipation (heat loss) was reduced to 60% by optimizing device arrangement and minimizing conductor lengths that reduces the resistance of the main circuit.

**Product performance**

Mitsubishi Electric developed a series of 7.2 to 72 kV switchgear for power distribution featuring a composite insulation of solid materials and low-pressure dry air, and has been placing them on the market since 2000.

**Mitsubishi Electric Corporation**

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Available in: Japan, Asia, Central America

**EP-8-096 Machines and equipment**

**Completely new type SF6 gas-free solid insulated switchgear**

**Environmental performance**

- Mitigation of greenhouse effect: SF6 gas free contributes 62% reduction in CO\(_2\) emissions compared with conventional C-GIS\(^{1}\).
- Effective utilization of resources: 50% reduction in mass, 40% in volume and 50% in the number of parts compared with conventional C-GIS\(^{1}\).

**Product performance**

- Easy to dispose: Insulated by combination of vacuum and epoxy mold-casting without SF6 gas.
- Compact & light-weight: Its compactness provides easy floor planning.
- Labor-saving: Compared with conventional C-GIS\(^{1}\), parts number is significantly reduced by the adoption of newly developed operating mechanism and it makes maintenance work to be easier.

\(^{1}\): C-GIS \(\text{Cubicle-type Gas Insulated Switchgear, type:GFB-20M25}\)

**TOSHIBA CORPORATION Social Infrastructure Systems Company**

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URL http://www.toshiba.co.jp/index.htm  

Available in: Japan
Environmental performance

- Mitigation of climate change: In comparison with fossil-fuel power generation, the consumption of resources and the discharge of CO₂ are suppressed. Because of small-scale hydraulic power generation, the system can be applied to places where hydraulic energy is available. Considered is the utilization of water and sewage, agriculture water, factory waste water, and water discharged from river dams, resulting in the reduction of greenhouse gases and the saving of energy. The system can be used as a dispersed power source, and it can contribute to the reduction of greenhouse gas and the saving of energy.
- Efficient use of resources: The system does not need a conventional large-scale dam, so the river environment and the natural ecosystem are not influenced.

Product performance

Brief specifications are as follows: the flow rate, 0.03m³/s~3.5m³/s; the head, 2~15m; the output, 1~200kw. Five kinds of standard units cover wide application ranges. Because of a small, lightweight pipe-in structure, the units are easily placed even in a small space. The features are a cheaper running cost and longer life than other large-scale power sources, so the economical efficiency will be displayed for long-term use.

TOSHIBA PLANT SYSTEMS & SERVICES CORPORATION

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Highly advanced transmission electron microscope HT7700

Environmental performance

Turbo molecular vacuum system consumes less energy and provides a 30% reduction in CO₂ emissions, making the HT7700 a green, eco-friendly instrument. (comparison with H-7650, production in 2010)

Product performance

* TEM (Transmission Electron Microscope) operations and viewing are integrated into one user interface, allowing for operation of the TEM in ambient room lighting.
* A high sensitivity digital screen camera allows for effortless viewing of samples even at ultra-low intensities on the LCD monitor.
* Hitachi’s unique Double-gap objective lens provides high contrast, high resolution, low magnification and wide field of view imaging modes.
* Functions for taking and creating combined panoramic image using Hitachi’s original algorithms are included as standard.

Hitachi High-Technologies Corporation

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Available in: Japan, Oceania, Europe, North America, Middle East, ASEAN, Republic of Korea, Taiwan (Rep. of China), China (Except for Iran)
Tabletop Micro Ultracentrifuge

Environmental performance
Requires 20% less space on the desk and 8% lighter. (comparing to the smallest product of the tabletop ultracentrifuges in the world, \(73(W) \times 584(D) \times 408(H)\) 105kg (started to sell in 2007) \(\rightarrow 590(W) \times 582(D) \times 408(H)\) 97kg)
- Makes the quietest noise in the world as a small sized ultracentrifuge, 45dBA. (as of Sep. 2011.)
- Has thermo-module cooling system (HFC free)
- Has regenerative brake system

Product performance
The CS150NX Tabletop Micro Ultracentrifuge generates the centrifugal force that is hundreds of thousands times stronger gravity by the high velocity revolution, and is used to separate micro-particles like DNA*. *DNA: Deoxyribonucleic acid (genetic instructions)
- The largest RCF: 1,050,000 \(\times g\), (Versus other similar ultracentrifuge, as of Sep. 2011.)
- Max. speed: 150,000 min\(^{-1}\)
- Max. capacity: 180mL

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Available in: Worldwide (Except for Iran)

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PLA Production Plant (FINE-PLA)

Environmental performance
PLA (means “Poly-lactide” or “Polylactic Acid”) is one of bioplastics, which is effective to reduce the emission of CO\(_2\), because PLA is produced from lactic acid as a raw material made of fermented corn, sugar cane or other grains. It is also known as environmental friendly plastic to the earth because of its bio-degradable character at the time of disposal.

Product performance
FINE-PLA is Hitachi proprietary process to produce PLA based on unique technologies for the processing ultra-high viscous polymer. PLA made by FINE-PLA has world-class qualities which can be applicable to molded products or fibers etc.

- Molecular weight: 50,000 - 200,000
- Optical purity: Ultra-high
- Transparency: Excellent

Hitachi provide license for the production of PLA and various services based on the process license, including engineering, design, fabrication, procurement, construction and commissioning of the plant.

Hitachi Plant Technologies, Ltd.
RISE ARENA BLDG. 5-2, Higashi-Ikebukuro 4-Chome, Toshima-ku, Tokyo, 170-8466, Japan
Tel +81-3-5928-8100  Fax +81-3-5928-8701

Available in: Worldwide (Except for Iran)
**EP-8-101**

**Machines and equipment**

**Electronic Pulse Driver**

**Environmental performance**
- Adoption of the electronic pulse system\(^2\), which is the first in the power tool industry\(^1\), has realized 68dB of noise.
- Among power tools as of May 2010, surveyed by Hitachi Koki.
- Electronic pulse system: The electronic pulse system generates powerful tightening torque by rotating the brushless motor in regular and reverse directions at high speed repeatedly via electronic control.
- The battery adopted lithium-ion type (cadmium free) for less environmental load.

**Product performance**
- The operation mode can be easily switched to another by operating the mode selection dial. The tool can efficiently provide a variety of operations by itself. The advanced electronic control allows for an optimal screw/bolt tightening or drilling operation for each application.
- Work efficiency is improved thanks to the brushless motor that reduces electrical loss. Maintenance becomes easier because replacement of carbon brush is no-required.

**Hitachi Koki Co., Ltd.**

15-1, Konan 2-chome, Minato-ku, Tokyo, 108-6020, Japan
Tel +81-29-274-7423  Fax +81-29-274-7424
E-mail kankyo@hitachi-koki.co.jp
URL http://www.hitachi-koki.com/

Available in: Japan, Asia, Oceania, Europe, North America, Singapore, Thailand, Republic of Korea

**EP-8-102**

**Machines and equipment**

**A More Advanced Energy-Saving Premium Inverter "FRQROL-F700P Series"**

**Environmental performance**
- Material / Resource saving
  - The principal consumables - the condenser and cooling fan - are designed to last for 10 years.
- Energy saving
  - Energy savings through RPM control (flow control) instead of on/off flow control.
  - Optimal excitation control instead of regular V/F control.
  - IPM motor can be regulated.
- Toxicity / Chemical substances reduction
  - Compliant with European RoHS Directive.

**Product performance**

The FREQROL-F700P is an upgrade to the FREQROL-F700, which was awarded the fiscal 2006 Electrical Manufacturers Technology Prize by the Japan Electrical Manufacturers’ Association. It can control both a general-purpose motor (three-phase induction motor) and an interior permanent magnet (IPM) motor, which enables it to meet enhanced energy-saving needs.

**Mitsubishi Electric Corporation**

2-7-3, Marunouchi Chiyoda-ku, Tokyo, 100-8310, Japan
Tel +81-3-3218-9024  Fax +81-3-3218-2465
E-mail eqd.eco@pj.MitsubishiElectric.co.jp
URL http://global.mitsubishielectric.com/index.html

Available in: Japan
EP-8-103 Machines and equipment

**MR-J3W-B (2-axis servo amplifier)**

**Environmental performance**

Two motors are operated by common power supply. Thus, the regenerative energy can be effectively used. (189 to 256% compare to single axis servo amplifier)

**Product performance**

MR-J3W-B servo amplifier has MR-J3 series servo amplifier's high performance, functionality and usability for satisfying machine needs. One unit of MR-J3W-B can operate any combination of rotaty/liner servo motors or direct drive motor.

Mitsubishi Electric Corporation

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URL http://global.mitsubishielectric.com/index.html

Available in: Worldwide

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EP-8-104 Machines and equipment

**The VF-PSI inverter which increase fan and pump efficiency even in the low speed.**

**Environmental performance**

- More energy saving by Advanced energy-saving mode
- 88% of materials used on the VF-PSI are recyclable, which meets European WEEE (Waste Electrical and Electronic Equipment) Directive of 70%.

**Product performance**

- High-frequency noise reduction and harmonics reduction
- Built-in special softwares for fan and pump application.

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Eco-product // Machines and equipment
MELSEC-L General-purpose PLC: equipped with various functions, flexible and simple to use, and Compact

**Environmental performance**
1. Direct connection among units. Connectors located on the sides of the units allow units to connect directly to each other without using base units. Systems can be installed with minimal required space.
2. CC-Link Function, Ethernet, USB, I/O functions are equipped as standard. These functions can be freely used as necessary, requiring no special units for each function and allowing for space reduction and various control.
3. The cubic volume is reduced by nearly 75% and the weight by roughly 70% compared with conventional models. By adopting the universal designs, visibility and operability are improved even with a small chassis.

**Product performance**
1. I/O points: 4,096 I/O device points: 8,192 Program capacity: 260k steps
   Processing speed (LD Instruction): 9.5 ns Program memory capacity: 1,040k bits Peripheral Ports: USB, Ethernet SD Memory Card I/F: equipped. CC-Link Master/Local stations are equipped.
2. I/O function is equipped as standard, and every function can be freely used as necessary, requiring no special units for each function and allowing various control.
3. PC-less operations using display units and simple programming environments can improve efficiency of developing, manufacturing and maintenance.

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Available in: Worldwide

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**EP-8-106**

**Energy-saving canned motor pumps**

**Environmental performance**
8-steps controlled energy-saving drive can be done with the internal inverter carried on the pump. Further, it has an automatic variable speed control function by external signal input and trouble caution signal output function as standard.

**Product performance**
Application of the canned motor and inverter enable the pump to be compact. Because of the leakage-free design, the sealing device is maintenance free.

**EBARA CORPORATION**
11-1 Haneda Asahi-cho, Ohta-ku, Tokyo, 144-8510, Japan
Tel +81-3-3743-6111 Fax +81-3-5736-3100
E-mail webmaster@ebara.com
URL http://www.ebara.co.jp

Hz-free pump model MMF
<table>
<thead>
<tr>
<th>Eco-product // Machines and equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EP-8-107</strong></td>
</tr>
<tr>
<td>reactors, generators, carbonizers and electrolytic cells</td>
</tr>
</tbody>
</table>

**Biomass Boiler System**

**Environmental performance**

This system uses a circulating fluidized bed boiler to efficiently generate power and supply heat from carbon-neutral biomass. The biomass boiler system has been adopted and used mainly by wood biomass power plants and paper-manufacturing companies and contributes to the reduction of CO₂ emissions.

**JFE Engineering Corporation**

2-6-2, Otemachi, Chiyoda-ku, Tokyo, 100-0004, Japan
Tel +81-3-3516-7300 Fax +81-3-3516-7345
URL http://www.jfe-eng.co.jp/

| **EP-8-108** | **Machines and equipment** |
| reactors and induction voltage transformers |

**Automatic three-phase capacitance switching equipment**

**Environmental performance**

This equipment is installed on electric power receiving and distributing equipment in factories, and controls association or shut off electric power capacitors in order to obtain the ideal power factor by picking up reactive power for efficient and energy saving operation.

**Product performance**

Automatic capacity grasping function enables easier installation. Larger LCD display improves visibility.

**Mitsubishi Electric Corporation**

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Available in: Japan, Asia
Eco-product // Machines and equipment

**EP-8-109** Machines and equipment

**Multistage Deep Sea Water utilization system**

**Environmental performance**

This system conserves more than 60% of electricity consumption for air-conditioning by utilizing cold heat of deep sea water. And the cleanliness of deep sea water lessens pre-treatment process of desalination system to remove contamination, and reduce water production cost. This is an eco-friendly infrastructure which contributes not only to energy conservation but also to securement of safe water resource and promotion of industries.

**Product performance**

More than 60%* of electricity conservation for air-conditioning by utilizing the stable low temp.

Approx. 20%* of desalination cost reduction because of the cleanliness.

*In-house comparison: Compared with our conventional system

**Hitachi Plant Technologies, Ltd.**

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Available in: Japan, Asia and Oceania, Southeast Asia, Middle and Near East, ASEAN, Philippines (Except for Iran)

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**EP-8-110** Machines and equipment

**Bathroom Ventilation Dryer for Drying Clothing with Reduced Power Consumption**

**Environmental performance**

- Mitigation of climate change: Includes an eco-drying mode that minimizes the time that electricity is supplied to the heater for drying clothes. This is controlled by changing the temperature of the air sent to the bathroom. The amount of electricity used has been reduced to 1/3 in comparison with that of the standard drying mode.

**Product performance**

Since the revised Building Standards Act, which considered sick-house syndrome, was executed in July 2003, the role of ventilation systems has varied from local ventilation to ventilation of the whole house. The carrier group in Toshiba developed the bathroom ventilation drier, "Bath Dry" which can ventilate not only bathrooms, but also other rooms.

**Toshiba Carrier Corporation**

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URL http://www.toshiba.co.jp/index.htm
URL http://www.toshiba-aircon.jp/aboutus/environment.htm
**EP-8-111**

**Machines and equipment**

**High-efficiency energy-saving slurry pump e-Performance**

**Environmental performance**

High pump efficiency has been realized by adopting e-e (efficiency-enhancing) impeller developed using Computational Fluid Dynamics analysis. As a result, this product requires a smaller electric motor and enables an impeller with larger diameter and lower rotation speed, which leads to a reduction of energy consumption. For example, the efficiency SPL3-50 is improved over 22% at the maximum efficiency point, cutting more than 12 ton of carbon emissions per year. The extended life-performance of impellers and the e-l-p (extended-life-performance) adjustment mechanism contributes to reducing waste load.

**Product performance**

The improved pump efficiency ensures lower rotation speed than conventional models when compared at the same pump head, and the energy costs are reduced. In addition, the abrasion resistance is increased. Since the Required Net Positive Suction Head (an important matter of pump equipment) is low, superior suction performance and steadier transportation of slurry liquid are possible.

**FURUKAWA INDUSTRIAL MACHINERY SYSTEMS CO., LTD.**

2-3, MARUNOUCHI 2-CHOME, CHIYODA-KU, TOKYO, Japan
Tel +81-3-3212-7803 Fax +81-3-3231-6557
URL http://www.furukawa-sanki.co.jp

Available in: World wide

**EP-8-112**

**Machines and equipment**

**Hitachi Solar Cooling System**

**Environmental performance**

[Reduction of discharging]

In the feasibility design of 20,000USRT solar cooling plant. (Direct Normal Irradiation is 850W/m², Cooling water temperature is 34°C, in the NEDO project)

CO₂: 80,985t/y
SO₂: 1,138t/y
NOₓ: 180.9t/y

Corresponding to preserve oil: 248,085 Barrel/y

**Product performance**

[Technical Features]

(1) System
- High performed process: Annual System COP>5.4 (20,000USRT)
- Fully integrated optimum process control: to minimize the energy consumption from hourly conditions
(2) Components
- High efficient original solar collector (Enhanced Parabolic Type): η > 0.65
- Parallel flow cycled triple effect absorption chiller: COP>1.91

Hitachi offers not only this original system but also combined system with energy conservation technology and water purification system. Furthermore, solar thermal energy by the collector of this system is able to be applied for any heating process for the every kinds of industrial plants.

**Hitachi Plant Technologies, Ltd.**

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Available in: Oceania, Europe, North America, Central America, Middle and Near East, U.S.A (Except for Iran)
**EP-8-113**

**Machines and equipment**

**Energy-saving, compact new series of transformers**

**Standard transformers**

**Environmental performance**
- Mitigation of greenhouse effect: Energy consumption is reduced by approx. 40% (*1) compared with the previous series (comply with JIS C 4306-1999) (*1). Moreover CO₂ emissions is reduced by approx. 4.0 tons (*2).

