ENVIRONMENTAL REPORT

YKK Group Environmental Report 2003

Seeking harmonization between abundant and healthy lives for all humankind and the environment

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About this report

This report was prepared in accordance with guidelines prepared by the Ministry of the Environment, the Ministry of Economy, Trade and Industry, and the Global Reporting Initiative (GRI) and details corporate activities for the period from April 1, 2002 to March 31, 2003 as well as outlines future objectives.

The report details specific efforts made by the YKK Group in accordance with its four mid-term environmental management guiding principles.

The YKK Group published its first Environmental Report in 2000, making this the fourth such report.

We would like your guidance to improve our future environmental protection activities and environmental reports, so we have included a questionnaire at the end of the report. We would be pleased to receive your candid opinions.

The next publication is scheduled for June 2004.

YKK Group enterprises covered by this report

①Fastening products(Domestic production plants)
Kurobe Plant
Kurobe Makino Plant

②Architectural products (Domestic production plants)
Kurobe Plant (Kurobe Architectural Products Plant)
Kurobe Ekko Plant
Kurobe Ogyu Plant
Namerikawa Plant
Toyama Mizuhashi Plant
Hokkaido Plant
Tohoku Plant
Shikoku Plant
Kyushu Plant
Akita Plant
Tochigi Plant
Ibaraki Plant
Saitama Plant
Chiba Plant
Kanagawa Plant
Keiyo Plant
Niigata Plant
Mie Plant
Shiga Plant
Shizuoka Plant
Ochiai Plant
Yamaguchi Plant
Fukuoka Plant
Kumamoto Plant

③Other enterprises Domestic production plants and research centers
Kurobe Plant (Machinery and engineering, R&D)
YKK Sendai Institute of Material Science and Technology

④ Office
Head office
YKK R & D center
YKK AP branch
Distribution

⑤ Related companies
17 Group Companies

⑥Main overseas production bases (Plants that have already obtained ISO14001 certification)
Shanghai YKK Zipper Co.,Ltd.
YKK Hong Kong Ltd.
YKK Deutschland GmbH.
YKK (U.K.) Ltd.
P.T. YKK Zipper Indonesia Cibitung PPD plant
P.T. YKK Zipper Indonesia
YKK Singapore Pte. Ltd.
P.T. Zipco Indonesia
Dalian YKK Zipper Co.,Ltd.
YKK Taiwan Co.,Ltd.(Fastening Products Division)
YKK Espana S.A.
YKK Egypt S.A.E.
YKK India Pvt.Ltd.
YKK Do Brazil Ltda.
YKK Italia S.p.A.
YKK Zipper Philippines Inc.
YKK France SARL
YKK (Thailand) Co.,Ltd.
YKK Stocko Fasteners GmbH.
YKK Korea Co.,Ltd.
YKK Zipper Shenzhen Co.,Ltd.
YKK Hellas A.E.B.E.
YKK Metal ve Plastik Urunleri Sanayi ve Ticaret A.S.
YKK Canada Inc.
YKK (U.S.A.) Inc.
YKK Southern Africa (Pty) Ltd.
P.T. YKK Alumico Indonesia
YKK Taiwan Co.,Ltd.(Architectural Products Division)
YKK AP America Inc.

* YKKAP: architectural materials product development and sales company

□:Architectural products company/plant
□:Fastening products company/plant
□:Multiple operations, other

◆Applicable range of contents of 2003 environmental report: ①②③④⑤⑥
◆Applicable range of environmental performance data
Energy, water, general waste: ①②③④⑤
Chemical substances, industrial waste: ①②③
Applicable range of environmental accounting: ①②③④

For numerical data about our overseas companies, please see pages 31-32.

Message

Environmental problems, including the increasing difficulties of waste disposal and the deepening threat of global warming that may even endanger the continued survival of humanity, are serious issues. We must confront them in order to build a new society and economy in the 21st century.

In June 2002 Japan ratified the Kyoto Protocol. In order to promote measures against global warming, the YKK Group has promoted both energy conservation within the group and the reduction of energy use by our customers through the development of energy conserving products.

Consideration of environmental problems must be woven into management principles from now on. The YKK Group makes dealing with environmental problems one of our most important management goals. For this reason, we have taken an environmental management stance that promotes systematically and strategically environmental policies for every aspect of all of our undertakings, whether large or small. By continuously raising the level of our efficiency in respect to both the environment and business management, we can contribute to the creation of a sustainable economy and society. We want to raise the value of our endeavors by fulfilling the social responsibilities that our business bears.

For this purpose we have established Contribution to the Creation of a Sustainable Society as the theme of our intermediate term environmental objectives, defined by four fundamental environmental policies that guide us toward specific goals. With these objectives we are making progress in our endeavors.

Promotion of the development and provision of eco products
- By developing environmentally friendly products from the design stage we are striving to provide products to customers that have less impact on the environment during use and at time of disposal.

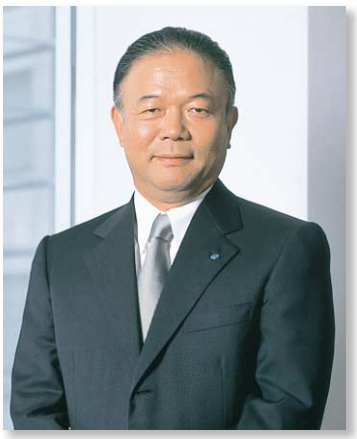
Renewed thoroughness of environmental impact reduction management
- Beyond just compliance with laws and regulations, we are pursuing increased reduction of global warming gases and waste materials with our own even stricter standards.

Creation and application of a global environmental management system
- All of the YKK Group is striving to achieve the same environmental goals and pursue continuous reform.

Promotion of environmental communication
- We strive to assure our customers by promoting accountability to society.

Sustained improvement of environmental preservation will continue to be one of our management tasks. We believe that this effort will also raise the value of the company. We hope that this report will help you to understand our philosophy and the efforts the YKK Group is making toward environmental preservation. We would also be delighted to have you share your frank opinions and advice with us.

June 2003



YKK Group

Tadahiro Yoshida

I・Environmental pledge and system

Since the YKK Group established the YKK Group Environmental Charter in September 1994, we have been unified in our endeavors to protect and improve the environment.

YKK Group environmental pledge —Our fundamental understanding of the global environmental issue—

It is recognized today as being a most important duty for all humankind that we preserve the abundantly endowed global environment and that we transfer it to the next generation in sound condition.

Striving to be an earth friendly company, YKK Group proclaims that we will address and promote "harmony with the environment" as the highest priority of our business activity.

September 20, 1994

Tadahiro Yoshida,YKK Group

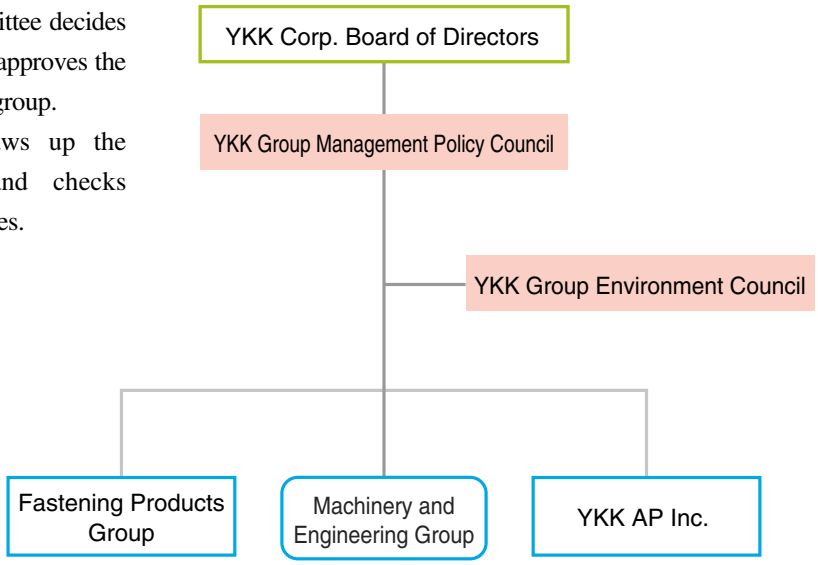
◯ Action targets and results

We accept our duty to the environment. In order to reduce the environmental impact of our main enterprises, making architectural products (including windows, doors, wood building materials and exterior materials) and fastening products (including fasteners, buttons, and Hook and Loop Fasteners) the YKK Group has set 4 objectives for our intermediate term environmental management policies and, in accordance with these, we are striving to achieve our environmental action targets.

Fundamental environmental management policies	Environmental action targets	
Promotion of development and provision of eco products	1) Development and provision of environmentally friendly products and services that meet the requirements of green procurement and purchasing	•Preparation of environment-friendly voluntary standards based on Law on Promoting Green purchasing and recycling laws •Preparation of catalog of environment-friendly products •LCA execution
	2) Promotion of green purchasing	•Determination of green purchasing and green procurement standards •Procurement of environment-friendly materials manufactured at plants that place minimal impact on the environment •Promote with business partners
	3) Reduction of volume and facilitation of recycling of packaging and packaging materials	•7% reduction fiscal 1998 level of basic packaging materials unit requirement by end of fiscal 2003 •Packaging and packaging material recycling achieved by end of fiscal 2005
Make operations even more efficient to reduce impact on the environment (Ensure legal compliance)	1) Countermeasures against global warming (Energy conservation)	•10.4% reduction of fiscal 1990 level of energy unit requirement at main domestic plants by end of fiscal 2005 •10.1% reduction of fiscal 1990 level of energy consumption at main domestic plants by end of fiscal 2005 •13.8% reduction of 1990 level of CO_2 discharge at main domestic plants by end of fiscal 2005 •Introduction of clean energy
	(Enchancement of transportation efficiency)	•Promotion of modal shift •Promotion of use of regional ports
	2) Zero emission	•Achievement of zero emission of ordinary waste at main domestic plants by end of fiscal 2002 •Aim to achieve zero emission at main bases throughout the world by end of fiscal 2005 •10% reduction of fiscal 1998 level of amount of copy paper purchased by end of fiscal 2003 •Promotion of garbage recycling
	3) Reduced risk of chemical substances	•CFC-11 for refrigerant (use discontinued by end of fiscal 2003) •HCFC-141b for refrigerant (use discontinued by end of fiscal 2002) •HCFC-225 for refrigerant (use discontinued by end of fiscal 2010) •HCFC-22 for refrigerant (promotion of recovery of refrigerant when air conditioners upgraded or removed) •Continue promoting of the use of harmful materials at main production facilities throughout the world •Promotion of chemical substance reduction plan by use of PRTR system •Environmental impact assessment conducted at site (environmental assessment) •Pollution control regulations when purchasing property (established based on preparation of law)
Build and use of a global environmental management system	1) ISO 14001 certification obtained as main sales, service, office and development bases and main production bases throughout the world	•Acquisition of ISO 14001 certification completed at major production bases of the world by the end of fiscal 2003 •Implementation of YKK Group internal environmental inspection at all major production bases of the world
	2) Introduction of environmental accounting system	•Application and utilization of environmental accounting system •Establishment of environmental efficiency index
Promotion of environmental communication	Publication of environmental data	•Continued publication of environmental report •Entry in environmental exhibitions •Use of environmental label •Preparation of environmental education system
	Symbiotic relationship with global society	•Promotion of social activities

Organizational chart for YKK Group Environmental Policy Committee

The Environmental Policy Committee decides the basic environment policy and approves the environmental action plan for the group.
The Environment Council draws up the environmental action plan and checks departmental environmental policies.



Fiscal 2002 targets	Fiscal 2002 achievements	Page
•Creation of voluntary environmentally friendly standards •Preparation of environment-friendly products catalog for architectural products business •LCA implemented for main products	•Preparation of environmentally friendly product standards and environmental labeling standards •ECO MESSAGE published 2003 (Feb. 2003) •Publication of LCA results in the 2002 Environmental Report	7-12
•Quantification and implementation of green procurement standards •Promotion with business partners •Procurement of environmentally friendly products that have been manufactured at factories with low environmental impact	•Preparation of green purchasing guidelines for business partners	13
•5.5% reduction fiscal 1998 level of basic packaging materials unit requirement for main domestic plants •Recovery of packaging materials, expansion of recycling area	•16% reduction of previous year level; 32% reduction of 1998 level •Expansion of recycling area	14
•7.8% reduction of fiscal 1990 level of energy unit requirement at main domestic plants •7.8% reduction of fiscal 1990 level of energy consumption at main domestic plants •9.4% reduction of 1990 level of CO_2 discharge at main domestic plants	•4.8% reduction of previous year level; 8.4% reduction of 1990 level •2.3% increase of previous year level; 17.6% reduction of 1990 level •0.3% increase of previous year level; 24.3% reduction of 1990 level	15-16
•Total joint transport implemented for factories, distribution and management •Improvement of truck loading efficiency for transport to customers	•Joint transport completed •Transport truck loading efficiency improved 8%	
•Achievement of zero emission of common waste materials at all of the main domestic production facilities by the end of fiscal 2002 •Reduction of waste disposal amounts of the main domestic plants to 70% less than 1990 levels •Increase of waste paper recovery rates of the main domestic plants to 89% •Promotion of the recycling of organic waste	•Achievement of reduction at 7 of main production facilities •Achievement of 30% reduction from the previous year, a 70% reduction from 1990 levels •3% waste paper recovery increase from the previous year, achieving a rate of 89% •Continuation of promotion at domestic production facilities	17-18
•Eliminate use of HCFC-141b as a blowing agent by the end of fiscal 2002 •Continue promoting the reduction of the use of harmful materials at main production facilities throughout the world •Establish pollution evaluation regulations at the time of land purchase (in compliance with law)	•Elimination of HCFC-141b use, excluding a few products (switch planned in fiscal 2003) achieved •Establishment of a chemical substance management division •Inspection of company land begun	19-22
•Completion of acquisition of ISO 14001 certification at all major domestic production facilities •Implementation of YKK Group internal environmental inspection	•Certification acquired at 5 domestic facilities (completion of acquisition at main domestic facilities) •Certification acquired at 13 production facilities abroad •YKK Group internal environmental inspection implemented (Tohoku Plant, Hokkaido Plant, Namerikawa Plant)	23-24
•Application and utilization of environmental accounting system	•Utilized as segment accounting	25-26
•Publication of environmental report •Entry in environmental exhibitions •Educational tools and system prepared	•Publication of YKK Group 2002 environmental report (August 2002) •Items entered in Eco Products 2002 (Dec. 2002) and Toyama Fair (Oct. 2002) •Environmental education for provisionally accepted new employees implemented and Environmental Action 25 (for the workplace) created	27-28
•Promotion of social activities	•Cleanup activities implemented in various areas •Environmental education events held	

Ⅱ • Relationship of YKK Group business with the environment

With YKK Corporation as our mother company and architectural and fastening products as our main enterprises, the YKK Group continues developing businesses in Japan and around the globe.

As a manufacturing business, the YKK Group has promoted efforts toward environmental protection from early on, including pollution countermeasures (with strict enforcement of legal regulations related to the environment), energy conservation, and efforts to reduce waste materials. Additionally, we have implemented a full complement of tools for environmental protection and created an environmental management system to promote these efforts even further.

At present we place the value of the continuation of the company on the advancement of environmental management and on contributing to society by promoting efforts to protect the environment.

Contributing to society through eco products

One of the features of YKK Group products is that they have long life cycles.

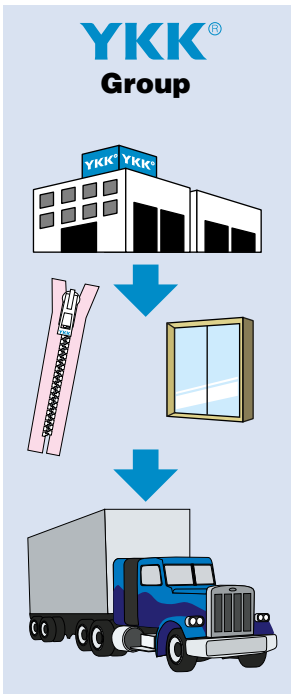
Reduction of the environmental impact of products themselves by conducting environmental product assessment at the design stage is now a matter of course. We are also developing products that contribute greatly to the reduction of environmental impact at the stage of customer use.

For example in the architectural products industry, environmentally friendly traits include high insulation and high air-tightness, which contribute to energy reduction, long product life and ease of dismantling, which reduce waste, and suppression of harmful chemical materials. Other traits include universal design and anti-theft measures to improve safety and security. All of these traits contribute to providing for comfortable lifestyles that are easy on the environment, giving our customers a sense of liberty and peace of mind.

YKK Group
Chairman,
Environmental Policy Committee
Director, YKK Corp.
Yasuo Morino

Environmental impact mass-balance of YKK Group domestic plants/offices

INPUT		OUTPUT	
Electric power (power purchased from power company)	**472.4 million kWh**	CO_2	**320,000 t**
Fuel (heavy oil, kerosene, gas, light oil, gasoline)	**Crude oil conversion 56,640 kL**	NOx	**464 t**
Water (reused water not included)	**19.3 million m³**	SOx	**131 t**
Chemical substances (substances applicable to PRTR)	**2,129 t**	Exhaust water	**18.67 million m³**
Aluminum	**110,000 t**	BOD	**46 t**
Copper	**9,500 t**	Ordinary waste disposal amount(amount disposed of through incineration and landfill)	**220 t**
Copy paper Recycled paper reuse rate	**257 t** **99%**	Industrial waste disposal amount (amount disposed of through incineration and landfill)	**2,655 t**



◯ Environmental impacts of our enterprises

The YKK Group undertakes the integrated manufacture of aluminum architectural products, from melting, casting, extrusion and surface treatment, to processing and fabrication.

We also use other materials, including wood architectural products, resin architectural materials and glass products as needed.

The YKK Group also manufactures a full line of fastening products, including fasteners, buttons, and fabric tape.

Production of fastening products and architectural products requires large amounts of energy and chemicals, and produces CO_2 and industrial waste.