**Product performance**
- Reduction of load loss: 120% of "Top Runner" achievement value (*3) is met by the adoption of high performance iron-core and highly conductive copper for the coil conductor.
- Space-saving: Reduced footprint thanks to high-density coil technology makes installation easier.

**NOTES:**
- *1: In case of three-phase 500kVA model operated with 40% of load factor for 24 hours a day, 365 days a year.
- *2: CO₂ emission coefficient: 0.555 [kg-CO₂/kWh] according to an ordinance of the Environment Ministry (April, 2006)
- *3: According to JIS C 4306-2005

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URL http://www.toshiba.co.jp/index.htm

Available in: Japan

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**EP-8-114**

**Machines and equipment**

**Most-advanced steam turbine for thermal power station**

**Steam turbines**

**Environmental performance**
- High efficiency with ultra super critical steam condition makes CO₂ emission reduce.
- More effective use of the limited fossil fuel.
- Reduction in emissions of chemical substances (SOₓ,NOₓ,etc) with low fuel consumption.
- To downsize, heavy equipments less work for its moving or overhaul.

**Product performance**
- Steam temperature (620°C) to the highest level in the world makes it improve thermal efficiency and steam turbines are supplied all over the world.
- To downsize, it is easy to maintain and reduce running cost.

Hitachi, Ltd. Power Systems Company

Akihabara Daibiru Building 18-13, Soto-Kanda 1-chome, Chiyoda-ku, Tokyo, 101-8608, Japan
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URL http://www.hitachi.com/
URL http://www.hitachi.com/csr/

Available in: Worldwide (Except for Iran)
**EP-8-115**

**Machines and equipment**

**switchboards and electrical control equipment**

**Electronic Hybrid Functional Control Panels Bring Water Treatment Plants Simplicity and High Performance**

**Environmental performance**

In power instrumentation and control at water purification plants or sewage-treatment plants, each function is installed in each control panel. Electronic Hybrid Functional Control Panel gathers all these circuits into fewer panels which enables reduction of space, hard-wiring and interconnection, and reduced energy consumption in electrical installation.

---<< Material / Resource saving >>---

Previous 3 control panels are able to be incorporated in 2 hybrid panels.

---<< Energy saving >>---

Almost 40% in energy saving is realized (compared to our previous model)

**Mitsubishi Electric Corporation**

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URL  http://global.mitsubishielectric.com/index.html

Available in: Japan

**EP-8-116**

**Machines and equipment**

**switches**

**Resource Saving & Energy Saving through the Pursuit of Compactness and Space Saving**

**Environmental performance**

- Mitigation of climate change: 25% reduction in the consumption of SF6 gas compared with the benchmark model thanks to downsizing. Down sizing and less weight led to a reduced consumption of raw materials and a 20% reduction in CO2 emissions.

**Product performance**

- Space saving: Downsizing slashes the space required for installation.
- Enhanced operability and maintainability: The operation panel and inspection unit are almost entirely positioned on the front of the switchgear for enhanced operability and maintainability.
- Reduced manufacturing period: As the construction of the foundation for the housing involves less work, projects can be executed faster.

**TOSHIBA CORPORATION Social Infrastructure Systems Company**

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URL  http://www.toshiba.co.jp/index.htm

Available in: Japan
**EP-8-117**

**Machines and equipment**

**24kV Vacuum Insulated Switchgear**

**Environmental performance**

- C-VIS mainly consists of vacuum insulated switch and grease-free hybrid type electro-magnetic actuator. It has features of compactness & reliability of GIS (Gas Insulated Switchgear) and accessibility of AIS (Air Insulated Switchgear) based on Hitachi's vacuum technologies.
- Design concept:
  - Vacuum insulation technique eliminates the risk of greenhouse gas emission (SF6 gas free).
  - Solid lubricant technique contributes to eliminating periodical lubrication maintenance.
- Safety Design:
  - Outer surface of the modeled sheath has an earthed layer to keep contact safety.

**Product performance**

- Rated Voltage: 24kV
- Rated Frequency: 50/60Hz
- Rated short circuit breaking current: 25kA
- Rated normal current: 630/800/1250A

**Hitachi, Ltd. Power Systems Company**

Akihabara Daibiru Building 18-13, Soto-Kanda 1-chome, Chiyoda-ku, Tokyo, 101-8608, Japan
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URL http://www.hitachi.com/
URL http://www.hitachi-rail.com/products/powersupply/powersupplyequipment/vis/
URL http://www.hitachi.com/csr/

Available in: Worldwide (Except for Iran)

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**EP-8-118**

**Machines and equipment**

**Energy saving data collecting server "EcoServer II"**

**Environmental performance**

Features in environmental conscious design compared to the previous model.

----<< Material / Resource saving >>----
66% reduction of resource consumption

----<< Energy saving >>----
54% reduction of electricity consumption.

**Product performance**

EcoServer II collects energy data from MDU breaker (a breaker with energy measuring unit and display) and EcoMonitorPro (Energy measuring equipment) and transmit the data to the Internet/Intranet through Ethernet (10BASE-T). The transmitted data is graphed and can be seen on the Web browser.

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URL http://global.mitsubishielectric.com/index.html

Available in: Japan

MES-255BR-A
**EP-8-119**

**Machines and equipment**

Eco-product // Machines and equipment

"High efficiency motor which meet or exceed Premium efficiency of NEMA standards. (NEMA premium is same as IE3 (premium efficiency) of the IEC standard.)"

**Environmental performance**

- Mitigation of climate change: Annual power consumption reduced by about 5% compared with the standard efficiency (IE1) model. CO₂ emissions reduced by 0.3 tons.
- Efficient use of resources: Reduction 2% in weight, 21% in the number of parts. (in the case of 4pole-10HP)

**Product performance**

- Economical: Energy saving through lower loss design
- Low noise, Long life and High reliability
- High efficiency and Lower starting current are achieved by the adoption of the most suitable slot shape at the same time.

**TOSHIBA CORPORATION Social Infrastructure Systems Company**

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Available in: North America

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**EP-8-120**

**Machines and equipment**

Eco-product // Machines and equipment

"TOC-L Series" Total Organic Carbon Analyzer Largely Reducing Standby Electricity

**Environmental performance**

The "TOC-L" incorporates functions to go into standby within a certain period after measurement and automatically restart at the preset time. Power consumption during standby (standby electricity) has been largely reduced; 36% less in general use conditions as compared to Shimadzu conventional products.

- Power consumption reduced by 36% (100 V) and 43% (200 V)

**Product performance**

This analyzer measures organic impurities and organic contamination by measuring CO₂ generated due to oxidative decomposition of organic matter in the sample. By using the 680°C combustion catalytic oxidation/NDIR methods, powerful oxidative decomposition capability and high-sensitivity measurement are achieved. TOC of various samples can be measured over a wide range from 4 µg/L to 30,000 mg/L from purified water to heavily polluted water with suspended solids.

- TOC: Total Organic Carbon

**SHIMADZU CORPORATION**

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URL http://www.shimadzu.com/an/toc/lab/tocl.html
URL http://www.shimadzu.com/about/environmental/index.html

Available in: Worldwide
**EP-8-121 Machines and equipment**

**Large Capacity and High Efficiency Hydrogen Indirectly Cooled Turbine Generator for Thermal Power Plant**

**Environmental performance**

- Mitigation of climate change: The emissions of carbon dioxide is reduced by application of large capacity and high efficiency hydrogen indirectly cooled turbine generator.
- Efficient use of resources: Reduction of materials for generator by application of hydrogen indirectly cooled turbine generator. Development of new materials and methods. Reduction of waste and environmental load by the reuse of parts / materials at the time of repair.

**Product performance**

- High-reliability: High-reliability realized by advanced analysis and verification experiments.
- Reduced manufacturing period: reduction in the manufacturing period by an easy-to-manufacture structure.

TOSHIBA CORPORATION Power Systems Company

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URL http://www.toshiba.co.jp/index.htm

**EP-8-122 Machines and equipment**

**“UH-Xh” and “UH-FXh” Series Universal Testing Machines Consuming 50 to 80 % Less Power**

**Environmental performance**

The “UH-Xh” and “UH-FXh” Series units consume 50 % less hydraulic oil and about 50 to 80 % less power as compared to conventional products because they have a hybrid hydraulic supply unit providing efficient control by the combination of an AC servo motor and hydraulic pump.

**Product performance**

The color LCD touch panel helps to set test conditions and display test results and graphs easily. Gains necessary for control can be automatically adjusted based on the test force and strain data obtained during the test by the semi-auto tuning function.

<table>
<thead>
<tr>
<th>Model</th>
<th>Max. Test Force (kN)</th>
<th>Grip</th>
<th>Stroke Speed (mm/min)</th>
<th>Energy-Saving Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UH-F300/500kN Xh</td>
<td>300/500</td>
<td>Hydraulic</td>
<td>0.1 to 100</td>
<td>54.3</td>
</tr>
<tr>
<td>UH-F1000kN Xh</td>
<td>1000</td>
<td>Hydraulic</td>
<td>0.1 to 90</td>
<td>61.6</td>
</tr>
<tr>
<td>UH-200/300/500kN Xh</td>
<td>200/300/500</td>
<td>Manual</td>
<td>0.1 to 100</td>
<td>81.9</td>
</tr>
<tr>
<td>UH-1000kN Xh</td>
<td>1000</td>
<td>Manual</td>
<td>0.1 to 90</td>
<td>81.8</td>
</tr>
</tbody>
</table>

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URL http://www.shimadzu.com/index.html
URL http://www.shimadzu.com/about/environmental/index.html

Available in: Worldwide
EP-8-123  MACHINES AND EQUIPMENT

**Vending Machine: N-EV1120**

**Environmental performance**
The model can reduce the electric power consumption. It has the super-insulated cabinet and the 2-Comp inverter heat pump system. During the periods of peak demand for electricity in summer (9:00-20:00), it stops the cooling operation with keep proper temperature of drinks. The annual electric power consumption is reduced 35% compared with the previous year's model. And it achieves the regulation of 2012 established by Japanese government.

**Product performance**
The model contains a wide range of drinks and its easy-to-find color promotes sales.

**Panasonic Corporation, Appliances Company**
3-4-74 Noji-higashi Kusatsu City Shiga, 525-0058, Japan
Tel +81-77-566-4805 Fax +81-77-566-4843
URL http://panasonic.net/
URL http://panasonic.net/csr/

Available in: Japan

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EP-8-124  MACHINES AND EQUIPMENT

**UB-FINE Hands Free Water Conservation System UBSN**

**Environmental performance**
It does not need the installation of an electric leak device, and it is energy efficient and environmentally friendly. It instantly stops the water without any delay problems. It easily controls the water volume. SGS report approves that the product is RoHS compliant (Restriction of the use of certain hazardous substance).

**Product performance**
It does not require you to touch the faucet, making it easier to avoid bacterial crosscontamination as well as making it safe and sanitary. It does not require power, making it energy saving and environmentally friendly, as it controls the water volume effortlessly. The unique patented design offers an exceeding water-saving ratio of 65.5%. Tested by Japan’s JIS standards, it does not percolate or leak after stepping on it 500,000 times.

**Business Zone Ltd.**
1F., No.137, Chi Lin Rd., Lu Jhu Township, Taoyuan County, Taiwan, 33850, Republic of China
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E-mail business@ub-fine.com
URL http://www.ub-fine.com

Available in: Taiwan (Rep. of China), China
### EP-8-125

**Machines and equipment**

**Weaving machinery for air jet loom and water jet loom**

**Air Jet Loom “JAT710”**

**Environmental performance**

Less air consumption -20% down. New technology offers even further energy saving.

**Product performance**

The JAT710 is designed with the same concept as the JAT610: “weaving the highest quality fabric at the lowest possible cost,” and boasts improved features such as higher speed, lower vibration and lower energy consumption. Plus it is equipped with the latest electronics technology such as a new Internet-capable color function panel, taking today’s weaving mill into a new dimension.

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**Toyota Industries Corporation**

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### EP-8-126

**Machines and equipment**

**Elevators**

**Machine Room-Less Elevator AXIEZ**

**Environmental performance**

--- **Material / Resource saving**

- By simplifying elevator shafts and car structure, including the pulley, machine foundation, car frame and car floor and safety gear, the weight of this elevator has been reduced by up to approximately 400 kg (approximately 1,200 t per year).
- Utilized plastic materials made from reclaimed resin for part of the car operating panel.
- Switched to LED for the lighting in the car to extend lamp life, and has reduced electricity consumption by up to 50%.
- Used and stored regenerative electric power during elevator operation to reduce electricity consumption by about 25%. The environmentally-friendly electric double layer capacitor (EDLC) is adopted on the electricity storage device. (When equipped with the optional ‘Ele-charge’ package.)

--- **Energy saving**

- Reduced usage of toluene, xylene and other atmospheric and soil contaminants.
- In compliance with sick-house laws and regulations. Reduced substances regarded as being harmful to below standard levels in an elevator. Reduced formaldehyde concentrations to levels below the standard of 100 μg/m³.

**Product performance**

This is a machine room-less resource- and space-saving elevator. The conventional model is sophisticated and enhanced to meet diversified needs. In addition, to provide greater construction and design flexibility, we reduced the amount of space necessary for elevator shafts.

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**Mitsubishi Electric Corporation**

2-7-3, Marunouchi Chiyoda-ku, Tokyo, 100-8310, Japan

Tel +81-3-3218-9024 Fax +81-3-3218-2465

E-mail eqd.eco@pj.MitsubishiElectric.co.jp


Available in: Japan
Environmental performance
The AERONOX Nitrocharger has been tested and proven to reduce harmful exhaust emissions in all types of internal combustion engines using gas, diesel and/or LPG, in many countries.

Product performance
AERONOX Nitrocharger is easy to install, compact and durable. It increases engine power, reduce harmful emissions and increase fuel efficiency and mileage. No regular maintenance required. Full replacement warranty.

AERONOX TECHNOLOGY CORPORATION
903 Epifanio delos Santos Ave., Philm, Quezon City, Philippines
Tel 63-2-7035851  Fax 63-2-3326072
E-mail sales@aeronox.net
URL http://www.aeronox.net

Available in: Philippines

100% Biodegradable & Compostable Plastic Bag GB200, GB100, GB090

Environmental performance
* Produced using natural cornstarch, making the source of raw material dependable.
* Fully biodegradable through microbes, returning to nature in the form of carbon, water, bio-matter and such in a matter of a few months.

Product performance
* Does not generate toxic gas when burned, and the heat energy released is only one-half of conventional plastic materials, such as polyethylene.
* The product conforms to EN 13432 and ASTM D 6400 international compost standard, and it can be processed into industrial compost with kitchen scraps and leaves without requiring any additional processing. It can be completely broken down without leaving any toxic matter in a matter of three months.
* The processing method is the same as the general low-density LDPE, and can be processed on LDPE injection molding machines without having to modify the equipment.

Grabio Greentech Corporation
No. 91, Guangfu N. Rd., Hsinchu Industrial Park, Hukou Township, Hsinchu County, Taiwan, 30351, Republic of China
Tel +886-3-598-6496  Fax +886-3-598-6491
E-mail tony@grace-bio.com.tw
URL http://www.grabio.com.tw

Available in: Europe, North America, South America
### Sumiley and Copla

**Environmental performance**

1. Adsorbs, filters and purifies oil spilling into rivers and the ocean as well as floating dust particles and mousse-like oil, which is formed by utilizing the oil and dusts.
2. Adsorbs and filters saturated and dissolved HNS (hazardous and noxious substances), such as benzene, in rivers and the ocean.
3. Efficiency is greatly improved by allowing users to refill the activated charcoal, which is the heart of this device.

**Product performance**

**Product Name:** Sumiley (Patent number: 3534553)

Sumiley is a floating activated charcoal made with the lees of ground coffee beans strained, and its adsorption strength surpasses that of other oil adsorbents by 500 - 1,000 times. Thanks to its light specific gravity of 0.11, it will adsorb oil only and not adsorb water. In addition, since it is carbide, no age deterioration is witnessed.