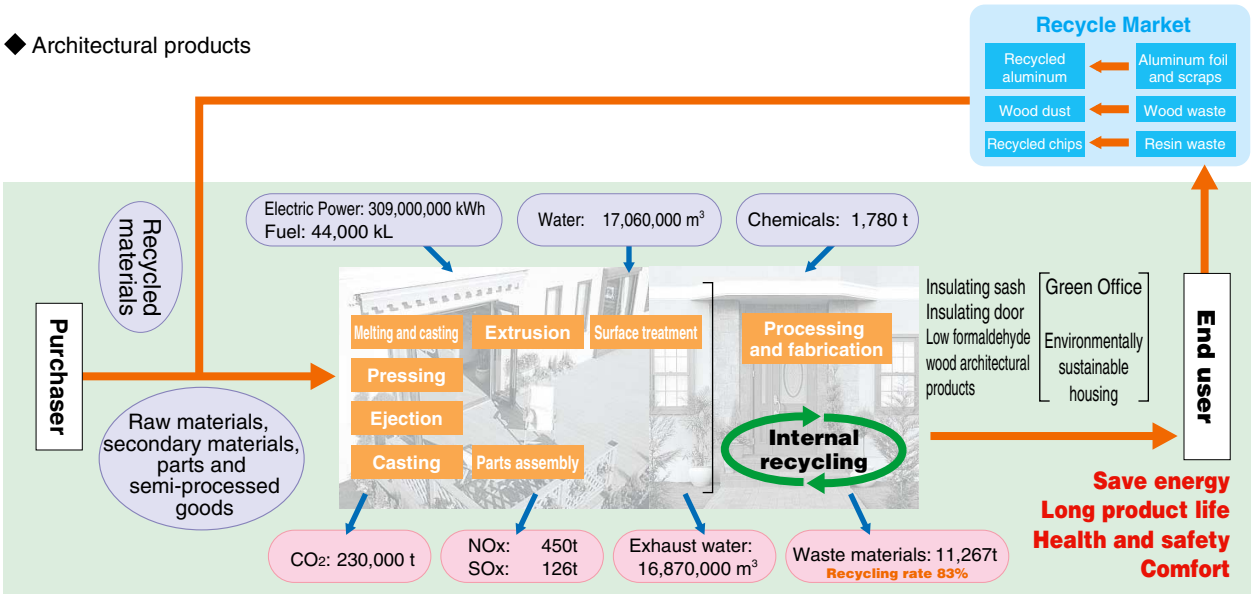
The YKK Group is implementing the use of cutting-edge energy conservation equipment and transition to fuel that has low CO_2, NOx and SOx emissions. We are proactively finding substitutions for harmful chemical substances and using natural resources effectively, while promoting zero emissions (no landfill disposal).

Two years ago we also began trial LCA evaluations and found that in the lifecycles of architectural products, reduction of environmental impact at the time of use makes the largest contribution to environmental protection. We also found that the environmental impact of raw materials is large.

The YKK Group has adopted the 4 environmental themes "save energy," "save resources," "recycle," and "ecosystem-friendly". Based on these themes, we are striving to develop environmentally friendly products that are good for customer health and have low environmental impact throughout their lifecycles.

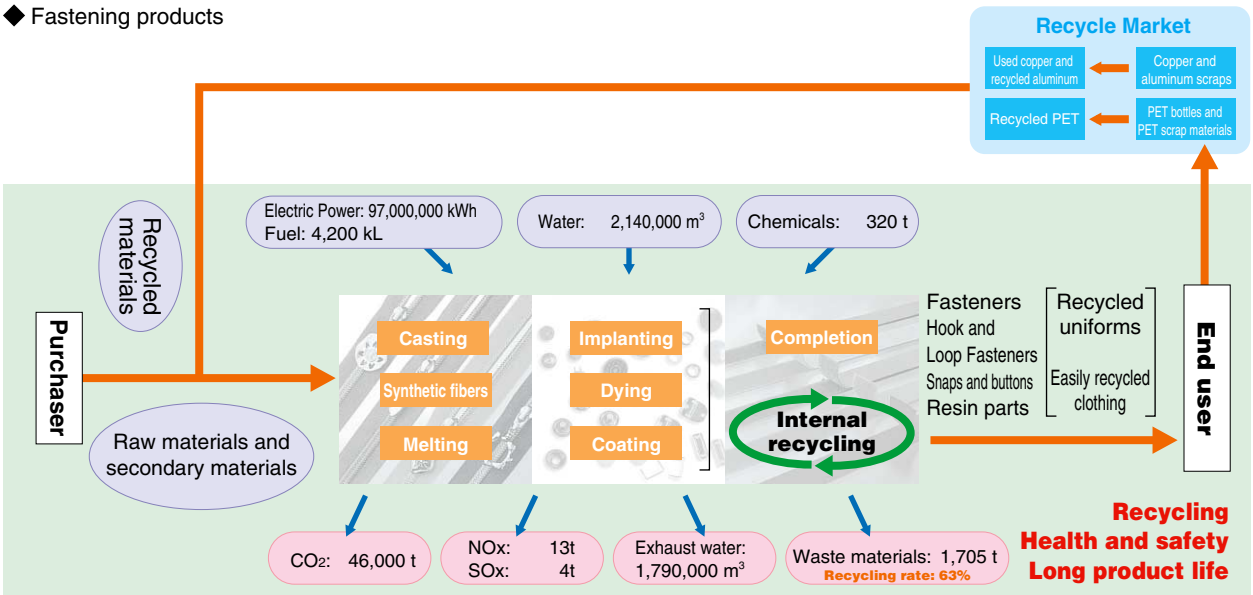
We are also making efforts to reduce the environmental impact of raw material use by promoting reuse internally in our companies and by purchasing recycled materials such as aluminum foil, aluminum door and window sashes, wood dust, recycled wood chips, and used copper.

◆ Architectural products



*These items are considered further in this Environmental Report

◆ Fastening products



*These items are considered further in this Environmental Report

Ⅲ • Promotion of the development and provision of eco products

Development and provision of environmentally friendly products and services

Our vision for our eco products is that they add value by providing safety and security, high environmental function, and comfortable lifestyles for our customers. To achieve this vision, we have adopted four fundamental concepts for product development: save energy, save resources, recycle, and ecosystem-friendly. With these goals and concepts in mind, we are pursuing the development of environmentally friendly products that have low environmental impact through all stages of their lifecycles from production, distribution, and use to disposal.

Environmental action targets

- **Development and provision of environmentally friendly products**
- **Creation of voluntary environmentally friendly standards in compliance with the Law on Promoting Green Purchasing and the Recycling Law**
- **Implementation of LCA**

Eco products vision

— The YKK Group contributes to the creation of a sustainable society though our products. —

High environmental function

We achieve the standards set by society for environmentally friendly products.

·Long product life
·Save energy (high levels of insulation and air-tightness)
·High sound blocking ability (soundproofing)
·Materials with low environmental impact used
·Recyclable

Safety and Security

We provide products that people can use with peace of mind.

·Free of harmful materials
·Measures against sick house syndrome
·Theft prevention

Comfortable lifestyle

We provide products to support comfortable living for every kind of lifestyle.

·Universal design
·Easy daily maintenance
·Proposals for changing existing spaces (reform)
·Appropriate for the lifestyles of the users

Four concepts for developing environmentally friendly products

Save energy (CO_2 reduction)	We are promoting energy conservation through products with excellent insulation and heat blocking qualities that increase the effectiveness of room air conditioning, and the development of clean energy products that use natural energy.
Save resources (Effective use of materials)	We are examining how to reduce loss and increase the effective use of materials throughout the stages of product development and production. Furthermore, we seek the reduction of raw material use by cutting down the amount of materials used in products and their wrapping and packing. We also reduce the amount of resource depletion through the use of recycled materials.
Recycle (Reduction of waste)	We are seeking to reduce the creation of waste materials by improving durability to give products as long of lives as possible. In order to make our products easy to recycle, we also design them to be as easy as possible to remove and dismantle.
Ecosystem-friendly (Beneficial for people)	Along with endeavoring to reduce the production of harmful materials, we are considering universal design to support healthy and comfortable living.

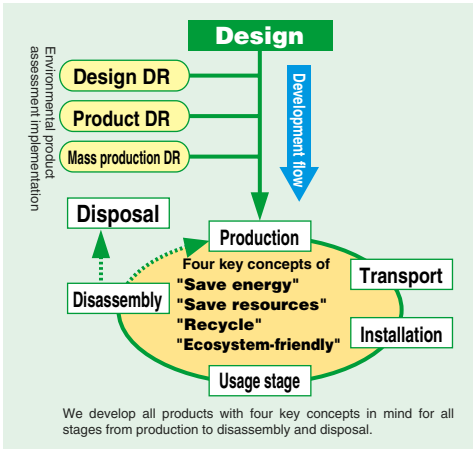
Developing tools for environmentally friendly products

Environmental product assessment version 2 put into practice

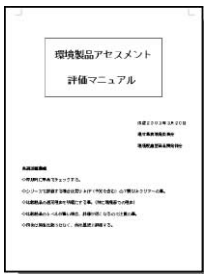
In 2001 the YKK Group made obligatory an evaluation of all architectural material products using the Environmental Product Assessment Checklist for design review (DR) at the stages of design, development and mass production.

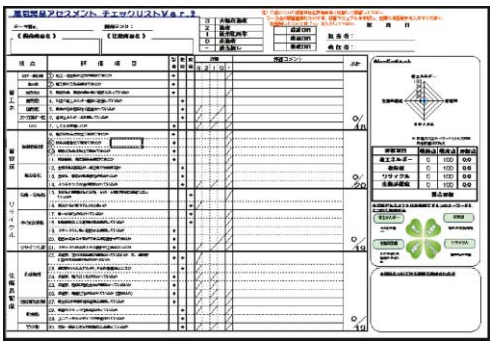
In response to the daily changes in environmental problems and customer demands regarding environmental consideration for products, we have revised this checklist.

As a tool to respond further to customer needs, we began the implementation of Environmental Product Assessment Version 2 in April of 2003 in order to give numerical evaluations to products that will make clear what was considered at the stages of design and production in relation to our four product development concepts. Furthermore, we published the Environmental Assessment Manual to guide strict evaluation for these scores, allowing us to further pursue the development of products with high environmental function.



We develop all products with four key concepts in mind for all stages from production to disassembly and disposal.





YKK AP Eco Clover environmental label certification system begun

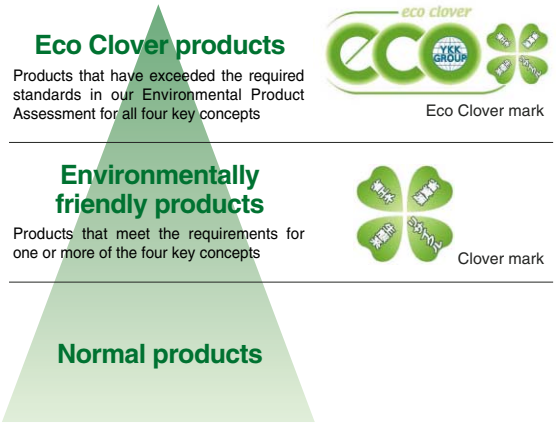
Seeking to contribute to creating a sustainable society, the architectural products business is promoting the development and sales of environmentally friendly products. Recognizing the need to make information available to the public about the selection of these products for their high environmental function, we started a certification system for a voluntary environmental label, the Eco Clover, in March 2003.

From this system, we plan on constantly developing products that are environmentally friendly at a high level and continuously presenting new products that meet the standards.

In order to raise confidence in these labels we have adopted standards that are at levels stricter than our existing internal standards for environmentally friendly products for this environmental label certification. We also give priority to external experts (environmental consultants) who also provide consumer opinions in order to conduct certification that is transparent and trustworthy.

The Eco Clover mark is displayed in catalogs and elsewhere for products that meet the standards. Through detailed explanations of the environmental functionality in these places, we provide the environmental information necessary for consumers to make product selections.

The YKK Group's eco-mark shows the four concepts that go into our development of environmentally friendly products: Save energy, Save resources, Recycle and Ecosystem-friendly in the form of a lucky four-leaf clover, the Eco Clover.

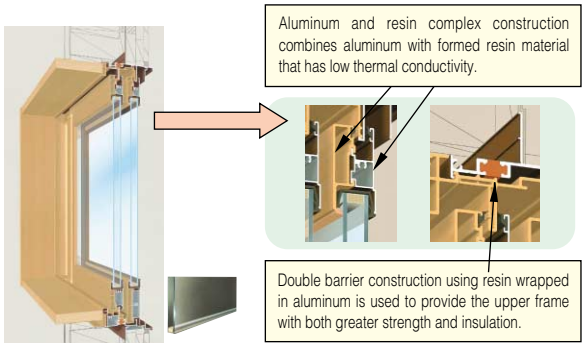


◯ Life Cycle Assessment (LCA)

The YKK Group seeks to develop and provide a choice of products appropriate for various uses that also have low environmental impacts by understanding how CO_2 emission amounts and other environmental impacts occur throughout the lifecycles of the products.

An example of the application of LCA

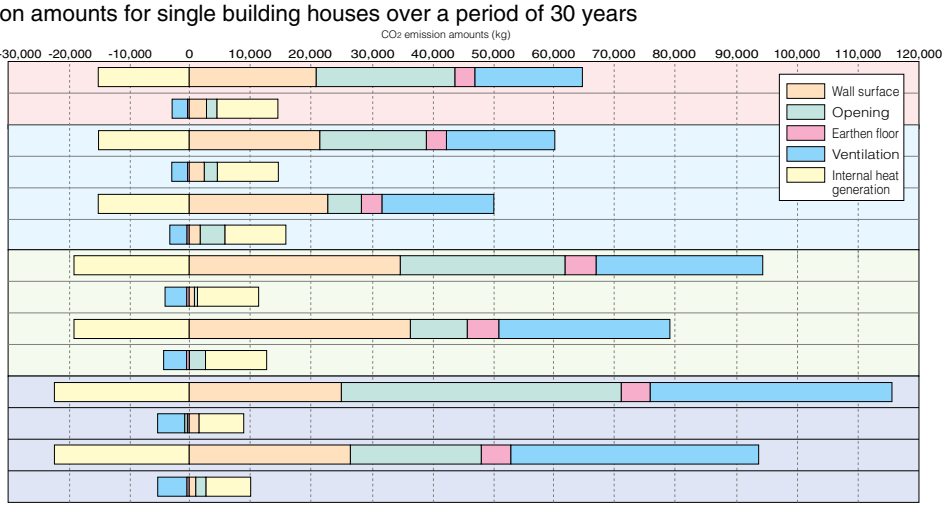
We analyzed in detail the emissions of CO_2 at the use stage based on the results of LCA evaluation of the APSWORD 100 sliding window. The chart below is a summary of the CO_2 emission amounts of single building houses for one set of sashes. The results for a normal sash (FRAMING) set used in Tokyo are provided for comparison. Negative values indicate that the amount of CO_2 emitted by the use of air conditioners has been reduced. From this it is clear that CO_2 emissions are reduced effectively by improving window insulation, which, particularly in winter, lowers the heating load.



Product given LCA assessment (APSWORD 100)

◆Analysis results of CO_2 emission amounts for single building houses over a period of 30 years

	Conditions			Total load
Tokyo	FRAMING	Normal multilayer glass	Winter	49,796
			Summer	11,789
	APSWORD 100	Normal multilayer glass	Winter	45,247
			Summer	11,768
		LEMIG	Winter	35,196
			Summer	12,724
Sendai	APSWORD 100	Normal multilayer glass	Winter	75,517
			Summer	7,450
		LEMIG	Winter	60,217
			Summer	8,497
Sapporo	APSWORD 100	Normal multilayer glass	Winter	93,582
			Summer	3,768
		LEMIG	Winter	71,618
			Summer	4,931

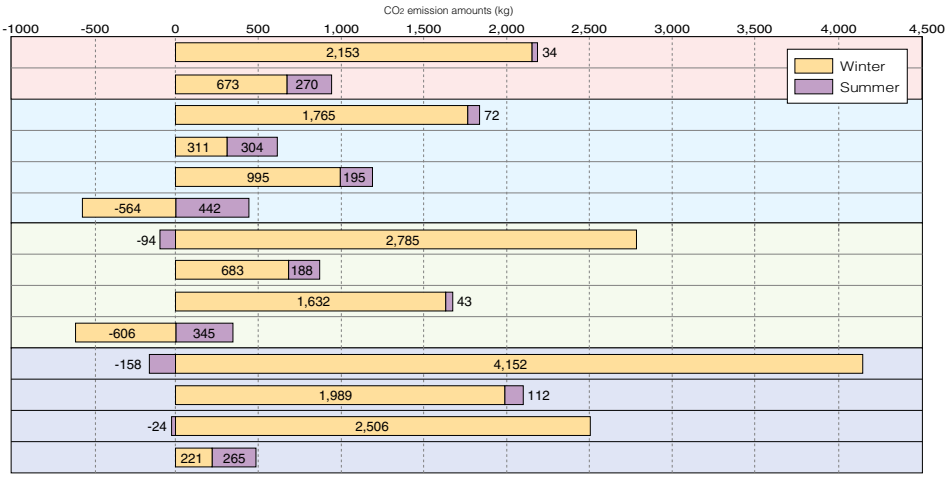


This shows that for one sash set, in Sendai when LEMIG (low radiation multilayer glass) was used on the south side of a building the heating load was reduced, and that when normal multilayer glass was used on the north side of a building in Sapporo the cooling load was reduced. This effect is due to sun radiation heat absorption in the winter and the diffusion of heat in the summer.

We believe that with this LCA analysis of CO_2 emission amounts produced in actual use, as shown in this example, we can provide customers with more effective aperture proposals suitable to different locations and directional facings. In the future we intend to raise further the level of our environmental impact assessments by incorporating the research results of related research agencies.

◆Results of analysis of CO_2 emission amounts for single sets of sashes over a period of 30 years

	Conditions			Total load
Tokyo	FRAMING	Normal multilayer glass	North side	2,186
			South side	943
	APSWORD 100	Normal multilayer glass	North side	1,837
			South side	614
		LEMIG	North side	1,189
			South side	-122
Sendai	APSWORD 100	Normal multilayer glass	North side	2,691
			South side	871
		LEMIG	North side	1,676
			South side	-261
Sapporo	APSWORD 100	Normal multilayer glass	North side	3,994
			South side	2,101
		LEMIG	North side	2,482
			South side	486



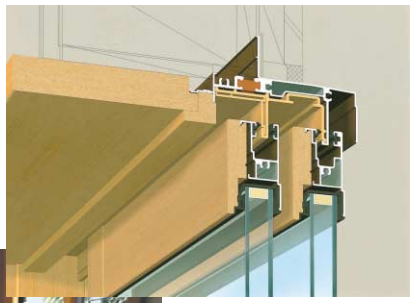
【Calculation conditions】 · Products tested: APSWORD 100 sliding window 1613 (normal multilayer glass or LEMIG), FRAMING sliding window 1613 (normal multilayer glass)
· Heat load calculation model: basic model of the Architectural Institute of Japan · Software used: The Institute for Architectural Environment and Energy Conservation's SMASH (housing heat load calculation program)
· Climate Data: Extended AMeDAS average year climate data, Architectural Institute of Japan

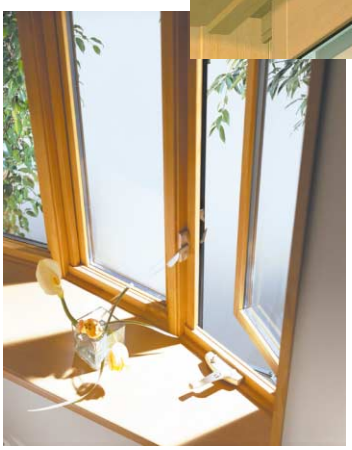
●Environmentally friendly products — High environmental function

◯ APSWORD Wood raises aperture insulation and air-tightness levels to reduce condensation and contribute to housing energy efficiency

Raising insulation and air-tightness levels of apertures such as doors and windows contributes to improving the living environment and energy efficiency.