**Product Name:** Copla (Patent number: 4261608)

Assembly and disassembly are simple. Sumiley is used with this adsorption-removal device for oil and floating dust. Copla consists of inhalation and adsorption filtration systems. The inhalation system adsorbs only floating oil and dust on the water's surface that is flowed to the buoyant basal plate and will not adsorb any excessive water whatsoever. Since the adsorption filtration system is equipped with Sumiley in bags and dust filtration bags, floating dust and oil are adsorbed separately.

**TANIGUCHI SHOKAI CO., LTD**

338-31 FUJITA MINAMI-KU OKAYAMA CITY, 701-0221, Japan

Tel (+81) 86-296-5906  Fax (+81) 86-296-6507

E-mail info@taniguti.co.jp

URL http://www.taniguti.co.jp/

Available in: Japan, Asia

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### Can beer using “green energy”

**Environmental performance**

Asahi Breweries, Ltd is making efforts to realize a "low-carbon society" through the promotion of natural energy and energy conservation. This product is produced by using "green power," the electrical power produced by natural energy, including solar and wind power, as well as biomass.

The green energy mark is put on the packaging of products produced using green power.

Also this is the first such effort in the food industry to use green power during self-manufacturing.

The Green energy Mark indicates that the product is produced using green power. Under the system, companies pay to register their mark to support the generation of electricity by natural energy.

Asahi Breweries is committed to developing environmentally-friendly products.

**Asahi Breweries, Ltd.**

1-23-1 Azumabashi, Sumida-ku, Tokyo, 130-8602, Japan

Tel +81-3-5608-5195  Fax +81-3-5608-5201

URL http://www.asahibeer.co.jp/english/
**Eco-product // Others**

**EP-9-005**

**I LOHAS**

**Environmental performance**

“I LOHAS” is delicious spring (soft) water that is harvested from seven select locations nationwide. The amount of material used per container (resin) has been reduced by adopting the lightest PET bottle in Japan. Not only does this lighten the environmental load, but one can easily crush the bottle after drinking its contents to make the waste more compact.

We are proposing an environmentally conscious action that one can easily take part in by “drinking delicious water harvested in Japan, squeezing (crushing) and recycling the container”. In addition, starting in 2009 we have introduced the next generation PET bottle, the “plant bottle”, which partly uses (5% to 30%) renewable materials derived from plants. “Plant bottles” are no different in shape, weight and strength, and has a characteristic of being able to be 100% recyclable in existing recycling factories.

*555ml: 12g, 1,020ml: 18g, (Source: Coca-Cola (Japan), October 2011)*

**Coca-Cola (Japan) Company, Ltd.**

4-6-3 Shibuya Shibuya-ku Tokyo, 150-0002, Japan
Tel 0120-308509
URL http://cocacola.jp
URL http://i-lohas.jp/
URL http://www.cocacola.co.jp/positively/

Available in: Japan, Asia, Mexico

**EP-9-006**

**HYDROSYN BIO 46**

**Environmental performance**

Universal Hydrosyn BIO is a biodegradable hydraulic fluid made from the Synthetic Ester with more than 90% in high-end eco-friendly and harmless to the human body.

Universal Hydrosyn BIO is unique product with excellent stability and lubricating properties and excellent shear stability, especially in the hydraulic system of the pump to increase volumetric efficiency.

In addition, CEC-L-33-T-82 biodegradability tests to 93 percent depending on how the microbial decomposition of biodegradable lubricant and high-speed, high pressure hydraulic fluid that accompanies the machine’s various industries and is widely available as a bearing oil.

**Universal Oils Co., Ltd.**

238-5 Saengcheul-ri, Saenglim-myun, Kimhae-city, Kyungnam, 621-827, Republic of Korea
Tel +82-55-338-7255 Fax +82-55-338-7254
E-mail universaloils@hanmail.net
URL http://www.universal-oils.com

Available in: Worldwide
## Eco-product // Others

### EP-9-007

**AGIP Extra HTS Engine Oil**

**Environmental performance**

Petroleum garbage is a mixture of many different kinds of petroleum and chemical wastes dominated by used engine oil. To reduce the amount of spent engine oil, Veredium recommends high-quality oils that can be used twice as long as the regular oils. Agip Extra HTS is one such high-quality engine oil. Furthermore, Veredium has adopted a recycling and retrieval system for 25% of its sold engine oil.

**Product performance**

Agip Extra HTS is a very high-performance synthetic lubricant of the latest generation to meet the requirements of the newest automobile engines. It is especially recommended for high-output engines operating under severe conditions. Under ordinary use, it can last twice as long as a regular engine oil.

**Veredium Energy Ventures, Inc.**

EPC Complex 2074 J.B. Miguel Street Bambang, Pasig City, Metro Manila 1600, Philippines  
Tel (+632) 5711102  Fax (+632) 5711101  
E-mail inquiry@veredium.com  
URL http://www.veredium.com

### EP-9-008

**XTEC Fully Synthetic Engine Oil**

**Environmental performance**

Petroleum garbage is a mixture of many different kinds of petroleum and chemical wastes dominated by used engine oil. To reduce the amount of spent engine oil, Veredium recommends high-quality oils that can be used twice as long as the regular oils. X-TEC Fully Synthetic Engine Oil is one such high-quality engine oil. Furthermore, Veredium has adopted a recycling and retrieval system for 25% of its sold engine oil.

**Product performance**

X-TEC Fully Synthetic Engine Oil delivers maximum protection for gasoline and diesel engines by retaining its viscosity even during high-temperature and severe service conditions. It is formulated from new synthetic base stocks and an advanced additive package to provide excellent soot control, to protect against wear and deposits, to inhibit rust and corrosion, and to prevent foaming.

**Veredium Energy Ventures, Inc.**

EPC Complex 2074 J.B. Miguel Street Bambang, Pasig City, Metro Manila 1600, Philippines  
Tel (+632) 5711102  Fax (+632) 5711101  
E-mail inquiry@veredium.com  
URL http://www.veredium.com
**PET SOLAR CAR**

**Environmental performance**

Another clean-energy product from ELEKIT-PET SOLAR CAR! The kit contains the solar battery panel with the stand and the motor and tire sets to which you can set a PET bottle, a milk carton, or whatever around you to make your original eco-car! A perfect kit for a handicraft for summer.

**Product performance**

[Specifications]

- Power source: Solar battery, Max.1.4V-350mA
- Driving method: Front-wheel drive
- Circular driving: OK
- Gearshift: 2 shifts
- Estimated assembly hour: Approx.1.5 hours
- Target age: 10 and up

*PET bottle is not supplied.

**EK JAPAN CO., LTD.**

2-19-30 Tofuro-minami Dazaifu City FUKUOKA, 818-0105, Japan
Tel +81-92-923-8235 Fax +81-92-923-8237
E-mail info@elekit.co.jp
URL http://www.elekit.co.jp

Available in: Worldwide

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**SOLAR HYBRID CAR**

**Environmental performance**

SOLAR HYBRID CAR that can run on land and water with its paddle wheels.

The well-designed body made of styrofoam, free from chlorine gas emission, is a remarkable feature of the model.

**Product performance**

[Specifications]

- Power source: Solar Battery, Max.1.4V-350mA
- Size: W166 x H79 x L240 mm
- Weight: 140g

**EK JAPAN CO., LTD.**

2-19-30 Tofuro-minami Dazaifu City FUKUOKA, 818-0105, Japan
Tel +81-92-923-8235 Fax +81-92-923-8237
E-mail info@elekit.co.jp
URL http://www.elekit.co.jp

Available in: Worldwide
**Environmental radiation Monitor PA-1000**

**Environmental performance**
A handy type monitor which measures minute amounts of environmental radiation. Pressing a button enables even non-specialists measure gamma rays in the ranges from 0.001 to 9.999 $\mu$Sv/h in the air.
- Designed with plant-based plastic material helping to reduce petroleum consumption.
- High performance detection with a CsI(Tl) scintillator.
- Compact and lightweight (175 g/6.2 oz)
- Uses two AA batteries.
- Splash resistant construction.

**HORIBA, Ltd.**

2 Miyano-higashi, Kisshoin, Minami-ku, Kyoto, 601-8510, Japan
Tel 81-75-313-8121  Fax 81-75-321-6621
E-mail info@horiba.co.jp
URL http://www.horiba.com

Available in: Worldwide

**L’earth wheat composite golf tees**

**Environmental performance**
Made of wheat by-products which is an abundant and renewable source. It does not compete ith food supply or required deforestation. High content of recycled and certified food safe plastic used. This helps in lowering of greenhouse emission and slowdown of global warming. Less toxic gases are being emitted when incinerated. Product can also be o xo-biodegradable, thus helping to reduce landfill. Oxo-biodegradation leaves no harmful residues and fragments, and time to degradation is programmable.

Awards and certification for wheat composite material:
1. Singapore Green Label certified.
2. SEC- Senoko Power Green Innovation Award Winner 2010

**Product performance**
With L’earth it is simple, enjoyable and sustainable embracing an eco-conscious and modern lifestyle.

**L’earth S Pte Ltd**

No. 21 Toh Guan Road East #04 - 09 Toh Guan Centre Singapore 608609, 608609, Singapore
Tel +65 90717444  Fax 6565154557
E-mail sale2@mylearth.com.sg
URL http://www.mylearth.com.sg

Available in: Worldwide
Eco-product // Others

EP-9-013

Toys, Educational Toys, Green Toys, Sustainable Toys

Environmental performance
PlanToys is a leader in green manufacturing. We were the first toy company in the world to use natural recycled rubberwood from trees that no longer produce latex. Our Green Concept Design means we use only eco-friendly materials to manufacture our products and so produce minimal waste. Only recycled and recyclable non-toxic materials are used, including soy-based inks for packaging and printing. Our factories operate on integrated energy sources using biomass and solar cells.

Product performance
Our Eco-product design concept is a systematic approach that always takes the environment into consideration during manufacturing and the end-of-life cycle for all our toys.

Plan Creations Co., Ltd.
114/1 Sathorn 10, North Sathorn Rd., Bangkok, 10500, Thailand
Tel +66 2237 9070 Fax +66 237 5790
E-mail mktg@plantoys.com
URL http://www.plantoys.com
URL http://www.plantoys.com/about_sustainability.php

Available in: Worldwide

EP-9-014

Electronic Paper Product “AeroBee”

Environmental performance
Bridgestone’s electronic paper product “AeroBee” provides paper like appearance. Such as paper white, wide viewing angles and comfortable reading under all lighting conditions including bright sunlight. We supply ultra-low power display solutions for Electronic Paper markets (ESL, Information board, E-reader and so on).
Bridgestone’s electronic paper product “AeroBeeTM” aims to become a new standard display technology for electronic paper applications and is expected to contribute the reduction of paper resources.

Product performance
- Quick Response Liquid Powder Display technology
- keep display in power-off
- wide viewing angles and comfortable like a paper
- varied fonts and color photos
- speedy change of display
- enable to use under low temperature such as a refrigerator
- the biggest size, the thinnest size, flexibility, low cost

Bridgestone Corporation
10-1, Kyobashi 1-chome, Chuo-ku, Tokyo, 104-8340, Japan
Tel +81-3-3563-6343 Fax +81-3-3563-6341
URL http://www.bridgestone.com
### EP-9-015

#### Thermal plaster

**Environmental performance**
Reduce CO2 by absorbing it from the atmosphere. Keeping atmosphere cooler by reflecting sun's heat from structure surfaces. Used more than 80% 'Recycled wastes' (from coal burning plants)

**Product performance**
- Low conductivity
- High Total Solar Reflection (TSR) performance
- Durability
- Sustainability

#### reicom pte. ltd

No. 530 Balestier Road, #01-08, Singapore  
Tel +6596697487  
E-mail stevehank53@gmail.com  
URL http://under construction

Available in: Middle and Near East, ASEAN, Indonesia, Singapore, Thailand, Philippines, Malaysia, China, South Africa

### EP-9-016

#### Waste wood from construction sites can be reused onsite

**Environmental performance**
This method uses conventional construction machinery to achieve excellent rooting on and base-layer stability of bedrock and slopes under severe conditions, by just replacing the spray-on material paste with our MC binder. As a result, work periods can be shortened and costs reduced. The method also contributes to zero emission by making use of wood chips processed from trees cut on site.

**Product performance**
With conventional methods using waste wood chips from construction sites, problems such as the high cost of on-site mixing with composted chips, UV damage caused by the use of polymer pastes in curing compounds, and deterioration caused by frost heaving and foundation erosion often occurred. These problems can be avoided by using this product.

#### Alfa Green, ltd

99-1-207, Yamashita-cho, Naka-ku, Yokohama-city, Kanagawa-Pref, 231-0023, Japan
Eco-product // Others

**EP-9-017**

**A recycled inorganic material manufactured from fly ash (coal ash) and paper sludge ash**

**Environmental performance**

Construction costs are reduced and the construction period is shortened thanks to the omission of the conventional foundation work involved in afforestation. This reduces CO₂ emissions from the construction machines used in foundation work.

**Product performance**

Alpha Green stabilizer for slope afforestation is a recycled inorganic material produced primarily from fly ash (coal ash) and paper sludge ash, unlike the conventional cementing material (paste) made of synthetic polymeric resin. It contains minerals (such as magnesium, which promotes plant growth) and brings variety of secondary effects such as enabling the active utilization of inorganic basic vegetation materials, improved water permeability of vegetation bases, promotion of organic matter decomposition, and mitigation of aluminum-related damage.

**Alfa Green, Ltd**

99-1-207 Yamashita-cho, Naka-ku, Yokohama-city, Kanagawa-Pref, 231-0023, Japan

**EP-9-018**

**Glomus 100% Organic Fertilizer**

**Environmental performance**

As an alternative for chemical fertilizer that can be harmful to the environment. Our product contains only ingredients that occur in nature thereby will not damage plants, soil and helps to reduce global warming as its a biodegradable Product. Due to nutrients in our product high soil and due to long term usage of chemical fertilizer has impaired significantly. We contribute waste management in preventing environment pollution by treating organic waste. Our product is produced by Rapid Thermophilic Digestion technology, researched in Singapore a composting machine that uses specially formulated enzyme to shorten the composting process. We recycle such as organic dung, sawdust, food waste, fish waste, dead chicken, empty fruit bunch supplied from factories which helps in waste management. Our product is produce by Rapid Thermophilic Digestion technology, researched in Singapore a composting machine that uses specially formulated enzyme to shorten the composting process. We recycle such as organic dung, sawdust, food waste, fish waste, dead chicken, empty fruit bunch supplied from factories which helps in waste management. Our product is biodegradable after application and no waste disposable process is needed.

**Product performance**

Glomus Ecology Sdn Bhd was incorporated in August 2010 company number 912992U. The company was set up primarily to venture into the production and sale of organic fertilizer. We recycle, pack and distribute 100% pure organic fertilizer which is suitable for landscaping, home gardening and commercial farming. At the moment we feel that there is no pure organic fertilizer in the market. Most of the available products in the market are either chemical based or a mixture of chemical and organic compost. It is a known fact that chemical fertilizers will not improve the structure of the soil. In fact, because they are comprised of high concentrations of concrete salts, they are capable of killing off many of the soil organisms that are responsible for decomposition, and replacing them with harmful synthetic chemicals. This, in turn, allows the soil to become more susceptible to erosion, leaching and other processes, leading to loss of fertility and soil structure. As the earth's surface is used up, the soil structure breaks down, becoming lifeless, compact and less able to hold water and nutrients. The result is pretty clear, you will have to use more and more fertilizer. Our very own Glomus 100% organic fertilizer is differ from chemicals, in fact they feed your plants while building the soil's structure. A soil with high organic matter, remain loose and any, are better able to hold nutrients and moisture, foster growth of soil organisms, including earthworms, and promotes healthier root development. Building a healthy soil is the key to successful sustainable farming. Our product will not percolate through the soil and contaminate surface and ground water. It is known fact that high nitrate levels in drinking water can cause serious illness in humans. We can ensure our product is an important contribution to the sustainability of organic agriculture.