APSWORD Wood windows are made with layers of aluminum on the outside and natural wood on the inside and, with this unique insulation construction, their insulation ability is a level above others. Furthermore, the natural wood used is not material from trees cut out of natural forests, but rather is harvested from tree plantations, and, when the time comes to replace these windows, the wood and aluminum are designed with a sliding joint construction, so they can be separated easily for recycling.



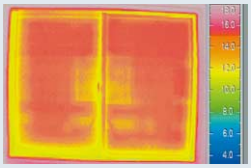


Comparison of insulation effect by thermography from the interior side

Insulating sash (APSWORD Wood)

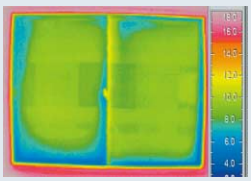
Conditions: interior temperature 20℃ exterior temperature 0℃

Partially externally attached sliding window W 1690 mm x H 1359 mm
Multilayer glass (glass 3 mm + airspace 12 mm + glass 3 mm) (Low-E gas filled)



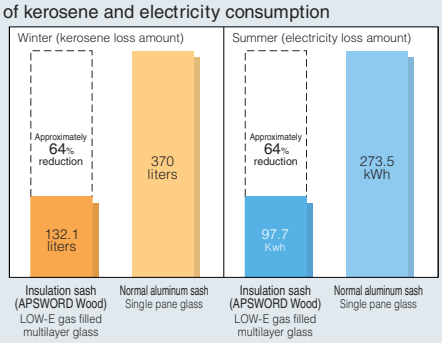
Normal aluminum sash

Partially externally attached sliding window W 1690 mm x H 1359 mm Single pane glass 3 mm



Normal aluminum sashes allow cold air in from outside.

Comparison of the calculations of the amounts of kerosene and electricity consumption



Heating period: November - February (120 days)
Exterior temperature: 6℃
Interior temperature: 20℃
(Temperature difference: 14℃)
Kerosene heat generation: 8,900 Kcal
(heating efficiency 90%)
*Assumed average of 9 hours use per day

Cooling period: July - August (90 days)
Exterior temperature: 30℃
Interior temperature: 26℃ (Temperature difference: 4℃)
Air-conditioning ability: 860 Kcal/Kwh
(Air-conditioning efficiency: 300%)
*Assumed average of 10 hours use per day

Single building house 16 windows used (window area = 35 m²)

LOW-E gas filled: This window has a special metal membrane put on the multilayer glass that has the ability to reflect infrared light, giving it higher insulation quality. Filling the space between the glass panes with this special gas raises the insulation ability even more.

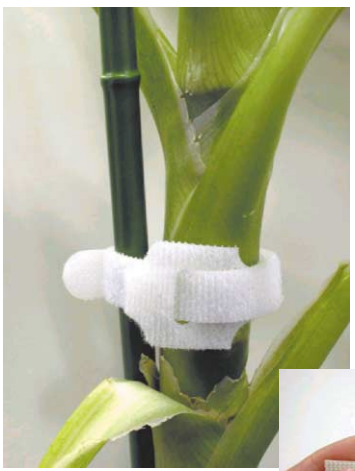
◯ Development of biodegradable Hook and Loop Fasteners

Our company and the UNITIKA Group (UNITIKA LTD., UNITIKA FIBERS LTD., UNITIKA TSUSHO LTD.) have jointly developed the world's first biodegradable Hook and Loop Fastener.

This biodegradable fastener is made primarily from biodegradable poly lactic acid resin*, a plant derived material that has low environmental impact and will degrade and decompose in compost or a natural environment. For this reason we expect that it will be valuable for a variety of agricultural and forestry uses, civil engineering uses, as electric line binding bands, and in medical and food products for disposable clothing and materials.

*Biodegradable poly lactic acid resin

This substance is made from plant material, corn and other flour, which undergoes lactic fermentation and then chemical synthesis. In the end it breaks down into water and carbonic acid gas in the natural environment. One feature is that carbonic acid can be absorbed by corn again, making this an environmentally friendly material on both local and global levels. We anticipate that in the future this material will replace plastics derived from petroleum.



Example of use of binding band

● Environmentally friendly products — Safe and worry-free

○ Preventing sick house syndrome: Implementing the highest standard (F☆☆☆☆) and using labels that indicate performance classification

In July 2003, measures to prevent sick house syndrome were added to the Architectural Standard Law that will limit the use of architectural materials that have a danger of emitting formaldehyde. At the same time, new JIS Standards and JAS Standards will add F☆☆☆☆ as their highest classification.

The YKK Group, will switch to highest rated F☆☆☆☆ materials with the lowest formaldehyde emission rates for interior architectural products that have a risk of emitting formaldehyde as prescribed by the new law. Products include wood interior architectural La Foresta interior doors, interior sliding doors, storage products, closet doors, flooring, stairs and front doors.

The switch began in April 2003 and was completed by the end of June in accordance with the implementation of the Reformed Architectural Standard Law in July.

In addition to implementing the F☆☆☆☆ standard, in order to make confirmation of the emission performance classifications smoother and simpler, we are following the labeling guidelines established by four concerned organizations (Federation of Construction Material Industries, Japan, Japan Housing Equipment & System Association, Association of Living Amenity, and Japan Association of Kitchen & Bath) and putting the performance classification label shown at right on standards compliant products before shipping them out.

La Foresta swinging door

La Foresta three panel interlocking sliding door

◆Indication label

○ Elimination of PVC in screen products

Until recently screen doors had been made with PVC (polyvinyl chloride). As a substance PVC can be recycled, but there is a danger of dioxin being released when incinerated. When screen doors are replaced there is a danger that the old screen will be disposed of with normal garbage and be incinerated, so we have developed and switched to an environmentally friendly screen door that does not use PVCs.

In 2002, we completed the switch to new materials, so now our screen door mesh is made from PP (polypropylene) and the spline is made from EVA (ethylene vinyl acetate copolymer) and TPO (thermoplastic olefinic elastomer).

○ YKK Fastener receives Oeko-Tex Standard 100 certification

The Fastening Products Group has received the Oeko-Tex Standard 100 class I certification from the Japan Dyer's Inspection Institute and is striving to develop environmentally friendly products.

The Oeko-Tex Standard 100 has become a global standard. This ecolabel for textile products has been established as a standard by the International Oeko-Tex Association (office in Zurich, Switzerland), comprised of textile inspection groups from 16 countries mostly in Europe. This standard is stricter than the standards set by the governments of the member organizations' countries, and is widely recognized as an ecolabel throughout Europe where restrictions on organic products are already strict.

In order to meet the demands of our global accounts, YKK has attained Class I (for products for infants, the strictest class among classes from I to IV) certification for our fastening products.

Along with all our European companies, our Asian companies that send significant exports to Europe have also received certification for their fastening products. The YKK Group endeavors to promote the development of products for our customers that are environmentally friendly, safety and security.

What is Oeko-Tex Standard 100?

The world's leading ecolabel for textile products tells consumers that items bearing the label are made safe textile materials.

Textile product

Inspection and testing — The over 100 certification test items exceed the strictness of the legal requirements of every country

Certification (labeling) — Guarantees that levels of harmful materials are less than those that could cause harm to human health (Classifications range from Ⅰ - infant use to Ⅳ - furnishing and fixtures use)

Assurance of consumer confidence

● Environmentally friendly products — Comfortable lifestyles

○ From "scrapping and building" to remodeling

In Japan, until recently the practice has been to "scrap and build" by tearing down buildings when they get old and replacing them with entirely new buildings.

As concern about the environment has increased, greater interest has developed in architectural renewal and reform. Lengthening the life spans of buildings contributes to the reduction of the amounts of waste materials and CO_2 produced.

With the environment in mind, our architectural products businesses are working proactively to develop various products suitable for remodeling and lengthening the life spans of houses.

Example of installation of New PLAMADO U

•New PLAMADO U: an add-on double paned resin interior window

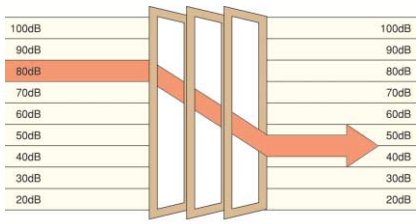
By directly inserting a resin sash with low heat conductivity into the interior framework of an existing window, building heating and cooling efficiency can be improved. Combining excellent insulation that reduces unpleasant condensation with the noise reducing effect of a sound-proofing sash, this product provides for year-round comfort.

The resin, which is free of wood powder, has a wood grain feel and is easy to recycle at the time of disposal.

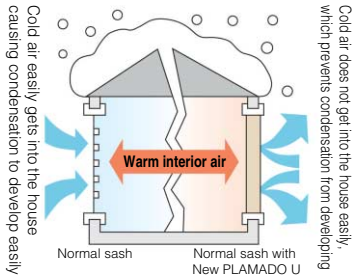
Furthermore, this product can be made to fit any existing window size and type, even sashes from other manufacturers.