**Product Specification**

<table>
<thead>
<tr>
<th>Total macronutrients/NPK</th>
<th>≥6</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>6.5 - 7.5</td>
</tr>
<tr>
<td>Organic content</td>
<td>72%</td>
</tr>
<tr>
<td>Cation Exchange Capacity</td>
<td>≥20cmol/kg</td>
</tr>
<tr>
<td>C:N Ratio</td>
<td>15 - 22</td>
</tr>
</tbody>
</table>

**Glomus Ecology Sdn Bhd**

Lot 9, EOIZ Phase 1, KKIP, Jalan Sepanggar Menggatal, Kota Kinabalu, 88540, Malaysia

Tel +60168306929  Fax +6088433889
E-mail glomusk@gmail.com
URL http://www.glomusecologygroup.com.my

Available in: Malaysia
## EP-9-019

**Environmental performance**
Our company Asahi Food & Healthcare Co., Ltd. sells the liquid fertilizer "Housakumonogatari (the good harvest story)" to agricultural producers. The fertilizer is made from the cell wall of brewer's yeast by enzymatic reaction. "Housakumonogatari" is based on the hydrolysate of the cell wall of brewer's yeast. It increases the plant's intrinsic immunity power by the activity of the $\beta$-glucan that exists in cell walls, and it promotes thereby the healthy growth of the plants. Since our raw material is natural yeast which is safe and secure to both humans, and the crops, we have received high evaluation from the users. Our company will continue development of the safe and secure goods by making use of the superior characteristics given by the hydrolysate made from the cell wall of brewer's yeast, such as "growth acceleration", "improvement of immunity", etc.

**Asahi Food & Healthcare Co., Ltd.**
1-23-1 Azumabashi, Sumida-ku, Tokyo, 130-8602, Japan
Tel +81-3-5608-2771 Fax +81-3-5608-2773

## EP-9-020

**GI SAN FA Miscellaneous Organic Fertilizer**

**Environmental performance**
Adopting natural animal/plant or agricultural by-products, scraps, deteriorated agricultural products, it offers long-lasting, gentle, even fertilization, buffering and harmless characteristics.

**Product performance**
Leaf vegetable type:
1. It excels in growth, budding, thick flesh, aroma enhancement, and aggregate production output.
2. The plants are solid, full, lustrous and crisp in quality.

Fruit tree type:
1. Blossoming with subtle fragrance, it improves the fruit coloration, and the fruits fuller and more lustrous.
2. It enhances the sweetness and production output.

Floral type:
1. Flowers stay fresh with a prolonged flowering period.

**SINLONFA INDUSTRIAL CORPORATION**
No. 38-2, Jiangshi Rd., Jushan Township, Nantou County, Taiwan, 55767, Republic of China
Tel +886-49-2631234 Fax +886-49-2632221
E-mail slf.com@msa.hinet.net
URL http://www.twslf.com

Available in: Taiwan (Rep. of China)
YI TONG FA Miscellaneous Organic Fertilizer

**Environmental performance**
Adopting natural animal/plant or agricultural by-products, scraps, deteriorated agricultural products, it offers long-lasting, gentle, even fertilization, buffering and harmless characteristics.

**Product performance**
Leaf vegetable type:
1. It excels in growth, budding, thick flesh, aroma enhancement, and aggregate production output.
2. The plants are solid, full, lustrous and crisp in quality.

Fruit tree type:
1. Blossoming with subtle fragrance, it improves the fruit coloration, and the fruits fuller and more lustrous.
2. It enhances the sweetness and production output.

Floral type:
1. Flowers stay fresh with a prolonged flowering period.

SINLONFA INDUSTRIAL CORPORATION

No. 38-2, Jiangshi Rd., Jushan Township, Nantou County, Taiwan, 55767, Republic of China
Tel +886-49-2631234  Fax +886-49-2632221
E-mail slf.com@msa.hinet.net
URL http://www.twslf.com

Available in: Taiwan (Rep. of China)

Exit Indicator lights SH-123CSF-EX

**Environmental performance**
A high-brightness LED light source and a high-power circuit board are enclosed in an aluminum alloy housing. Energy-saving, eco-friendly, highly durable, low-pollution.

**Product performance**
Certified by Taiwan Fire Technology Foundation. Suitable for use in all places.

SHIAN HUEI INDUSTIAIAL CO., LTD.

No.28, Ln. 159, Sec. 1, Chang'an Rd., Luzhu Township, Taoyuan County, Taiwan, 338, Republic of China
Tel +886-3-3248528-212  Fax +886-3-3248450
E-mail lin32.lin32@msa.hinet.net
URL http://www.sh119.com.tw

Available in: Taiwan (Rep. of China)
Eco-product // Others

EP-9-023 Others

Evacuation Indicator lights SH-123CSF

Environmental performance
A high-brightness LED light source and a high-power circuit board are enclosed in an aluminum alloy housing. Energy-saving, eco-friendly, highly durable, low-pollution.

Product performance
Certified by Taiwan Fire Technology Foundation. Suitable for use in all places.

SHIAN HUEI INDUSTAIAL CO., LTD.

No.28, Ln. 159, Sec. 1, Chang'an Rd., Luzhu Township, Taoyuan County, Taiwan, 338, Republic of China
Tel +886-3-3248528-212 Fax +886-3-3248450
E-mail lin32.lin32@msa.hinet.net
URL http://www.sh119.com.tw

Available in: Taiwan (Rep. of China)

EP-9-024 Others

ABFFC Water Solution Fire Extinguisher

Environmental performance
Especially Halon replacement fire extinguisher agent. ABFFC water solution fire extinguisher is high performance. It can put out the fire without contaminating to environmental of dry powder. ABFFC agent can biodegradable.

Nippon Chemical Co., Ltd.

1831/5-7 New Petchburi Road Bangkapi Huaykwang Bangkok, 10310, Thailand
Tel 66-2652-7831 Fax 66-2652-7839
E-mail marketing@nippon.co.th
URL http://www.nippon.co.th
URL http://www.nippon.co.th/abffc.htm

Available in: Thailand
**Phalaenopsis**

**Environmental performance**
Orchids are grown in greenhouses equipped with automatic cultivation systems configured for saving energy, reducing CO₂ emissions, and thereby preventing the Earth from premature aging. These systems include a water curtain cooling system, a thermal pump heating system, an intelligent inner/outer net lighting control system, a high-efficiency movable cultivation bed system (an energy-saving thermal insulation system, an indoor ventilation fan system, an outdoor insect screen control system), an operation and monitor system for production and cultivation, an automatic greenhouse control system, a spray cooling system, etc.

**Product performance**
Known as “queen of orchids” in Taiwan, phalaenopsis has butterfly-shaped flowers that appear from an arcuate hanging stem and flutter in the breeze like real butterflies.

**Taiwan Orchid Professionals Co., Ltd.**
No 325, Wushulin, Wushu Village, Houbi Township, Tainan County, Taiwan, 731, Republic of China
Tel +886-6-6840788-205 Fax +886-6-6840787
E-mail clair@taiwanorchids.com
URL http://www.taiwanorchids.com.tw

Available in: Taiwan (Rep. of China)

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**IBUKI Grade LD_Seed coating and soil improving agent**

**Environmental performance**
Agricultural soil improvement requires large amounts of compost, time and effort. This product is a soil-improving material composed mainly of natural plant-based fibers. The IBUKI Grade LD is a capable of providing a sense of hope for traditional farming techniques by bringing about major changes and progress. Properties of use: when seeds are coated with a small application of 3kg per 10 ha, definite effects can be expected; can also be used efficiently on rhizospheres, and easily over large-scale areas. Example: to be used simultaneously with repellant coating. Substantial effects: both productivity and quality of products are greatly improved; harvest quantities, flavor and freshness improve simultaneously. Other: no harmful effects from continuous use. Effective under conventional fertilization plans and management.

**HANYO SCIENCE CO.,LTD.**
OFFICE 3-58-5 NOBATA AKUTAMI, GIFU-CITY, 501-3145, Japan
Tel +81-58-241-2401 Fax +81-58-241-2287
E-mail ibuki@hanyokagaku.com
URL http://www.hanyokagaku.com/
URL http://www.hanyokagaku.com/ld.html

Available in: Worldwide
Nikon fieldmicroscope "Fabre Photo EX"

Environmental performance
Nikon fieldmicroscope "Fabre Photo EX" has the following characteristics, considering the environment.
1. Use of plant-based plastic: Five microscope body parts are made from plant-based plastic, so we can save petroleum resource.
2. Reduction of hazardous substances (comply with the EU RoHS Directive)
   * Eliminate polyvinyl chloride (PVC) from body, case, strap, etc.
   * Use of lead-free solder: achieve for the parts, such as electro circuit of illumination equipment
   * Eco-Glass (lead and arsenic-free optical glass) usage: 100%

Product performance
"Fabre Photo EX" enables microscopic observation of insects, plants and minerals at 20x magnification and digital photography during observation by the dedicated photographic light path. Nikon digital SLR cameras and digital compact cameras can be attached by optional camera attachments.

NIKON CORPORATION
Shin-Yurakucho Bldg., 12-1, Yurakucho 1-chome, Chiyoda-ku, Tokyo, 100-8331, Japan
Tel +81-3-3214-5311
URL http://www.nikon.com/
URL http://www.nikon.com/about/csr/nikon-csr/index.htm

Available in: Japan

Nikon Laser rangefinder "Laser 350G"

Environmental performance
"Laser 350G" has the following characteristics, considering the environment.
1. Extended product life: achieve the long life by adopting waterproof mechanism, which filled body inside with nitrogen gas to prevent raindrops from soaking inside
2. Reduced mass: 14% mass reduction compared with Laser 500G
3. Reduction of hazardous substances (comply with the EU RoHS Directive)
   * Eliminates polyvinyl chloride (PVC) from body, case, strap, etc.
   * Use of lead-free solder: achieve for the parts, such as electro circuit
   * Eco-Glass (lead and arsenic-free optical glass) usage: 100%

Product performance
Laser rangefinder measures a distance by projecting laser beams to a target and measuring the traveling time taken by the beams to be reflected off the target and returned to the instrument. This "Laser 350G" is compact and high-performance laser rangefinder specially designed for golf.

NIKON CORPORATION
Shin-Yurakucho Bldg., 12-1, Yurakucho 1-chome, Chiyoda-ku, Tokyo, 100-8331, Japan
Tel +81-3-3214-5311
URL http://www.nikon.com/
URL http://www.nikon.com/about/csr/nikon-csr/index.htm

Available in: Worldwide
**Nikon Binocular "4x10D CF"**

**Environmental performance**
Nikon binocular "4x10D CF" has the following characteristics, considering the environment.

1. **Reduction of weight**
   - Reduces 50% of the total weight by cutting 31% of the total number of parts compared to the previous model "6x15 CF". Contributes to waste reduction and resource saving.

2. **Reduction of hazardous substances**
   - Meets the Nikon Green Procurement Standards and the criteria of EU RoHS Directive
   - Non-use of Pb, Cd, Hg, Cr6+, PBB, PBDE
   - Eco-Glass (lead and arsenic-free optical glass) usage: 100%

**Product performance**
- The thinnest and lightest model in Nikon binoculars having been released so far
- Convenient to carry by virtue of the flat body without protuberances
- Easy to use, only needs to adjust eye width and focus
- Provides the high quality of view, namely bright and razor-sharp images, by multi-coated lenses and prisms

**NIKON CORPORATION**
Shin-Yurakucho Bldg., 12-1, Yurakucho 1-chome, Chiyoda-ku, Tokyo, 100-8331, Japan
Tel +81-3-3214-5311
URL http://www.nikon.com/
URL http://www.nikon.com/about/csr/nikon-csr/index.htm

Available in: Japan mainly

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**Bridgestone Corporation**
1-6-6, Yaesu, Chuo-ku, Tokyo, 103-0028, Japan
Tel +81-3-5202-8203  Fax +81-3-5202-6719
URL http://www.bridgestone.com

**Environmental performance**
Bridgestone manufactures developed high durability rubber under hard environment. The durability rubber enabled to protect steal codes more, prolong use phase, and improve comfortability and strong grip. In addition, Bridgestone has more technologies: anti-rust steal code, prevention to flow off (high-stiff design) or crack (pro-edge). The eco-friendly rubber track "ECO²-TRACK" is made by these technology and got much durability. "ECO²-TRACK" will contribute to cost down and reduce waste by the durability.

**Product performance**
- Improvement silently
- Less vibration in driving.
- Lightweight
- Low damage the road surface
- Shorter hours of maintenance

**eco-friendly Rubber Track "ECO²-TRACK"**
Eco-product // Others

EP-9-031

Purifie Odour Absorber

**Environmental performance**
- 100% organic
- Non-toxic
- Odourless
- 5 times more adsorptive than charcoal
- Safe
- Eliminates Odour
- Reduce moisture
- Absorbs chemical
- Can last up to 6 months
- Compact size and unique to be used in various places, such as: shoe rack, toilet, cabinet, fridge, pet litter corner, rubbish bin and more.

MTE Corporation Sdn Bhd

J-8-11 Solaris Mont Kiara, No 2 Jalan Solaris, Kuala Lumpur, 50480, Malaysia
Tel 03-6204 9001 Fax 03-6204 9003
E-mail info@mtecorp.com.my
URL http://www.mtecorp.com.my
URL http://www.purifie.com.au

Available in: Singapore, Malaysia, Australia, Thailand

EP-9-032

Eco-Friendly Reclaimed-Yarn Trademark Cloth (R Series) (White)

**Environmental performance**
Recycling the discarded PET bottles to reduce the amount of wastes and to fulfill the appeal of reuse so that the wastes can be reduced.

**Product performance**
The manufacturing process of eco-friendly reclaimed-yarn begins by collecting waste PET bottles. Then, a complicated cleaning, high-temperature sterilizing, and melting procedure is performed on the collected PET bottles to produce PET chips. The chips are extruded by a yarn extrusion machine to form PET yarn, which is sent to a weaving factory and woven into eco-friendly reclaimed cloth. Waste PET bottles are reused through the above processes to reduce pollution.

Best Label Enterprise Co., Ltd.

15F., No. 229, Hsin Tai Rd., Hsin Chuang Dist., New Taipei City, Taiwan, 242, Republic of China
Tel +886-2-2997-3778 Fax +886-2-2997-2738
E-mail katie@best-label.com
URL http://www.best-label.com

Available in: Asia, Singapore, Thailand, China
<table>
<thead>
<tr>
<th>EP-9-033</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Staron</strong></td>
<td><strong>solid surface materials</strong></td>
</tr>
</tbody>
</table>
| **Environmental performance** | - Low-emitting interior building materials, furnishings and finish systems.  
- Recyclable materials. Could be reuse and repair. |

**Evershine Corporation Pte. Ltd.**

19 Gul Way, 629195, Singapore  
Tel (65) 6897 8888  Fax (65) 6897 8138  
E-mail info@evershine.com  
URL http://www.evershine.com  

<table>
<thead>
<tr>
<th>EP-9-034</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>L'earth Oxo-Biodegradable Drinking Straws</strong></td>
<td><strong>straws</strong></td>
</tr>
<tr>
<td><strong>Environmental performance</strong></td>
<td>Degrades with presence of UV, thermal and oxidation. Environmentally friendly and good transparency. Support governmental. Member of Oxo-biodegradable plastics institute, USA. <a href="http://www.biodeg.org">www.biodeg.org</a></td>
</tr>
<tr>
<td><strong>Product performance</strong></td>
<td>With L'earth it is simple, enjoyable and sustainable embracing an eco-conscious and modern lifestyle.</td>
</tr>
</tbody>
</table>

**L'earth S Pte Ltd**

No. 21 Toh Guan Road East #04 - 09 Toh Guan Centre Singapore 608609,  
608609, Singapore  
Tel +65 90717444  Fax 6565154557  
E-mail sale2@mylearth.com.sg  
URL http://www.mylearth.com.sg

Available in: Worldwide
**World of Laminates**

**Environmental performance**
- Environmentally improved low emission and low toxicity.
- Scrap materials are burned in environmentally safe furnaces to create energy for factory which reduces the consumption of oil and natural gas by 60% to 70%.

**Evershine Corporation Pte. Ltd.**
19 Gul Way, 629195, Singapore
Tel (65) 6897 8888  Fax (65) 6897 8138
E-mail info@evershine.com
URL http://www.evershine.com
URL http://www.evershine.com/index.php?do=toProductListing&id=1

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**Grow vegetables & fruit plants the insecticide-free way**

**Environmental performance**
Water Based farming (Hydroponics) is incrementally seen as an alternative to organic method as a mean to farm vegetables and fruity plants.

Key selling points:
- Insecticide-free
- Eliminate soil-borne diseases in plants
- Grow plants using fertilizer made from natural elements on earth.
- Quality of produces are based on predictable practices of farming

All pointers remove the life- threatening factors that may affect food for people.

**Product performance**
Packed into a turn-key hobby-kit system, fertilizer, seeds, small tools and instruction manual are all available out-of-the-box. Because of it portability, people can begin producing healthy vegetables and fruity plants both in urban and non-urban settings.

**Beats And Pulses Pte Ltd**
20 Maxwell Road, 069113, Singapore
Tel 65-9671-4908
E-mail pengyeow@beatsandpulses.com
URL http://www.BeatsAndPulses.com
URL http://www.HighValueCrops.com

Available in: Southeast Asia
**Eco-product // Others**

<table>
<thead>
<tr>
<th>EP-9-037</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Industrial hot water supply equipment &quot;Eco-cute&quot; contributing to CO\textsubscript{2} emission reduction</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Environmental performance**

Unimo A/W is a high efficiency heat pump hot water using natural refrigerant CO\textsubscript{2}.

Unimo’s ecological footprint is minimal compared to a combustion boiler type hot water unit, the cost generating hot water is one third, saving energy and reducing CO\textsubscript{2} emissions to almost half. This versatile unit has various commercial and industrial applications with its built-in control system operating the hot water storage, heat retention and hot water supply to achieve high efficiency across various operating conditions and throughout the year.

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**Mayekawa Mfg.Co.,Ltd.**

3-14-15, Botan, Kotou-ku, Tokyo, 135-8482, Japan  
Tel 81-3-3642-8181  Fax 81-3-3643-7094  
E-mail public@mayekawa.co.jp  
URL http://www.mayekawa.co.jp

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Available in: Japan
Eco-services

1 Product-related services  
(maintenance, upgrading, repair/reform)
2 Reuse and recycling services  
(collection, etc.)
3 Outsourcing services  
(waste disposal, control of hazardous items, chemical treatment, facility management)
4 Management-related services  
(consulting, accreditation, analysis, evaluation, etc.)
5 Others  
(e-commerce, eco-tourism, hotels, information transfer, etc.)

In the Eco-products Directory 2012, “eco-services” refer not only to “technological improvements” but also to “ways to use products” and “environmental management” as well as “mechanisms that enable environmental impact reduction through financial products.” Typical eco-services include vehicle sharing, where, for example, 10 people share one vehicle instead of each driving his/her own. This results in fewer vehicles on the road, thus reducing the environmental impact of travel considerably. As another example of eco-service, regular maintenance and upgrading can be performed on conventional products so that they can be used longer. In this directory, “eco-services” also refer to “eco-funds where investments are made in business firms with excellent performance in caring for the environment.”

The technological development of eco-products normally requires time and money. However, eco-services often only require good ideas to promote environmental impact reduction. Eco-services have not yet been widely recognized by consumers. A system should be developed to publicize the availability and advantages of eco-services so that they permeate society, encouraging further environmental impact reduction.
Eco-services // Product-related

ES-1-001

Product-related

**Mitsubishi Factory Automation Energy Management Solution**

**Environmental performance**

The solution introduced e&eco-F@ctory realizes production efficiency in the standpoint of energy consumption with four merits.

1. Detection of waste of industrial operation
2. Detection of variation in Quantity
3. Preventive maintenance of productive facilities
4. Calculation of detailed manufacturing costs

**Product performance**

e&eco-F@ctory proposes four solutions for productivity improvement with Energy information.

1. Measurement products
2. Visualizing products
3. Energy saving products
4. Energy saving application products

**Mitsubishi Electric Corporation**

2-7-3, Marunouchi, Chiyoda-ku, Tokyo, 100-8310, Japan
Tel +81-3-3218-9024    Fax +81-3-3218-2465
E-mail eqd.eco@pj.MitsubishiElectric.co.jp
URL http://global.mitsubishielectric.com/index.html

Available in: Worldwide

ES-1-002

Product-related

**A COMPACT EASY-TO-USE CARBON FOOTPRINT ANALYSIS SOFTWARE FOR PACKAGING**

**Environmental performance**

Carbon footprint analysis software for packaging (CFPack) can be applied for the designer and producer to indicate where the hotspot is, and subsequently to select the proper GHG reduction strategies.

**Product performance**

Carbon footprint analysis software for packaging (CFPack) is developed by using MS Excel Visual Basic and the user can either select default data or manually enter data relating to raw materials and energy consumption, transportation and disposal type in order to calculate the total CO2 equivalent (kg CO2eq).

**Mahidol University and National Metal and Materials Technology Center**

114 Thailand Science Park, Phahonyothin Rd. Klong 1, Klong Luang, Pathumthani, 12120, Thailand
Tel 6625646500    Fax 6625646400
E-mail premrudk@mtec.or.th
URL http://mtec.or.th
URL http://thaigdn.net

Available in: Thailand
ES-1-003

**Product-related**

**parts, attachments and accessories of bicycles**

**emeters**

**Environmental performance**

By cyclometer "emeters" and cycling SNS "emeters web" consumer may become more consciously aware of eco - a part of daily life. "Emeters web" converts bicycle running distance to "eco point". It means CO₂ emitted from vehicle per each 4.3km is about 1kg which is equivalent to 1 LEAF obtained by bicycle for the same distance. The amount of LEAF reflects contribution to global environment quantitatively.

"In case that fuel consumption of a vehicle is 10 km/L.

**Product performance**

Japan first cycling SNS "emeters web" is a service used together with cyclometer "emeters". Daily running distance and time, speed, accumulated distance, calories consumed can be measured and recorded by "emeters". User of this service may manage data obtained from "emeters", and also communicate with other registered user. As of January 25, 2012, over 11,200 people have registered to this site, totaling a mileage of 29.4 million km. This distance is equivalent to traveling around the globe 700 times by bicycle, a means of transportation without CO₂ emissions, basically contributing to the environment. Communities built within the site now exceed over 430, and customers are actively broadening their activities.

**Bridgestone Cycle Co., Ltd.**

1-1 Nakazuma 3-chome, Ageo, Saitama Pref, 362-0072, Japan
Tel +81-48-773-2221  Fax +81-48-775-2299
URL http://www.bscycle.co.jp/

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ES-1-004

**Product-related**

**Solar Power Generation System Integration**

**Environmental performance**

Compared to other renewable energy sources, solar power systems have made the most progress technologically and commercially, and play an important role in the creation of a low carbon society. ORIX offers one-stop service covering solar power system procurement, installation, maintenance and recycling. Specific examples include:

- Solar panel and peripheral device procurement
- Direct sales to corporate clients or distributors by capitalizing on ORIX’s sales network
- Offering leases, hire-purchase and rental
- Creation of a network of contractors for installation and construction
- Promoting the reuse and recycling of used panels
- Program to promote the popularization of solar power systems in conjunction with local governments in Japan

**ORIX Corporation**

12-15 Nihombashi-kobunacho, Chuo-ku, Tokyo, 103-0024, Japan
Tel +81-3-6667-2263  Fax +81-3-3249-1792
URL http://www.orix.co.jp/grp/en/

Available in: Japan, Asia
Various surface treatment technologies are applied to molds for extending their lives. Recently growing environmental awareness has resulted to change the type of lubricants along with other drastic modifications and has shortened the operating lifetime of molds. In an effort to improve their lifetime, Hitachi Tool Engineering developed "the TRIBEC™ Series". By identifying the necessary performance attributes of each application based on extensive analysis on mold abrasion over many years, Hitachi Tool Engineering has achieved high-performance surface treatment of molds that is operating-environment specific. "The TRIBEC™ Series" provides protection for molds used even in harsh conditions where environmentally conscious lubricating methods are used. In addition, because "the TRIBEC™ can suppress with minimal abrasion, the mold enables reuse by applying it again after polishing.

Hitachi Tool Engineering, Ltd.

SEAVANS North Building, 1-2-1, Shibaura, Minato-ku, Tokyo, 105-0023, Japan
Tel +81-3-6858-2204 Fax +81-3-6858-2229
URL http://www.hitachi-tool.co.jp/e/index.html
URL http://www.hitachi-tool.co.jp/j/products/index_e.html
URL http://www.hitachi-tool.co.jp/e/environment/index.html

Available in: Worldwide (Except for Iran)
**ES-2-001  Reuse and recycling**

**Remediation system of PCB contaminated soil**

**Environmental performance**
- Remediation plant of PCB contaminated soil operates as it meets the demand of society to contribute its safety.
- The treated soil is recycled as cement materials.

**Product performance**
- GEOSTEAM™ method is received evaluation of Practical level by the public proof examination of the Ministry of the Environment.
- Equipment : 11,000/year
- In July, 2010 : Permission was acquired as certified contaminated soil treatment plant in compliance with Japan’s Soil Contamination Countermeasures Law.
- Supports it in total from Investigation and Analysis to Purification.

*1 :GEOSTEAM is a registered trademark of Toshiba.

**TOSHIBA CORPORATION Social Infrastructure Systems Company**

1-1, Shibaura 1-Chome, Minato-Ku, Tokyo, 105-8001, Japan
Tel +81-3-3457-4844

**ES-2-002  Reuse and recycling**

**Gasification Furnace**

**Environmental performance**
ORIX Environmental Resources Management operates the core zero-emission plant at the Sai-no-kuni Resources Recycling Facility in Yorii-machi, Saitama Prefecture through a PFI partnership. Using the latest thermal decomposition and gasification methods, it recycles waste without releasing soot or airborne ash.
The plant processes both industrial waste and household and non-industrial waste for local governments. Waste is processed and converted into recyclable slag, metal, metallic hydroxides, industrial salt and synthetic gas, which is used as an efficient fuel to generate electricity. Processing 450 tons of waste daily, it has one of the largest private-sector volumes in Japan. The defining feature is processing waste at roughly 2,000°C for near total recycling. In addition, the surrounding area is protected by self-regulations to control dioxin emissions to 1/10 of the legal limit.

**ORIX Environmental Resources Management Corporation**

12-15 Nihombashi-kobunacho, Chuo-ku, Tokyo, 103-0024, Japan
Tel +81-3-6667-2280   Fax +81-3-3249-1975
URL http://www.orix.co.jp/grp/en/

Available in: Japan
### MOTTAINAI Campaign

**Environmental performance**

The "MOTTAINAI" Campaign got its start when Kenyan Nobel Peace Prize laureate Wangari Maathai proposed that the Japanese expression "mottainai" be used as the keyword for environmental conservation throughout the world. The movement focuses on putting the 3R's into practice: reducing waste, reusing limited resources efficiently and recycling resources. In keeping with the MOTTAINAI business philosophy, corporate partners will donate part of the profits earned from the sale of licensed products to the pro-afforestation Green Belt Movement founded by Maathai to prevent desertification caused by the destruction of forests.

**Mottainai Campaign**

Minamiazabu Minatoku Tokyo, 106-0047, Japan  
E-mail info@mottainai.info  
URL http://mottainai.info/  
URL http://mottainai-shop.jp/  
URL http://mottainai.info/english/

### ECOCIRCLE™ World's first totally closed-loop recycling system for polyester

**Environmental performance**

The closed-loop recycling system of ECOCIRCLE™  
- will produce no waste  
- will suppress petroleum consumption  
- will significantly reduce CO2 emissions and energy consumption

**Product performance**

ECOCIRCLE™ is an advanced system that turns polyester products back into highly pure polyester raw material (99.99%). By separating additives and coloring agents, purity equivalent to raw material produced from petroleum can be achieved.  
ECOCIRCLE™ is a trademark of Teijin Fibers.

**Teijin Fibers Limited**

6-7, Minami-hommachi 1-chome, Chuo-ku, Osaka, 541-8587, Japan  
Tel 0088-22-0175  
E-mail tfj0604@teijin.co.jp  
URL http://www.ecocircle.jp/index_e.html
## ES-2-005

### Tungsten Recycling System for Carbide Cutting Tools

**Environmental performance**

Tungsten is a refractory metal in its property, and tungsten carbide has high hardness at high temperature and is used for the cemented carbide cutting tools which are indispensable to metalwork a variety of parts and components in automobiles, household electric appliances, and other industries. Tungsten is also known as one of the rare metals, and its resource in the world is very limited. Tungsten materials processed by the conventional recycling method are used in limited application areas because of its insufficient quality. MITSUBISHI MATERIALS group has developed a new recycling method to recycle tungsten, while ensuring the high quality of recycled tungsten.

**Product performance**

At present, we are the only manufacturer that can recycle used cemented carbide by metallurgical refining process. We recycle tungsten from used cemented carbide tools and alloys collected in the manufacturing process.

### JAPAN NEW METALS CO., LTD

1-6-64 Sennari-cho, Toyonaka, Osaka, 561-0829, Japan
Tel +81-6-6333-1171  Fax +81-6-6331-5358
URL http://www.jnm.co.jp/eng/index.html

Available in: Japan

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## ES-2-006

### Retread tires for trucks and buses

**Environmental performance**

With the Bridgestone Bandag retreading method, the CO₂ emission and energy consumption during tire manufacturing process can be significantly reduced along with scrap tire reduction. In order to maximize the value of casing and reusing efficiency, Bridgestone provides high quality durable new tire which can be reused as retread casing. Bridgestone will make continuous effort by expanding retread tires which will contribute in reducing the transportation costs for trucking industry and environmental conservation for the society. Furthermore Bridgestone provides ECOPIA lineup in retread products reduces the CO₂ emission and energy consumption at the tire manufacturing stage and at tire operation.

### Bridgestone Corporation

10-1, Kyobashi 1-chome, Chuo-ku, Tokyo, 104-8340, Japan
Tel +81-3-3563-6082  Fax +81-3-3563-1165
URL http://www.bridgestone.com

Available in: Worldwide

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The prices of metal resources, including rare metals used in electronics and batteries, are rising due to shortages in supply. This has increased the need for recycling, highlighting so-called urban mines. In order to conduct effective recycling of such resources, it is first necessary to develop systems through which these resources can be recovered from across Japan in an appropriate and affordable manner.

ORIX Eco Services Corporation (OESC) assumes a central role in providing these services, supporting customers by selecting processing companies, arranging transportation, appraising items to be sold, proposing cost reductions and offering assistance with complex filling processes associated with proper waste disposal. Through these efforts, OESC is working to smooth the collection process for unnecessary items and help to promote recycling and prevent improper waste processing.
Eco-services // Outsourcing

ES-3-001

Water-saving flushing system for newly built hot and cold water pipes

Environmental performance
The amount of wash water used in the flushing for newly made hot and cold water pipes is significantly reduced using a transmission barrier filter. At the same time, the number of working hours involved in filling pipes with water are also reduced by using a vacuum pump. The flushing method for hot and cold water pipes conserves resources by significantly reducing the volume of wash water used as well as the number of working hours involved. The technique is expected to be used in cogeneration systems for district cooling and heating and for pipes to cool large-sized machinery.

Product performance
Fewer frequencies of water changes needed: conventionally, 50 to 100 t of wash water are required to flush a pipe with a capacity of 10 t, but the new method takes only about 20 t to complete washing.

NIHON MIZU-SHORI KOUGYOU CO., LTD.
8-14 Sugahara-chou, Kitaku, Osaka, 530-0046, Japan
Tel +81-6-6363-6330 Fax +81-6-6363-6372
E-mail mizushori@nifty.com
URL http://www.mizu-shori.com

Available in: Japan, Asia

ES-3-002

An environmentally friendly, reliable data erasure service

Environmental performance
This is an environmentally friendly data erasure service with the following characteristics:
1. Data media are heated and carbonized and the data is then erased.
2. Combustion does not occur since oxygen is not used, thereby significantly reducing CO₂ emissions (compared with crushing and combustion after data erasure using strong magnetism).
3. The original materials (e.g., metal and fuel carbide) are both recycled.
4. External air pollution is prevented through the use of exhaust gas detoxification and deodorization devices.
5. Carbon offsets are purchased to compensate for the CO₂ discharged during the operation of this service.
6. Carbon offset and work completion certificates are issued.

Product performance
Completely erases data on magnetic tapes, optical discs, floppy disks and hard disks at a location designated by the client, enabling protection of information, the environment and customers.

Imation Corp. Japan
Aoyama Oval Building, 52-2, Jingumae 5-chome, Shibuya-ku, Tokyo, 150-0001, Japan

Available in: Japan
## E&E Solutions Inc.

**ES-3-003**

### Environmental Due Diligence

- **Environmental performance**
  - E&E Solutions has conducted more than 1,000 environmental due-diligence projects worldwide.
  - We also conduct site assessments to evaluate project-site conditions in accordance with protocols established by the America Society for Testing and Materials (ASTM). Our engagements range from standard methods to custom-designed investigations.