Three merits of making a comfortable living environment

By making insulation about three times as effective, kerosene consumption can be greatly reduced



Excellent sound blocking effectiveness reduces unwanted noise by 30 dB



Reducing unpleasant condensation increases the lifespan of houses

*Data from YKK research

○ Inkjet Fastener PRIFA

PRIFA is a fastener that can be printed with colorful graphics. Since patterns can be deigned with computer graphic software, customers can have whatever pattern, illustration or logo that they like printed.

Environmentally, this product uses waterless dye and a highly efficient washing method (the bubble vibrator method), so water resources are conserved. A dye ink (non-azoic dye) that does not affect the human body is used. Furthermore, the quality is high, the product is very durable and the dye does not fade when washed.

We can make fasteners that fulfill the imaginations of our customers.

* Stages of the production of PRIFA

[1] Customer sends computer graphic design over the internet.

[2] Dye is printed on to the fastener using a color printer. By combining four ink colors (red, blue, yellow, black) an unlimited number of colors can be created, making even precise color specifications possible.

[3] Coloring is achieved without water by applying heat in a continuous dying device, followed by washing.

Green purchasing

By purchasing environmentally friendly materials and parts from companies that share our concern for the environment by taking a proactive stance toward protecting it, we can strive to reduce the environmental impact of the entire cycle of our business activity, promote the development and production of recyclable products, and contribute to the reduction of all of society's environmental impact.

Environmental action targets

- **Promotion of the procurement of green purchasing products**
- **Quantification of green purchasing standards**

◯ Achievements of the 2002 fiscal year

The number of instances of green purchasing in fiscal 2002 was 110% of that in fiscal 2001. Furthermore, by working in cooperation with our suppliers, we have been able to steadily reduce environmental impact and avoid environmental risk. Seeking to provide a guide for the development of environmentally friendly products, we have drawn up a set of green purchasing guidelines for our business partners.

◆Overview of the YKK Group chemical substance guidelines management categories

Categories of Harmful Chemical Substances		
[1]	Legally restricted substances (HCFCs, etc.)	Management category 1 [Prohibited] ·Labor Standards Law (production prohibition) ·Toxic Substance Control Act (Type 1 designation) ·Poisonous and Deleterious Substances Control Law (specific toxins) ·Ozone Layer Protection Law (Prohibition of production of CFCs and other substances) ·Air Pollution Control Law (specific fine particles) ·YKK managed substances ·Prohibit the purchase of goods that contain chemical substances that fall into management category 1 of the YKK Group's chemical substance guidelines ·Propose alternatives for goods that contain substances that fall into categories 2 and 3 ·Promote recycling ·Request wrapping and packaging materials that are easy on the environment
[2]	Substances that the public, on a local or national level, is seeking to restrict (Dioxins, environmental hormones, etc.)	Management category 2 [Reduced] ·Ozone Layer Protection Law (reduction of HCFCs and other substances) ·Environmental hormones ·PRTR Law (Type 1 designated substances) ·YKK managed substances
[3]	Pollution Release and Transfer Register Law(PRTR Law) Type 1 designated chemical substances (12 substances that are Rank 1 carcinogens)	
[4]	PRTR Law Type 1 and 2 designated substances (All substances other than Rank 1 carcinogens)	Management category 3 [Managed for suitability] ·PRTR Law (Type 1, Type 2) ·Water Pollution Control Law (health items) ·Soil and groundwater environmental standards ·Sick house syndrome substances ·Oeko-Tex ·YKK managed substances

◯ Continuing efforts

In 2003 we will try to increase the number of green purchasing instances to more than 105% of the 2002 level. In addition to specifying green products for new purchases, we will also actively try to replace existing purchases with green products. For example, we are considering the use of uniforms that can be chemically recycled.

Moreover, we are conducting a questionnaire of our suppliers to ascertain the states of their environmental management development programs and providing education to suppliers about environmental consciousness and environmental management support.

We are also developing a database of the information we gather from our suppliers regarding green purchasing guidelines and using this to select products. With this database, we can reduce the use of products that contain harmful chemical substances and choose materials and parts that have low environmental impact at the development and design stages.

Reducing packaging materials

Promoting reduction and reuse of wrapping and packing materials while maintaining product quality

Environmental action targets

- **Reduce packaging materials amounts 7% from 1998 amounts by the end of fiscal 2003**
- **Achieve recycling of wrapping and packing materials by the end of fiscal 2005**

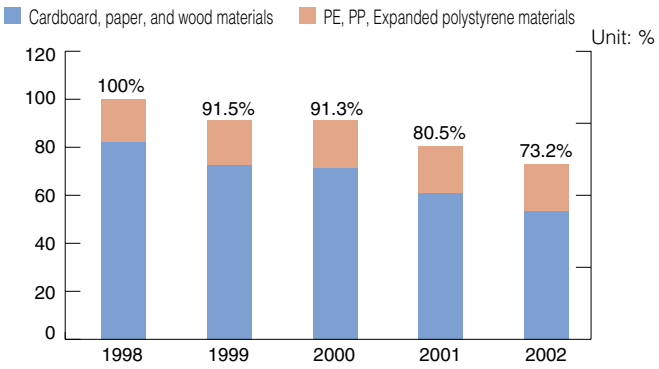
○ Achievements of the 2002 fiscal year

70% of packaging materials consisted of cardboard, paper, and wood.

The amount of packaging used per profit unit was 32% less than 1998 levels in fiscal 2002, exceeding goals set for 2003.

We have promoted the reconsideration of the overuse of cardboard packaging. We have also achieved great reduction in packaging costs through reducing plastic use, including increasing the use of cardboard instead of expanded polystyrene, eliminating the use of PP Band, and using alternatives to plastic tape.

Packing material purchase record



○ Combining padding material and YKK Hook and Loop Fasteners to make returnable packing materials

At the Kurobe Ogyu Plant we have reformed our delivery packing for products sent to house makers and have developed a packing material from padding and YKK Hook and Loop Fasteners. In addition to a type for frames, we have developed packing for SHOJI, achieving zero waste packaging for both frames and SHOJI products.

In addition to eliminating the use of polyethylene sheets and plastic bags, which become waste, we are conducting collection and reuse of returnable packing materials (padding: foam polyethylene, binding: YKK Hook and Loop Fasteners).

Ⅳ・Environmental impact reduction management

Preventing global warming (Energy conservation and transportation measures)

We are actively pursuing energy conservation measures, including the incorporation of high efficiency equipment in new and reformed plant facilities, reform of industrial processes in order to deal with energy consumption due to production fluctuations, and preparation of new management standards to promote efficient facility operation. By improving transportation efficiency, we are also striving to achieve earth friendly transportation and delivery.

Environmental action targets

- **By the end of fiscal 2005 reduce energy consumption per sales volume unit by 10.4%, energy use by 10.1%, and CO_2 emissions by 13.8% from 1990 levels**
- **Implement clean energy use**
- **Improve transportation efficiency**
- **Promote modal shift**
- **Promote the use of regional ports**

◯ Achievements of the 2002 fiscal year

In order to prevent global warming, we are making efforts to conserve energy through an ISO system to manage our energy use for efficiency and control CO_2 emissions as much as possible.

In fiscal 2002 we achieved our goal to reduce energy consumption by sales volume 4.8% from the previous year and 8.4% from 1990 levels.

Although our energy use increased because of a slight recovery in production, we still managed to reduce our consumption of energy and CO_2 emissions by production volume, achieving our goals.

For transportation, by changing from a route delivery contract to a contract with fees based on weight shipped, we were able to improve our delivery efficiency from distribution centers to customers by 8%.

We have also opened terminal points to avoid overlapping distribution routes and ensure efficient delivery.

We are further promoting modal shift by switching to delivery by truck to delivery by train for products that do not need to be delivered right away.

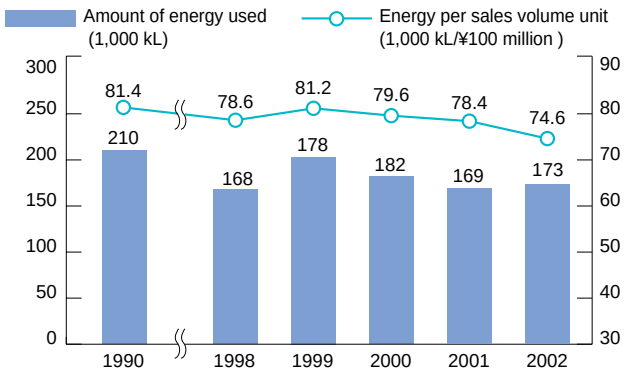
◯ Continuing efforts

Along with pursuing further energy conservation efforts related to production fluctuations, we are seeking to switch to natural energy use and energy sources that cause less global warming.

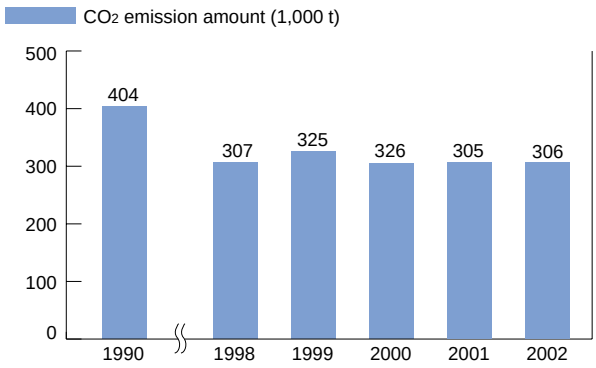
We have already begun the second step in making transportation more efficient through increasing the number of terminal point facilities and are planning to reduce the number of trucks by reducing route overlap and using large vehicles on trunk distribution routes.

We are also planning to install speed limiters in large vehicles beginning in September 2003, and from October 1, we will prioritize compliance with NOx restrictions on diesel vehicles that will be implemented in Tokyo, Saitama, Chiba, Kanagawa, and Hyogo Prefectures.

Transition in energy consumption and consumption by sales volume
(YKK Group main domestic production plants)



Transition in CO_2 emission amounts
(YKK Group main domestic production plants)



◯ Promoting the use of natural energy

We are promoting the use of green energy sources that do not create green house gases.

At the Kurobe Plant we have installed a solar electricity generation system that is being used to provide power for the exterior lights at the facility.

As part of a project to renew the front gate of the Tohoku Plant, we have installed a solar electricity generation system on the roof of the guardhouse.

Furthermore, we are also using power generated by a water wheel that captures the energy of water flowing down from the water supply to the factory. The electricity generated by this hydroelectric system provides a part of the plant energy supply.

Kurobe Plants solar electricity generation system

Tohoku Plant guardhouse building solar electricity generation system

Tohoku Plants hydroelectric equipment using industrial water

◯ Reducing electricity used for lighting by introducing localized lighting system equipment

In the textile material production division of the Fastening Products Group, late night operation was conducted by one person on a floor that was fully lit with 985 lights.

Energy conservation has been achieved by dividing this large floor area into 6 sections and using a PHS mobile phone as a remote control to turn lights on and off from a distance in the sections of a localized lighting system.

The effectiveness of this system has been confirmed, so the same system has been implemented on another floor with 918 lights.

PHS

Transceiver and receiver

Electricity distribution box for lighting

Effect	
Electric power reduction:	305,000 kWh/year
CO_2 emissions reduction:	109 t/year
Cost reduction:	¥3,818,000/year
Installation cost:	¥7,707,000
Cost recovery:	2 years

Illumination only in work area

Zero emission (Waste reduction and recycling)

Striving to achieve a zero emission rate by turning waste materials back into resources

Environmental action targets

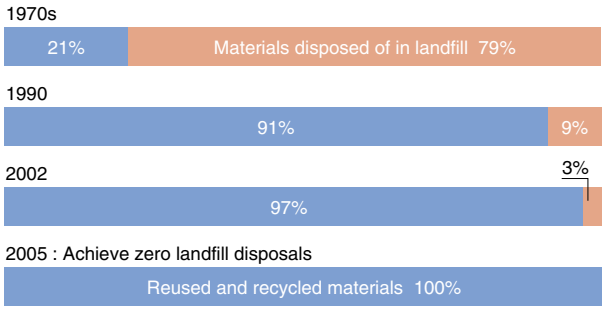
● Seeking to achieve zero emissions* at our major production facilities around the world by the end of fiscal 2005

* YKK Group zero emission definition: eliminate disposal in landfills of waste generated by YKK business activities

◯ Reduction of waste volume and recycling by the YKK Group

Our recycling efforts began in the 1970s with the collection of aluminum hydroxide from waste alkali from the anodized aluminum manufacturing process. After that we began recycling sludge and the reduction of waste volume through such actions as recovering and recycling acids.

By the end of fiscal 2005 we seek to achieve a recycling rate of 100% and reach our goal of reducing landfill disposal to zero.



◯ Achievements of the 2002 fiscal year

We have begun the valuable recycling of materials from plastic wastes, in addition to past methods such as material recycling and thermal recycling as cement fuel, we are conducting thorough separation, collection and recycling of waste office equipment materials.

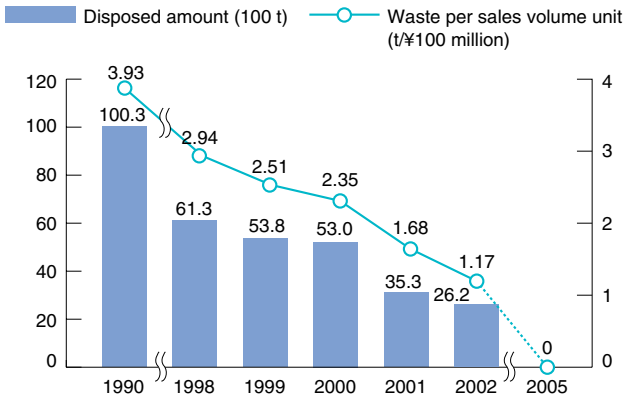
We have also made progress in recycling multi-layer glass and other scraps from factories into glass panes and road materials, as well as recycling fluorescent lights, batteries and wood scraps (MDF).

We have also begun tests toward turning byproducts of factory landscape maintenance, including pruned branches, thinned plants and cut grass, into fertilizer.

The Shikoku Plant and the Kurobe Ogyu Plant have already achieved zero emission of production waste.

With these efforts, we have achieved our goals of reducing production waste level amounts in proportion to sales by 30% from the previous year and 70% less than 1990 levels in fiscal 2002.

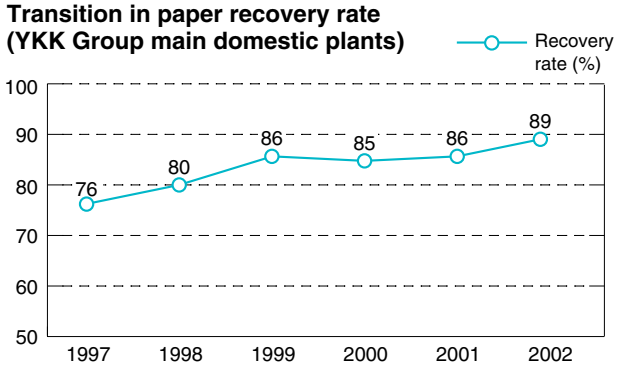
Transition in production waste disposal amounts and waste rates compared to sales (YKK Group main domestic plants)



◯ Continuing efforts

Along with further promoting recycling sludge into concrete, recycling the materials of waste plastic and using them for cement fuel, recycling in gasification fusion furnaces, and use of waste oil as fuel, we are seeking to achieve zero emissions by the end of 2005 by recycling previously unrecycled items such as waste alkali, brick scraps, and ceramic scraps, and reusing discarded office equipment.

Transition in paper recovery rate (YKK Group main domestic plants)



◯ Kurobe Recycling Center operation

In April 2002, our Kurobe facilities began operation of the Kurobe Recycling Center as a station that all parts of the business there could share for recycling and that would help them achieve the goal of zero emission of waste materials.

The purpose of the Recycling Center was to create an efficient and low-cost way to recycle waste products, and overcome the difficulties faced by each Kurobe facility in trying to find space and dealing with the high costs and inefficiency of transporting small amounts of materials to be recycled.

Collection, reception, sorting, reduction, weighing and storage of items, including wood scraps, pallets, cardboard, plastic waste, polystyrene foam, used florescent lights, discarded office equipment, metal scraps, paper waste, secret documents, and glass beverage bottles is conducted so that recycling businesses can be hired to take these materials for reuse.

Cardboard collection and loading

Accumulated wood scraps and pallets are broken down into smaller volumes and taken away by recycling businesses.

Sending out wood scraps and pallets

◯ Recycling wood doors

In the past wood scraps with steel reinforcements from interior wood doors made at the Tohoku Plant, and those products that were returned, were disposed of in landfill.

At present, however, by making efforts to break them down and separate their materials, wood chips are now reused as boiler fuel and the metal materials are recycled effectively in alloys.

Wood interior door with steel reinforcements

Break down and separation machine

Fuel for boilers

For making alloys

Separated wood scrap chips and metal materials

◯ Recycling used grinding stones

In our Machinery and Engineering Group, grinding stones that have been worn down from the process of machine grinding operations.

In the past there was no way to recycle these so they were disposed of as landfill. From May 2002 we have worked with the makers who supply us and have begun a system to return the used products. To make return easier, we have set up special return boxes for the suppliers.

Used grinding stones are recycled by separating them by type and breaking them down and sifting them to make new products, such as grinding materials and fireproofing materials.

Return box for the collection of grinding stones

Management of chemicals

Along with batch managing use and discharge of chemical substances, we are working to reduce and develop alternatives to toxic chemicals.

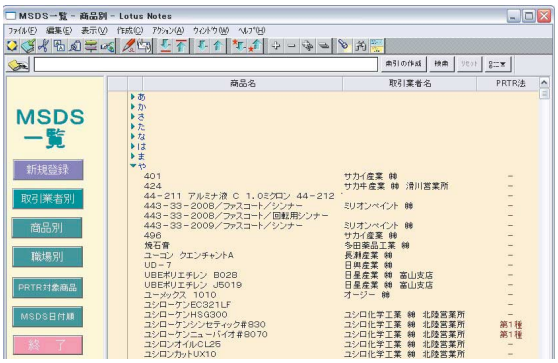
Environmental action targets

●We will continue to reduce use of toxic chemicals at our major production bases the world over.

○ Achievements of the 2002 fiscal year

In the 2002 fiscal year we strengthened our chemical substance management system. As one example, after preparing a database, in January we began the use of MSDS (Material Safety Data Sheets) for raw materials and secondary materials. In addition to making possible the sharing of information about chemical substances throughout the company, this also promotes the reduction of the use of harmful substances.