### E&E Solutions Inc.

AKIHABARA UDX BLDG., 14-1, SOTOKANDA 4-COHME, CHIYODA-KU
TOKYO, 101-0021, Japan
Tel +81-3-6328-0080  Fax +81-3-5295-2051
URL http://www.eesol.co.jp/en

Available in: Worldwide

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## E&E Solutions Inc.

**ES-3-004**

### Energy Solutions and GHG Consulting

- **Environmental performance**
  - We provide kind of services on Green House Gas (GHG) management and carbon offset, including technical support in development of renewable energy, survey on planning and proposing GHG emission reduction strategies and solutions, support in registration of Clean Development Mechanism (CDM) and Joint Implementation (JI) projects.

- **Product performance**
  - Feasibility study of renewable energy project, Investigation of Wind-Energy, simulation, Technical/ Market research on GHG reduction technologies, Support for CDM/JI project, business climate regarding post-Kyoto Protocol, Support for NAMA (Nationally Appropriate Mitigation Action) / bilateral credit, Survey on GHG emission sources, GHG monitoring and reporting services

### E&E Solutions Inc.

AKIHABARA UDX BLDG., 14-1, SOTOKANDA 4-COHME, CHIYODA-KU
TOKYO, 101-0021, Japan
Tel +81-3-6328-0080  Fax +81-3-5295-2051
URL http://www.eesol.co.jp/en

Available in: Worldwide
**ES-4-001**

**Management-related**

**data processing and information services**

**Data Collection, Operation and Analysis**

Support Software SLIMOFFICE/SLIMOFFICE EX

### Environmental performance

Software to support the collection, operation and analysis of data on the environmental performance (environmental performance results) of organizations.

This product is useful in creating ISO 14001 support, environmental accounting, environmental report and initiative promotion plans to prevent global warming.

Since various ordinances, regulations and controls (revised Law Regarding the Rationalization of Energy Use is covered) are also available, this software has functions to make environmental information visible in order to increase the value of the company by making reduction plans and conducting environmental analysis management.

### Product performance

Environmental management information system "SLIMOFFICE EX" is software exclusively for the total management and analysis of companies. The software supports everything from the collection of environmental-performance data to the environmental accounting of organizations.

Environment-related information is collected and analyzed efficiently from various bases to highlight the environmental performance of organizations. Template-ledger sheets for environmental accounting are fitted as standard, enabling users to introduce environmental management easily.

This product can be utilized to create ISO 14001 support, environment accounting, environmental reports and initiative promotion plans to prevent global warming. Various ordinances, regulation and controls (revised Law Regarding the Rationalization of Energy Use supported) are also available.

**Fujitsu Limited**

Shiodome City Center, 1-5-2 Higashi-Shimbashi, Minato-ku, Tokyo, 105-7123, Japan


Available in: Japan

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**ES-4-002**

**Management-related**

**data processing services**

**PLEMIA/ECODUCE**

### Environmental performance

The product makes it possible to save energy for the enormous works which relate to the business: designing, supplying, information collecting and offering. The main feature is as follows.

1. "Design for Environment (DFE)" is realized. Constituent chemical substances are summarized every product, every unit, on the basis of the parts data table. Compliance with the acts of RoHS, REACH, ELV, etc and with the regulation of company is possible.

2. The efficiency of the inquiry-answer business has been enhanced. The process from the inquiry request to the answer has been unified. It has become possible to carry out the survey business for clients step by step, while confirming the progress. Input-output by JPG, AIS data files and output by IDMS (XMS) data file is possible.

**Fujitsu Limited**

Shiodome City Center, 1-5-2 Higashi-Shimbashi, Minato-ku, Tokyo, 105-7123, Japan

Tel: +81-44-754-3413  Fax: +81-44-754-3326


Available in: Japan
McConcierge is a business package produced for companies in the processing industry, which totally manages raw and component materials of chemical goods, physical-chemical data and safety-related information on laws and regulations. Since 2001 it has been compulsory to attach MSDS (Material Safety Data Sheet) to chemical products, and MSDS and labels have been required to correspond to GHS since 2007. In addition, the PRTR Law (Law Concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management), Industrial Safety and Health Act and Poisonous and Deleterious Substances Control Act were strengthened in 2007, forcing companies to follow the laws and acts. This system allows companies to conduct total management of GRC on the safety of chemical products as part of their CSR activities.

**Product performance**

*Information on the dangerousness and harmfulness of chemicals contained in chemical material products to people and the environment are totally managed.*

*Chemical material products are automatically classified according to their dangerousness and harmfulness based on the international rules on classification and indication on chemicals, the Globally Harmonized System of Classification and Labeling of Chemicals.*

*Information required to use products safely is outputted in the form of the Chemical Material Safety Data Sheet, etc.*

**Fujitsu Limited**

Shiodome City Center, 1-5-2 Higashi-Shimbashi, Minato-ku, Tokyo, 105-7123, Japan

[URL](http://www.fujitsu.com/global/)

[URL](http://www.fujitsu.com/global/about/environment/communication/report/)

Available in: Japan

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**Total Building Management System Futuric/SX Series**

The building management system Futuric/SX series is building automation (BA) systems to collectively manage and control information about electricity supply, air-conditioning, lighting, and crime/disaster prevention, while sharing information with users.

For the protection of the environment and conservation of energy, facility data, such as air-conditioning data, are transmitted to servers and remote PCs in cooperation with BEMS (Building and Energy Management System) to maintain the optimum operating conditions. The system is used to tally up accumulated energy data in order to visualize the amount of CO₂ and environmental load with the aim of supporting efforts to reduce CO₂ emissions.

**Fujitsu Limited**

Shiodome City Center, 1-5-2 Higashi-Shimbashi, Minato-ku, Tokyo, 105-7123, Japan

[URL](http://www.fujitsu.com/global/)

[URL](http://fenics.fujitsu.com/products/futuric/)

[URL](http://www.fujitsu.com/global/about/environment/communication/report/)

Available in: Japan
**Eco-services // Management-related**

### ES-4-005  Management-related

**Document Solution "LIBINITY"**

#### Environmental performance

"LIBINITY" is an unified brand of the document solution of Hitachi Solutions, Ltd. It reduces the consumption of the paper, which leads to the reduction of the CO₂ emission associated with the transportation of the paper by 42.3%. This reduction is achieved by replacing distribution of the conventional paper with information sharing on the network.

*It is a value calculated in our model case.

#### Product performance

"LIBINITY One" is next-generation document management system. It adopted Rich client technology with realizing high user interface, and it greatly improved usability.

"LIBINITY Millemasse" is a high-performance filing system to keep a large quantity of documents and images for unification. It easily realizes high document management at a low cost.

**Hitachi Solutions, Ltd.**

4-12-7, Higashishinagawa, Shinagawa-ku, Tokyo, 140-0002, Japan
Tel +81-3-5780-2111
URL http://www.hitachi-solutions.com
URL http://www.hitachi-solutions.co.jp/libinity/
URL http://www.hitachi-solutions.com/company/csr/communication/#report

Available in: Japan, China

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### ES-4-006  Management-related

**Energy management system "ECOPOMPA"**

#### Environmental performance

"ECOPOMPA" is the partner-service that can save energy on manufacturing operations and business management by IT technology. There are three elements to efficiently provide support services of energy-saving for offices, factories and retail stores; visible, understandable and improvable.

#### Product performance

3 elements:
- Visible : makes it easier to understand and to act for energy-saving by collecting and analyzing the power consumption in each branches with wireless sensors, which are shared between head office and branches.
- Understandable : indicates the alert signal when power consumption exesses the target level. At the same time, it shows successful examples cases and the problems of branches, which helps to reduce power consumption.
- Improvable : By using "ECOPOMPA", it helps to raise employees' energy-saving awareness and you can get knowhow and effective cases for energy-saving.

**Hitachi Consumer Electronics Co.,Ltd.**

Shin-Otemachi Bldg. 2-1, Otemachi 2-chome, Chiyoda-ku, Tokyo, 100-0004, Japan
Tel +81-3-4232-5622  Fax +81-3-4232-5660

Available in: Japan
Eco-services // Management-related

ES-4-007  Management-related
energy savings

ecoFORTE Global (Environment Energy Management Service)

Environmental performance
The Carbon Disclosure Project (CDP) has been increasing the number of scores disclosed of the top global companies, and the laws and regulations is becoming tighten every year globally. This background has been pushing forward global companies to higher their level of environment and energy data management, and companies are struggling to find their way to manage their data with efficiency and accuracy. ecoFORTE Global enables global companies to lower their risk in the management workflow, and higher their corporate value.

Product performance
ecoFORTE Global is a cloud based solution, which supports global companies and municipals to manage their environment and energy related data by facility units, and enables to forecast their emissions and manage initiatives.

ITOCHU Corporation
5-1, Kita-Aoyama 2-chome, Minato-ku, Tokyo, 107-8077, Japan
Tel +81-3-3497-2408  Fax +81-3-3497-4181
E-mail support01@ecoforte.jp
URL http://www.itochu.co.jp/en/
URL http://www.ecoforte.jp/
URL http://www.itochu.co.jp/en/csr/

Available in: Japan, Asia, Oceania, ASEAN, Indonesia, Singapore, Thailand, Philippines, Malaysia, Mexico, China, Tokyo Metropolitan Area

ES-4-008  Management-related
energy savings

ecoFORTE EMS (Energy Management Service)

Environmental performance
ecoFORTE EMS use computer-aided tools to monitor the energy consumption (electricity, gas and other utilities) of manufacturing plants, office buildings or stores, and to propose business solutions to manage and reduce energy consumption and achieve energy savings.

ITOCHU is using software development technology and telecommunication technology built up in its ICT business to develop more sophisticated center systems capable of offering wholly integrated EMS, covering the measurement and control of air-conditioning, lighting and ICT equipment power consumption and the proposal of energy-saving solutions.

Product performance
ecoFORTE EMS is a cloud type energy saving support service which makes it possible to measure the energy consumption of an entire building and control air-conditioning and lighting equipment easily.

By implementing the expertise in the measurement and control of air-conditioning systems and other equipment into ecoFORTE EMS, it improves and accelerates the development of extendible cloud-type center systems that can be adapted to suit diverse customer equipment and energy-saving requirements.

ITOCHU Corporation
5-1, Kita-Aoyama 2-chome, Minato-ku, Tokyo, 107-8077, Japan
Tel +81-3-3497-2408  Fax +81-3-3497-4181
E-mail support01@ecoforte.jp
URL http://www.itochu.co.jp/en/
URL http://www.ecoforte.jp/
URL http://www.itochu.co.jp/en/csr/

Available in: Japan, Asia, Oceania, Southeast Asia, Middle East, ASEAN, Indonesia, Singapore, Thailand, Philippines, Malaysia, Republic of Korea, Taiwan, Rep. of China, China, Tokyo Metropolitan Area
Currently, the majority of streetlights, outdoor security lights, park lights, etc. in widespread use in Japan can only be switched on and off using a timer or illuminance sensor. Illumination cannot be finely adjusted to the surrounding environment, weather, or seasons, and so such lights remain switched on continuously with a fixed illuminance. Further, since a timer or illuminance sensor is required to switch the lights on and off, and a late stage of the lamp life time may result in the lights being left on even during the daytime, which is an issue that needs to be resolved. Recently in particular, as part of the current energy saving measures, initiatives to thin street lighting have been proposed. However, there are those who question this approach from the perspective of safety and security. ecoFORTE Streetlight utilizes the IT technology to answer these questions.

The ecoFORTE Streetlight solution consists of a power line communications (hereinafter “PLC”) compatible communications apparatus that has PLC capability installed on each streetlight, which transmits and receives data through the already established power line infrastructure. This enables the remote fine-tuned adjustment and control of streetlights according to the environment, without laying a new communications network, helping to reduce the amount of energy consumed. Not only by accurately measuring power consumption, accumulated lighting time, but also by automatically identifying lamp failures and monitoring, and so forth, the system can also suppress power consumption and the volume of carbon dioxide emissions, as well as operate, maintain, and control street lighting more efficiently (smart street lighting).

**Environmental performance**

**Product performance**

ITOCHU Corporation

5-1, Kita-Aoyama 2-chome, Minato-ku, Tokyo, 107-8077, Japan

Tel +81-3-3497-2408  Fax +81-3-3497-4181

E-mail support01@ecoforte.jp

URL http://www.itochu.co.jp/en/

Available in: Japan (Kanto, Chubu, Kinki, Chugoku, Shikoku, Tohoku, Aomori, Akita, Aichi, Shizuoka), Asia, Oceania, ASEAN, Indonesia, Singapore, Thailand, Philippines, Malaysia, Mexico, Republic of Korea, Taiwan, Rep. of China (Shanghai, Beijing, Guangzhou, Hong Kong, Shenzhen, Chongqing, Wuhan, Nanjing), Tokyo Metropolitan Area

Digital Climate Controller

This device control the temperature, Humidity of air and soil, condition of outdoor of green house, light and water for the best condition.

**Environmental performance**

**Product performance**

Oranj Data Mining Co.

No. 135 -Sheikh Bahaei Building - Isfahan Science & Technology Town (ISTT) - Isfahan University of Technology Blvd. - Isfahan, Islamic Republic of Iran

Tel 0098-311-3869516  Fax 0098-311-3869516

E-mail oranj-co@istt.ir

URL http://www.oranj.ir

Available in: Middle and Near East
ES-4-011  Management-related

Greater "Visibility" and Automatic Control of Electric Power

Environmental performance
Ubiteq offers comprehensive energy conservation solutions that make electric power usage data more "visible" and offer automatic power control through Ubiteq Green Services (UGS). These solutions link an office’s lighting, air-conditioning and security and equipment to its IT systems to provide greater "visibility" of electric power usage data. At the same time, they offer automatic control functions in which an email notification is sent to related managers when energy usage approaches a level predetermined by the customer, and even include a function that allows lighting and air-conditioning to be shut down automatically in the event that energy usage exceeds this level. The settings for these systems can be adjusted via the internet or manually.

Ubiteq, INC.
6th Floor, Gotanda Nt Building 1-18-9 Nishigotanda, Shinagawa-ku, Tokyo , 141-0031, Japan
Tel +81-3-5487-5560  Fax +81-3-5487-5561
URL http://www.ubiteq.co.jp/index-e.html

ES-4-012  Management-related

A library system "Livre"

Environmental performance
By using "Livre", paperless of the books card and the management ledger and efficiency improvements of the clerical work are achieved. Compared with the system unavailable (operation with paper), we can reduce CO2 of 66.6%.

Product performance
"Livre "is library system, which Hitachi Solutions, Ltd. offers.
- Enable easy operation for the loan and the return of the library book.
- Enable quick search for books.
- Provide variety of statistics associated with the library operation.

Hitachi Solutions, Ltd.
4-12-7, Higashishinagawa, Shinagawa-ku, Tokyo, 140-0002, Japan
Tel +81-3-5780-2111
URL http://www.hitachi-solutions.com
URL http://www.hitachi-solutions.co.jp/lvr/
URL http://www.hitachi-solutions.com/company/csr/communication/#report

Available in: Japan
**Eco-services // Management-related**

### ES-4-013

**Management-related package software**

**Bioinformatics Software for DNA/RNA/ Amino Acid Sequence Analysis**

**Environmental performance**

DNASIS Pro reduces the man-hour by 78% by adding the coordinated function with the reagent order site, and contributes to energy saving.

**Product performance**

Life science research is making great advances in such broad applications as drug discovery, food safety and environmental conservation. DNASIS Pro bioinformatics software contributes to life science research by helping scientists be more productive. DNASIS Pro lets researchers edit, annotate and analyze DNA, RNA and amino acid sequences. It includes a comprehensive set of analytical tools that can be expanded with optional homology search, multiple alignment, and base calling and sequence assembly modules. Its unique, customizable features are designed to save researchers time and accelerate life science research.

**Hitachi Solutions, Ltd.**

4-12-7, Higashishinagawa, Shinagawa-ku, Tokyo, 140-0002, Japan
Tel +81-3-5780-2111

Available in: Japan, North America

### ES-4-014

**Management-related package software**

**Agricultural Information Management System: GeoMation Farm**

**Environmental performance**

Remote sensing technology can judge the percentage of dryness of the ears of wheat. By using this information, farmers can harvest the enough dry wheat according to the priority and this lead to the energy-saving drying. According to the evaluation result by SI-LCA index, saved energy for drying wheat and increasing efficiency of production control by using GeoMation Farm is equivalent to reduction of CO₂ emission by 33%.

**Product performance**

1) By analyzing the relation between fertilizer and quality/quantity of the crop, farmers can judge the suitable amount of fertilizer. This leads to the low environmental load.

2) By plotting scattering of the outbreak of disease or harmful insect on the farmland map, farmers can prevent and exterminate these pest with low agricultural chemical.

**Hitachi Solutions, Ltd.**

4-12-7, Higashishinagawa, Shinagawa-ku, Tokyo, 140-0002, Japan
Tel +81-3-5780-2111

Available in: Worldwide (Except for Iran)
**Eco-services // Management-related**

### ES-4-015

**Interactive Whiteboards Software: StarBoard Software**

**Environmental performance**
1. Reduce environmental load on people’s transportation to distant place.
2. Reduce paper usage and increase the efficiency of business meeting or school teaching by making written documents on whiteboard reusable as PC data.

**Product performance**
- Improve the PC operation and handwritten input on interactive whiteboard (StarBoard). Enable remote communications between interactive whiteboards by sharing data, interactive writing.
- Express presentation in variegation by many kinds of pens and cooperation with another application. Support Windows 7 64bit and Windows Touch newly. DDC (Digital Data conference) function is available. Three users can annotate simultaneously.

**Hitachi Solutions, Ltd.**

4-12-7, Higashishinagawa, Shinagawa-ku, Tokyo, 140-0002, Japan
Tel +81-3-5780-2111
URL http://www.hitachi-solutions.com/
URL http://www.hitachi-solutions.com/starboard-asia-oceania/sp/
URL http://www.hitachi-solutions.com/company/csr/communication/#report

Available in: Worldwide (Except for Iran)

### ES-4-016

**Life Cycle Assessment Software: Easy-LCA for WEB V5.0**

**Environmental performance**
Easy-LCA is a supporting tool to conduct life cycle assessment (LCA) effectively. It evaluates quantitatively the influence of the product on the environment at the stage of design, and combines scientifically the results with the analysis and improvement of the product. Main features
- The latest database based on the economical statistics table of fiscal year 2000 (published in 2004) has been included.
- Assessment of the discharge of environmental loading is possible according to the distinction of units and parts.
- Comparison of an old product and the new one is possible
- Impact evaluation
- Inventory evaluation of 30 kinds of products including CO₂ / NOₓ / SO₂ is possible.

**TOSHIBA PLANT SYSTEMS & SERVICES CORPORATION**

Muza Kawasaki Central Tower, 1310, Omiya-cho, Saiwai-ku, Kawasaki-Shi, 212-8551, Japan
Tel +81-44-548-7711 Fax +81-44-548-7884
E-mail eco.master@toshiba-tpsc.co.jp
URL http://www.toshiba-tpsc.co.jp/english/company/act.htm

Easy-LCA screens
"Environmental Communications Club" is an environmental educational package for understanding global environmental problems and the negative environmental impact, and for considering the environment. Contents include animation and games. Users can enjoy and learn about environmental issues. These contents are used for study by school children's class trips to the garbage incinerator and the recycling plaza of the municipality.

Environmental performance

Resource Saving:
- With the storage of financial documents in XBRL (\(^1\)) format, you can move toward paperless office environment.
- Making your business activities more efficient:
  - Business rules created with XBRL Formulæ ensure that reporting organizations can fully validate their documents before filing. This reduces time and cost for business reports submission.
  - Information can be automatically extracted from XBRL filings in your business systems. This reduces re-typing errors and makes efficient use of financial information.

\(^1\) The Extensible Business Reporting Language (XBRL) is a royalty-free, open specification to describe financial information for public and private companies and other organizations.

PRODUCT DETAILS

Interstage XWand provides support for all the phases in the financial information lifecycle including the preparation, validation, analysis and dissemination of XBRL reports. A key component of Interstage XWand is its flexible programming interfaces allowing organizations to make XBRL an integral part of their reporting process at the application level. Interstage XWand consists of an integrated set of easy to use tools that allow users to quickly create, analyze, and view XBRL reports.

Fujitsu Limited

Shiodome City Center, 1-5-2 Higashi-Shimbashi, Minato-ku, Tokyo, 105-7123, Japan
URL http://www.fujitsu.com/global/
URL http://www.fujitsu.com/global/about/environment/communication/report/
Eco-services // Management-related

**ES-4-019**

### Systemwalker Desktop Patrol V14g

**Environmental performance**

Systemwalker Desktop Patrol V14g raises PC user's awareness of environment (reduce power consumption) by displaying the estimated amount of consumed power. It also provides functions to encourage PC power saving settings and force users to do it consistently, and allow administrator (management server) to compel the power saving setting without depending on user's moral. Moreover, effects and contribution to environmental conservation by power-saving efforts in organization-wide can be confirmed by auto-created reports. This supports to take new measures in response to situation and business of each branch.

**Fujitsu Limited**

Shiodome City Center, 1-5-2 Higashi-Shimbashi, Minato-ku, Tokyo, 105-7123, Japan


Available in: Japan

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**ES-4-020**

### Systemwalker Runbook Automation V14g

**Environmental performance**

In ICT Systems such as data centers where the energy saving measures are crucial, automatically stopping the servers which are not being used will result in considerable reduce in the energy consumption of entire center. However, stopping the servers safely requires various and specific procedures for each server type (E.g. temporarily stop monitoring the server before turning it off, etc...). Runbook Automation offers the ability to stop and start servers of a data center by automation of workflow. Workflows can have various execution day patterns and flexible schedules for each execution day. As a result, the required manpower for stopping and starting operation of a data center server is reduced by 95% (Fujitsu trial).

**Product performance**

Systemwalker Runbook Automation enables you to create more flexible workflow by including manual confirmation and decision making along with automated procedures on OS, middleware.

**Fujitsu Limited**

Shiodome City Center, 1-5-2 Higashi-Shimbashi, Minato-ku, Tokyo, 105-7123, Japan


Available in: Japan, Europe, North America
### Server Management Software ServerView Resource Coordinator VE

**Environmental performance**

ServerView Resource Coordinator VE realizes the optimum arrangement of virtual servers tailored to business execution status. Approximately 17% of power consumption is reduced with intensive virtual servers by turning off the free servers at night when CPU utilization rates are low.

**Product performance**

* Consolidated operation of multiplatform
  
  Standardized operation and observation that differs by virtual environment and platform prevents complications. Daily operation, such as the starting, rest and rebooting of servers, and indication of server information, can be operated on a single display.

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**Fujitsu Limited**

Shiodome City Center, 1-5-2 Higashi-Shimbashi, Minato-ku, Tokyo, 105-7123, Japan

URL http://www.fujitsu.com/global/


URL http://www.fujitsu.com/global/about/environment/communication/report/

Available in: Worldwide

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### Storage Management Software ETERNUS SF

**Environmental performance**

The Eco Mode function of ETERNUS disk storage systems provides power saving facilities for the disk drives. ETERNUS SF AdvancedCopy Manager and Storage Cruiser apply the power saving features to greatly reduce the power consumption of disk storage system for backup drives that are used infrequently.

For example, about 18% of power saving of an ETERNUS DX80 S2 D2D backup environment is possible. In addition to that, ETERNUS SF Storage Cruiser can visualize power consumption and temperature of disk storage system.

**Product performance**

ETERNUS SF AdvancedCopy Manager provides fast backup/restore and replication by using Advanced Copy Function of ETERNUS disk storage system.

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**Fujitsu Limited**

Shiodome City Center, 1-5-2 Higashi-Shimbashi, Minato-ku, Tokyo, 105-7123, Japan

URL http://www.fujitsu.com/global/


URL http://www.fujitsu.com/global/about/environment/communication/report/

Available in: Worldwide
Eco-services // Management-related

ES-4-023

Management-related
package software services

LCA software "MiLCA: Multiple Interface Life Cycle Assessment"

**Environmental performance**
MiLCA is the LCA software developed by Japan Environmental Management Association for Industry (JEMAI). The previous version of the MiLCA, JEMAI-LCA software, has been available since 2000, and over 1000 copies have been sold, occupying the largest share in Japan's LCA software market. The software is equipped with the following functions:

- A modifiable inventory database containing a wide range of processes with resource consumption and emissions.
- New data adding through a process sheet or visual input output sheet.
- Process tree management.
- Estimation of environmental impact in overseas countries using electricity data and an import model of 200 countries/regions.
- Inventory analysis and impact assessment including the Japanese method.
- Report writing support based on the format outlined in the ISO 14040s specifications.

**Japan Environmental Management Association for Industry (JEMAI)**

2-1 Kajicho 2-chome, Chiyoda-ku, Tokyo, 101-0044, Japan
Tel +81-3-5209-7708  Fax +81-3-5209-7716
E-mail jemai-lca@jemai.or.jp
URL http://www.jemai.or.jp/
URL http://www.milca-milca.net/english/

Available in: Worldwide

ES-4-024

Management-related
wastewater management

Wastewater Treatment Technology-MSABP™, HiPOx™ and ELCAT™

**Environmental performance**
Comprehensive Waste Water Treatment Solutions for water recycle/reuse though our environmentally friendly and advanced technologies

**Product performance**
1) **MSABP™:** Multi-Stage Activated Biological Process with micro-organism food chain
   *No excess sludge, nor its disposal cost (less energy&CO₂)*
   *Capable for treating highly concentrated effluent without dilution*
   *Decomposes hard to decompose effluents; detergents, antiseptics etc*
   *Applicable to food/petro/chemical/pharma industries*
2) **HiPOx™:** Innovative Advanced Oxidation Process (AOP) with hydrogen peroxide & multiple ozone injection
   *Less ozone injection compared to treatment with ozone alone, reducing running costs*
   *Decomposes 1,4-Dioxane, PPCP and EDCs, chlorine-based solvents etc*
3) **ELCAT™:** Consists of 2 stages, Electrolytic and Catalyzed reaction
   *High treatability for toxic, non-biodegradable materials; dye, detergent, phenols etc*

**Teijin Limited**

2-1, Kasumigaseki 3-chome, Chiyoda-ku, Tokyo, 100-8585, Japan
Tel +81-3-3506-4593
E-mail wpt@teijin.co.jp
URL http://www.teijin.co.jp/english/index.html
### ESCO Business

**Environmental performance**
ESCO (Energy Services Company) provides comprehensive services pertaining to building energy efficiency and conserving energy without compromising existing use. ESCO energy cost reductions cover various costs, such as installation of energy-efficient equipment, maintenance and assessment of conservation benefits. Private-sector companies and local governments have embraced ESCO as a means of conserving energy while reducing running costs.

ORIX offers one-stop services from customer energy usage assessments to proposal and implementation of energy conservation solutions. ORIX also provides services tailored to a wide variety facilities. In order to maximize conservation benefits, ORIX selects the best equipment, without being limited to a single manufacturer. ORIX provides ongoing support, such as equipment operation, maintenance, energy conservation assessment and operations consulting.

**ORIX Corporation**
12-15 Nihombashi-kobunacho, Chuo-ku, Tokyo, 103-0024, Japan
Tel +81-3-6667-2261 Fax +81-3-3249-1985

Available in: Japan

### SMBC Environmental Assessment Loan

**Environmental performance**
This Loan provides an environmental assessment for customers. Diagnosis sheets will be presented to customers after the financing to help their effort for environment.
This Loan will support customers’ environmental management.

**Product performance**
The Environmental Assessment Loan uses a proprietary standard defined by SMBC and Japan Research Institute Limited, the think tank of SMFG, and they directly assesses customers based on the standard.
The assessment has seven grading levels, and interest rates for companies that achieve a top-three grading, may be reduced. For more information, please contact the nearest SMBC Corporate Business Office.
*1. Other designated investigations besides the Environmental Assessment are required for this financing.
*2. The composition of finances and mortgages as well as the results of the Environmental Assessment will be taken into consideration for the decision of interest rates.

**Sumitomo Mitsui Banking Corporation**
1-2, Marunouchi 1-chome, Chiyoda-ku, Tokyo, 100-0005, Japan

Available in: Japan
**Mannequin Rental Service**

**Environmental performance**
The Mannequin reusable rental service controls the amount of production, extending the life spans of products and decreasing the environmental burden while promoting “Reuse”.
The company’s nationwide network allows products to be delivered and returned by the shortest distance to customers, reducing the environmental burden in the phase of commodity distribution.

**Product performance**
Mannequins are produced after many processes using clay models. They are produced not only to sell but also to be rented for repeated use.

**HEIWA MANNEQUIN CO., LTD**

1-22-3 Kitaotuka Toshimaku Tokyo, 117-0004, Japan
URL http://www.heiwa-mq.co.jp/

Available in: Japan

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**Eco Green New Year’s Cards (name-printing service)**

**Environmental performance**
In 2008, we initiated a carbon offset business thorough afforestation and launched Green Eco New Years Cards as part of the business. Using part of the proceeds from these sales, we plant trees in Nenga-no Mori (The New Years Cards Forest) in Hokkaido Bihoro town, thereby offsetting approximately five kilograms of CO₂ for every 10 cards. In 2008, 95,000 cards were sold with a projected offset of about 89 tons of CO₂ by the autumn of 2009. In 2009, 200,000 cards were sold with a projected offset of about 200 tons of CO₂ by the November 2010. In 2010, 215,000 cards were sold with a projected offset of about 208 tons of CO₂ by the autumn of 2011.

**Product performance**
We develop environmentally friendly products. In 1988 in Hokkaido, we introduced an on-demand printer that uses only the amount of paper absolutely necessary to print New Year’s cards. In 2004, we launched Cardbox - an e-commerce website for greeting cards and New Year’s cards. Through these efforts, we have extricated ourselves from the conventional flow of business, which is characterized by significant print loss, and succeeded in labor savings.

**Pripress Center Corporation**

2-3, North 2 West 14, Chuo-ku, Sapporo, Hokkaido, 060-0002, Japan
URL http://www.pripress.co.jp/

Available in: Japan
**The series N700 with enhanced energy efficiency**

**Environmental performance**

The Tokaido and Sanyo Shinkansen can be regarded as a transportation mode with more energy-efficient performance (e.g. lower CO₂ emissions per unit carriage of passengers) compared with other transportation modes such as airplanes. The Series N700, newly developed with the three concepts of "The fastest cutting edge rolling stock", "Superior comfort", and "Superior environmental performance", realized further energy efficiency, for example, by reducing air resistance by developing a new nose shape and cover-all hood, and by introducing the body inclining system. The introduction of the Series N700 will improve the environmental superiority and service of the Shinkansen so as to allow more passengers to select and use the Shinkansen thereby contributing to suppressing the burden that the transportation sector as a whole puts on the environment.

**Central Japan Railway Company / West Japan Railway Company**

Central Japan Railway Company
JR Central Towers, 1-1-4, Meieki, Nakamura-ku, Nagoya, Aichi, 450-6101, Japan
URL http://jr-central.co.jp
West Japan Railway Company
4-24, Shibata 2-chome, Kita-ku, Osaka, 530-8341, Japan
URL http://www.westjr.co.jp

Available in: Japan

**Operation of the world's first diesel hybrid railcar**

**Environmental performance**

In July 2007, the world's first diesel hybrid railcars, the Kiha E200 Type, entered service on the Koumi Line. Diesel hybrid railcars operate efficiently by using electricity generated by a diesel engine to charge a battery which reduces emissions and by regenerative brakes, which charge the battery when braking. Efficiency in tests was approximately 20% better than a standard diesel railcar*. The diesel hybrid railcar is quiet when idling at a station (approx. 30dB). Hazardous substances in the exhaust, such as NOx and graphite, are reduced approximately 60%.

*Results are based on test runs on level ground. On the Koumi Line, which has steep grades, efficiency improved by approximately 10%.

**Product performance**

*maximum running speed:100km/h
*passenger capacity:117 (seating capacity 46)

**East Japan Railway Company**

2-2, Yoyogi 2-chome, Shibuya-ku, Tokyo, 151-8578, Japan
Tel +81-3-5334-1122
URL http://www.jreast.co.jp/eco/
**ES-5-007**

### Environmentally Friendly E231 Series

**Environmental performance**
The E231 series reduces operational energy consumption by 50% compared to that of the 103 series, measured between Sep. 1985 and Sep. 1986 on Yamanote line, and in terms of weight, 90% of the E231 series railcar can be recycled. Servicing the Yamanote, Takasaki, Utsunomiya, and other metropolitan lines, the E231 series currently realizes the most environmentally friendly design.

**Product performance**
E231-500 series for Yamanote line
- maximum running speed: 120km/h
- passenger capacity in a train set: 1752 (seating capacity 502)

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**East Japan Railway Company**

2-2, Yoyogi 2-chome, Shibuya-ku, Tokyo, 151-8578, Japan
Tel +81-3-5334-1122
E-mail eco@jreast.co.jp
URL http://www.jreast.co.jp/eco/

Available in: Japan

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**ES-5-008**

### Series E5 Shinkansen

**Environmental performance**
Series E5 Shinkansen trains running at 320km/h realized the same level wayside environmental performance of E2-series trains running at 275km/h which are main Shinkansen trains currently in use. The reasons of them are the smooth body surface by cover-all hood and 15m long nose shape. Due to reducing air resistance by those reasons, the electric consumption of E5-series running at 320km/h is the same that of E2-series at 275km/h.

**Product performance**
Series E5 (10-car sets)
- maximum running speed: 320km/h (after 2012 spring)
- passenger capacity in a train set: 731

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Available in: Japan
### ES-5-010 Others

#### Wood Chip Biomass Power Plant Business

**Environmental performance**

ORIX Group Subsidiary Agatsuma Bio Power Co., Ltd. operates the Agatsuma Biomass Power Plant, a wood chip-fired thermal power station located in Gunma Prefecture. Wood chips are used as fuel to heat a boiler for steam that powers a turbine to generate electricity. Using biomass instead of fossil fuels reduces CO₂ emissions and enables more eco-friendly power generation through thermal recycling technology. The use of biomass also promotes the optimal use of waste wood materials. The generation facilities of this plant have been certified as a green power facility by the Green Energy Certification Center, Japan (GECCJ) of the Institute of Energy Economics, Japan. Electricity generated at the power plant will be certified as green power produced from renewable energy sources. Part of the environmental value added will be converted into certificates and sold as Tradable Green Certificates.

**Product performance**

The Agatsuma Biomass Power Plant has a power generation capacity of 13,600 kW, with annual power transmission of 85 million kWh. Converted to ordinary household electricity use, this equates to the annual power consumption of approximately 24,000 households.

**Agatsuma Biopower Co., Ltd.**

460-1 Okazaki, Higashiagatsuma-machi, Agatsuma-gun, Gunma, 377-0302, Japan


**Available in:** Japan
### Car Sharing

**Environmental performance**

“Car Sharing” is a membership-based car rental system where many individuals share the use of several cars. Car Sharing is cost effective as users pay a fee based on time and distance driven. Car Sharing is expected to reduce the total number of vehicles on the road, leading to lower CO₂ emissions, less traffic and other benefits.

**ORIX Car Sharing Benefits**

- Linking Car Sharing With Trains
- CO₂ emissions is be reduced by using trains for long distance travel and using Car Sharing from the nearest station.
- Facilitating “Eco Drive” with onboard Car Sharing Device
  Each Car Sharing vehicle has an in-vehicle device indicating "fuel consumption" and "CO₂ emission" on the car navigation system after a drive. This promotes drivers’ awareness of “Eco Drive” and helps change driving behavior.
- Active Implementation of Electric and Hybrid Vehicles
  Japan’s largest EV Car Sharing fleet with 25 EVs.

**ORIX Auto Corporation**

3-22-8 Shiba, Minato-ku, Tokyo, 105-8589, Japan  
Tel +81-3-6436-6000  Fax +81-3-6436-6901  

### Rentals of Environment-related Analytical Equipment

**Environmental performance**

ORIX Rentec has enhanced its product lineup and offers rental and used equipment sales of environment-related analytical equipment to be compatible with chemical safety related RoHS and REACH, calls for food safety including pesticide residue, airborne particulates (PM2.5), asbestos, dioxins and PCBs. ORIX Rentec is also aiming to expand equipment for the new energy market such as solar power generators and rechargeable batteries for electric automobiles to reduce the burden on the environment.

**ORIX Rentec Corporation**

2-28-8 Shiba Minato-ku, Tokyo, 105-0014, Japan  
Tel +81-3-3473-7561  Fax +81-3-3473-7549  

**Available in:** Japan, Singapore, Republic of Korea, China
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(as of February 2012)

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Sumitomo Mitsui Banking Corporation

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ORIX Corporation

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Dr. Masamitsu Takaya  Executive General Manager
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Suntory Holdings Limited
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<tr>
<td>Mr. Shingo Sumi</td>
<td>General Manager, Environment Management Department</td>
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<td>Corporate Environment Center, Environmental Management H.Q., Innovation Group</td>
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<td>Sanyo Electric Co., Ltd.</td>
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<td>Mr. Futoshi Abe</td>
<td>Staff Deputy General Manager</td>
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<td>Corporate Planning Department</td>
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<td>JFE Holdings, Inc.</td>
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<td>Mr. Kiyoshi Osaki</td>
<td>General Manager</td>
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<td>Environmental Sustainability Office</td>
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<td>JVC KENWOOD Corporation</td>
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<td>Mr. Takeshi Nishibori</td>
<td>CSR Manager</td>
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<td>General Planning Department</td>
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<td>The Shiga Bank, Ltd.</td>
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<td>Dr. Tatsumi Sato</td>
<td>General Manager</td>
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<td>Global Environmental Management Department</td>
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<td>Shimadzu Corporation</td>
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<tr>
<td>Mr. Tetsuroh Muramatsu</td>
<td>Executive Officer, Group General Manager</td>
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<td>Mr. Teruo Furuyama</td>
<td>Senior Manager Technical Group, Environmental Affairs Division</td>
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<td>Nippon Steel Corporation</td>
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<td>Mr. Yasuhito Hirasima</td>
<td>Manager</td>
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<td>Global Environmental Policy Department</td>
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<td>Seiko Epson Corporation</td>
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<td>Mr. Teruyuki Hayashi</td>
<td>President</td>
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<td>Seibu Landscape Co., Ltd.</td>
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<td>Mr. Masayasu Taniguchi</td>
<td>General Manager</td>
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<td>Environmental Management Group, CSR Department</td>
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<td>Sekisui Chemical Co., Ltd.</td>
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<td>Mr. Masaaki Sasaki</td>
<td>Senior Manager</td>
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<td>Environment Improving Department</td>
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<td>Sekisui House Ltd.</td>
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<td>Mr. Masaru Ihara</td>
<td>Senior Manager</td>
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<td>Environment Center</td>
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<td>Mr. Satoru Fujimoto</td>
<td>Manager</td>
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<td>Global Environment Department</td>
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<td>Daikin Industries, Ltd.</td>
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<td>Mr. Shou Kurasaki</td>
<td>Executive Officer</td>
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<td>Business Promotion Department</td>
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<td>Taiheiyo Cement Corporation</td>
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<td>Mr. Souichi Miyadou</td>
<td>General Manager, Corporate Strategic Marketing Office</td>
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<td>Corporate Strategy Division</td>
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<td>Teijin Limited</td>
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Mr. Kyoji Tomita  Manager  Environment Department  Tokyo Gas Co., Ltd.

Mr. Yoshihiro Kageyama  General Manager  Environment Department  Tokyo Electric Power Company

Mr. Kiyoshi Sanehira  General Manager  Corporate Environment Management Division  Toshiba Corporation

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Mr. Tetsuo Miyazawa  General Manager  Environment Department  Toyo Seikan Kaisha, Ltd.

Mr. Kazuaki Takabayashi  General Manager  Corporate Marketing Planning Department  Toray Industries, Inc.

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Department Manager Environment Promotion Office, CSR Planning
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(as of February 2012)

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Sustainable Management Office, Global Warming Affairs Office, Environmental Management Division, Environmental Management Department
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Ms. Miki Mitsuoka Environmental Planner as Earth Republic General Manager
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Mr. Koichi Yanagita Vice President
Environment and Safety
Kao Corporation

Mr. Kazuki Miyajima Manager
Environment Communication Department, Environment Planning Center, Environment Headquarters
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Mr. Shinichi Saitou Section Chief
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Mr. Yoshitane Hirata  Chief Specialist
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Re-Tem Corporation
Eco-products Directory 2012 Working Group
(as of March 2012)

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Associate Professor  
Faculty of Environmental and Information Studies,  
Tokyo City University

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Vice-Director at secretariat  
Secretariat  
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National Institute of Advanced Industrial Science and Technology(AIST)

Dr. Tateki Mizuno  
Special Researcher  
Society of Non-Traditional Technology (SNTT)

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LCA Development Office  
Japan Environmental Management Association for Industry (JEMAI)

Ms. Hanako Negishi  
EcoLeaf type III environmental labeling program Office  
Japan Environmental Management Association for Industry(JEMAI)

Ms. Takako Tsuzaki  
Eco Mark Office,  
Japan Environment Association (JEA)

Ms. Yumiko Yamashita  
Program Officer  
Industry Department  
Asian Productivity Organization (APO)
Environmental Label Management Organizations
(as of March 2012)

- OK compost : vincotte

- Energy Label : Bureau of Energy, Ministry of Economic Affairs
  http://www.energylabel.org.tw/index_en.asp

- China Environmental Labeling : China Environmental United Certification Center Co., Ltd.
  http://www.sepacec.com/cecen/

- water conservation certification : China Standard Certification Center (CSC)
  http://www.cecp.org.cn/english/domestic.html

- Green Mark / Taiwan Carbon Label / Water Conservation Label :
  Environmental Protection Administration, R.O.C.(Taiwan)
  83, Zhonghua Rd. Sec. 1, Zhongzheng District, Taipei City 10042, Taiwan (R.O.C.)
  Tel: +886-2-23117722

- Green Building Material : The green building material

- The Blaue Engel : RAL-German Institute for Quality Assurance and Certification
  http://www.blauer-engel.de/

- Eco Mark (Japan) : Eco Mark Office, Japan Environment Association (JEAd
  Bakurocho Daiichi BLDG., 1-4-16 Nihonbashi Bakurocho, Chuo-ku, Tokyo, 103-0002 JAPAN
  Tel: +81-3-5643-6255 Fax: +81-3-5643-6257
  E-mail: ecomark@japan.email.ne.jp
  http://www.ecomark.jp/english/
Registered in the GPN Database: Green Purchasing Network (GPN)
Bakurocho Daichi BLDG., 1-4-16 Nihonbashi Bakurocho, Chuo-ku, Tokyo, 103-0002 JAPAN
Tel: +81-3-5642-2030  Fax: +81-3-5642-2077
E-mail: gpn@net.email.ne.jp

BiomassPla / GreenPla: Japan BioPlastics Association (JBPA)
6F Universal Bldg, 5-11Nihonbashi, Hakozakicho,Chuo-ku, 103-0015 Tokyo
Tel: +81-3-5651-8151  Fax: +81-3-5651-8152
E-mail: nfojbpa41@jbpaweb.net
http://www.jbpaweb.net/english/english.htm

J-Moss green marks: Japan Electronics and Information Technology Industries Association (JEITA)
Chiyoda First Bldg.South Wing, 3-2-1, Nishi-Kanda, Chiyoda-ku, Tokyo, 101-0065 JAPAN
http://www.jeita.or.jp/english/

Eco Leaf (Japan) / Carbon Footprint:
Japan Environmental Management Association for Industry (JEMAI)
Mitsui-sumitomo Building 6F/7F, 2-1, Kaji-cho 2 chome, Chiyoda-ku, Tokyo, 101-0044 JAPAN
E-mail: webmaster@jemai.or.jp  E-mail: cfp-team@jemai.or.jp

Thinned Wood Mark: J Forest
Corp Bldg.4F, 1-1-12, Uchikanda, Chiyoda-ku, Tokyo, 101-0047, JAPAN

Butterfly Mark: Japan Waterless Printing Association (WPA)
2-31-14 Kohinata, Bunkyou-ku, Tokyo, 112-0006 JAPAN

Fuel economy sticker / Low emitter vehicle sticker:
Ministry of Land, Infrastructure, Transport and Tourism (MLIT)
2-1-3 Kasumigaseki, Chiyoda-ku, Tokyo, 100-8918 JAPAN

Environmental Technology Verification: Ministry of the Environment of Japan
http://www.env.go.jp/policy/etv/
PEFC Forest Certification: PEFC Asia Promotions
20 Sankyo Bldg 904 3-11-5 iidabashi, Chiyoda-ku, Tokyo, 102-0072 JAPAN
E-mail: info@pefcasia.org
http://www.pefcasia.org/

PET bottle reclaimed product: The Council for PET Bottle Recycling
http://www.petbottle-rec.jp/english/

Energy-Saving Label / Energy star labels / Uniform Energy-Saving Label:
The Energy Conservation Center, Japan
GEO Hatchobori Bldg. 5F, 3-19-9, Hatchobori, Chuo-ku, Tokyo, 104-0032 JAPAN
http://www.asiaeec-col.eccj.or.jp/

Green Energy Mark: The Institute of Energy Economics, Japan (IEE JAPAN)
Sumitomohudousan Higashiikebukuro Bldg 2F, 3-13-2, Higashiikebukuro, Toshima-ku, Tokyo, 170-0013 JAPAN

Fuel-efficient tires: The Japan Automobile Tyre Manufacturers Association, Inc. JATMA
http://www.jatma.or.jp/english/about/

Korea Eco-Label: Korea Environmental Industry & Technology Institute (KEITI)
Korea National Environmental Information Center, 215 Junheung-ro, Bulgwang-dong, Eunpyeong-gu, Seoul, 122-040 Republic of Korea

Mohd Hamim bin Imam Mustain Block 25, SIRIM Complex No.1, Persiaran Dato’ Menteri, Section 2, P.O. Box 7035 40700 Shah Alam, Selangor Darul Ehsan, Malaysia
Tel: +6-03-55446409 Fax: +6-3-55446466
E-mail: hamim@sirim.my
http://www.sirim-qas.com.my/

http://textileexchange.org/

Green Choice Philippines: The Philippine Center for Environmental Protection and Sustainable Development, Inc. (PCEPSDI)
Development Academy of the Philippines Building, San Miguel Avenue, Pasig City, 1600 Philippines
http://www.pcepsdi.org.ph/
The Singapore Green Building Council: Singapore Green Building Council (SGBC)
http://www.sgbc.sg/index.php/green/

Oeko-TexR Label: Secretariat of the Oeko-Tex® Association
Internet: www.oeko-tex.com

Thai Green Label: Thailand Environment Institute
16/151-154, Muang Thong Thani, Bond Street, Pakkred District, Nonthaburi 11120
E-mail: pathom@tei.or.th (Mr. Pathom Chaiyapruksaton)
http://www.tei.or.th/

ARCAT green: ARCAT, Inc.
http://www.arcat.com/

The Compostable Label: Biodegradable Products Institute, Inc.
http://www.bpiworld.org/

CRRC: COOL ROOF RATING COUNCIL
http://www.coolroofs.org/index.html

Greenguard: GREENGUARD Environmental Institute (GEI)

Rainforest-alliance: Rainforest Alliance
http://www.rainforest-alliance.org/
Related Organizations
(as of March 2012)

- **National Productivity Council**
  5-6, Institutional Area, Lodi Road New Delhi, 110003, India
  http://www.npcindia.org/

- **International Green Purchasing Network**
  Cosmos Aoyama, 5-53-67, Jingumae Shibuya-ku, Tokyo 150-0001, Japan
  http://www.igpn.org

- **Federation of Malaysian Manufacturers**
  Wisma FMM, No.3 Persiaran Dagang, PJU 9, Bandar Sri Damansara, Kuala Lumpur, 52200 Malaysia
  http://www.fmm.org.my/

- **Green Purchasing Network Malaysia**
  23-1, Jalan PJU 1/3B, Sunway Mas Commercial Centre, 47301 Petaling Jaya
  Selangor Darul Ehsan, Malaysia
  http://www.gpnm.org/e/

- **Enterprise Promotion Centres Pte Ltd**
  1003 Bukit Merah Central #02-10 Inno. Centre Singapore 159836
  http://www.epc.com.sg/

- **Central Environmentall Authority**
  104, Denzil Kobbekaduwa Mawatha, Battaramulla, Sri Lanka
  http://www.cea.lk/index1.php

- **National Metal and Materials Technology Center**
  114 Thailand Science Park, Paholyothin Road, Klong 1, Klong Luang Pathumthani 12120, Thailand

- **The Industrial Environment Institute**
  The Federation of Thai Industries
  60 New Rachadapisek Road, Klongtoey Bangkok 10110, Thailand