The use and disposal of substances covered by the Pollution Release and Transfer Register Law (PRTR) are shown in the chart below. We have been promoting the use of water-based paints and switching to CFC substitutes at all of our factories, but, due to production increases and the improved accuracy of our MSDS information, our use of these substances increased compared to fiscal 2001.



◆Breakdown for substances applicable to PRTR (limited to YKK Group main domestic plants)

Unit: t (Dioxins:mg-TEQ)

No.	CAS No.	Substance	Volume handled	Air	Water	Soil	Sewerage system	Consumption	Disposal	Transport volume	Recycle volume
1	———	Water soluble compounds of heavy lead	3.5	1.4	0.0	0.0	0.0	0.4	1.6	0.0	0.1
9	103-23-1	Adipic acid bis (2-ethylhexyl)	19.8	0.0	0.0	0.0	0.0	16.7	0.0	3.1	0.0
40	100-41-4	Ethylbenzene	1.9	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.4
43	107-21-1	Ethylene glycol	8.2	5.4	1.1	0.0	0.0	1.6	0.0	0.0	0.1
63	1330-20-7	Xylene	242.8	64.5	0.0	0.0	0.0	0.0	149.6	16.5	12.2
68	———	Chromium and trichromium compounds	2.2	0.0	0.0	0.0	0.0	1.5	0.0	0.7	0.0
100	———	Cobalt and cobalt compounds	11.2	0.0	0.6	0.0	0.0	6.2	0.0	4.3	0.1
108	———	Inorganic cyanide compounds	20.2	0.1	0.0	0.0	0.0	0.0	18.1	2.0	0.0
132	1717-00-6	1,1-Dichloro-1-fluoroethane	28.2	0.0	0.0	0.0	0.0	22.8	0.4	5.0	0.0
144	———	Dichloropenta-fluoropropane	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145	75-09-2	Dichloromethane	68.5	58.9	0.0	0.0	0.0	0.0	0.0	9.6	0.0
172	68-12-2	N, N-Dimentyl Formamide	6.1	6.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
179	———	Dioxins	–	17.5	0.0	0.0	0.0	0.0	0.0	3.8	0.0
227	108-88-3	Toluene	113.0	82.1	0.0	0.0	0.0	0.0	1.1	0.1	29.7
230	———	Lead and lead compounds	39.4	0.0	0.0	0.0	0.0	32.1	0.0	7.3	0.0
231	7440-02-0	Nickel	125.0	0.4	0.1	0.0	0.0	122.0	0.0	0.0	2.5
232	———	Nickel compounds	35.0	0.0	2.3	0.0	0.0	20.0	0.0	12.7	0.0
270	84-74-2	Di-n-butyl phthalate	5.2	0.0	0.0	0.0	0.0	5.1	0.0	0.1	0.0
272	117-81-7	Bis-2-ethylhexyl phthalate	1,031.3	0.0	0.0	0.0	0.0	981.2	0.3	10.4	39.4
304	———	Boron and boron compounds	15.2	0.0	11.1	0.0	0.0	0.0	0.1	3.9	0.1
309	9016-45-9	Poly (oxyethelene) = nonylphenol ether	4.8	0.0	3.4	0.0	0.0	0.0	1.3	0.0	0.1
311	———	Manganese and manganese compounds	28.9	0.0	0.0	0.0	0.0	26.8	0.0	0.2	1.9
2-78	101-68-8	Methlene bis (4, 1-phenylene) = Disocianate	313.2	0.0	0.0	0.0	0.0	117.0	0.0	196.2	0.0

* Data is given for substances handled in volume of 1 ton or more per year.

○ Continuing efforts

We are striving to improve and utilize our MSDS database to further reduce the risks caused by chemical substances.

In accordance with the PRTR Law, from March 2003 we began disclosing the amounts of chemical substances that we disposed of or transferred. The YKK Group is continuing to study and implement ways of evaluating the risks of chemical substances that we use, and provide communication about these results.

Management of small quantities of PCBs

PCBs (Polychlorinated biphenyl) are chemically and temperately very stable and provide excellent electrical insulation, so they were widely used for a variety of purposes, including as transformer and condenser insulation oil, as plasticizers, and as a heat transfer medium. Recognizing that they are carcinogenic, tend to accumulate and do not break down easily, their production was stopped in Japan in 1972.

In July 2002, the Ministry of Economy, Trade and Industry and the Ministry of the Environment announced that, small amounts of PCBs have been detected coming from transformers and condensers that use PCB-free insulation oil. Currently a policy is being developed that will provide for a system to determine the cause of this mixing and how to handle its treatment.

At YKK, in order to use and maintain transformers and condensers appropriately, we began inspecting the machines that we currently have in use for the presence of small amounts of PCBs in fiscal 2002. We are also putting the sticker shown at the right on machines that are PCB free as a part of our efforts to implement more vigorous oversight.

At present we are planning the best way to dispose of pieces of machinery in our possession that are tainted with PCBs in accordance with the Ministry of the Environment's basic plan for PCB Waste Disposal.

Protection of the Ozone Layer

To ensure that fluorocarbons are recovered at the time of the disposal of freezers, air-conditioners, and other devices, we are conducting registration and putting stickers on registered items.

Environmental action targets

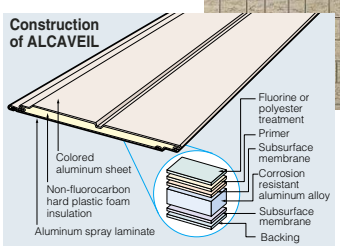
- **CFC-11 for refrigeration: Use to be stopped by the end of fiscal 2003 (in the manufacturing process)**
- **HCFC-141b for foaming: Use to be stopped by the end of fiscal 2002 (in the manufacturing process and in products)**
- **HCFC-225 for washing: Use to be stopped by the end of fiscal 2010 (in the manufacturing process)**

Our architectural products business contributes to the prevention of global warming by providing our customers with insulation products that improve the efficiency of interior heating and cooling. For these insulation products we had used the fluorocarbon substitute HCFC-141b for insulation foam, but we are steadily switching to the use of aqueous foam.

We sought to eliminate the use of HCFC-141b in fiscal 2002. We managed to change to aqueous foam for most products such as exterior materials and rain shutters, but some products still remain to be converted, so we were unable to meet our goal of converting all products within the fiscal year.

We will continue to promote efforts to convert the remaining products by the end of fiscal 2003.

Products without fluorocarbons



Exterior architectural material ALCAVEIL
This exterior architectural product is a composite construction of colored aluminum sheet and non-fluorocarbon hard plastic foam that has excellent insulation, soundproofing properties and a long lifespan.

Soil conservation

We believe that soil conservation is important for risk management in terms of both regional environmental protection and land capital value.

Environmental action targets

- **Conduct environmental impact assessments for land we use**
- **Require pollution evaluations when purchasing land (set in accordance with legal reforms)**

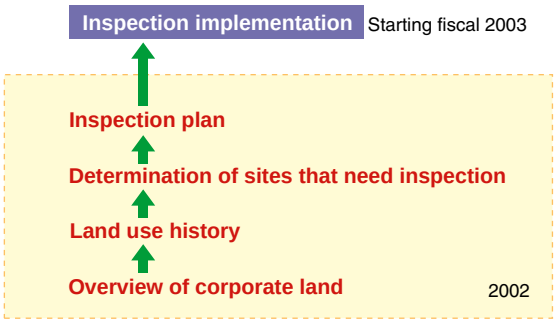
Soil inspections

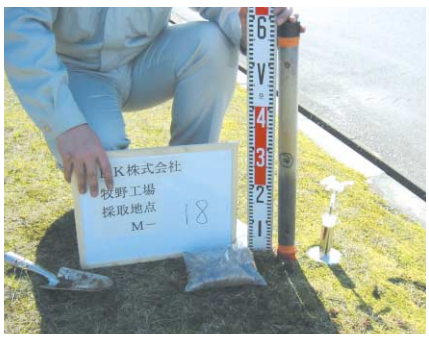
On February 15, 2003 the Soil Contamination Countermeasures Law was implemented. Since fiscal 1999, YKK has voluntarily conducted groundwater inspections, and, in accordance with the new law, we have also begun conducting soil contamination inspections.

In fiscal 2002, after completing overall inspections and land use history investigations, we created the Soil Inspection Plan for land in our possession identified as needing soil analysis to complement our other inspection methods.

In fiscal 2003, we will implement soil inspections according to this plan.

◆ Inspection methods





Collecting a soil sample

Collecting a soil gas sample

Groundwater inspections

Depending on regional characteristics, some YKK Group factories use groundwater for both daily life and industrial purposes. These plants continuously conduct inspections to prevent soil and groundwater pollution.

Among substances inspected for are some that are no longer used, but were used in the past. None of these tested substances has been detected.

◆ Groundwater inspection results

Unit: mg/L

	Tri-chloro-ethylene	Tetra-chloro-ethylene	1,1 Tri-chloro-ethane	Di-chloro-methane	Hexavalent chromium	Selenium	Cyanide compounds
1999	<0.001	<0.001	<0.001	<0.002	<0.02	<0.001	<0.01
2000	<0.001	<0.001	<0.001	<0.002	<0.02	<0.001	<0.01
2001	<0.001	<0.001	<0.001	<0.002	<0.02	<0.001	<0.01
2002	<0.001	<0.001	<0.001	<0.002	<0.02	<0.001	<0.01

Environmental protection (Strict adherence to legal regulations)

We control SOx and NOx in gas, exhaust water and other emissions from our plants and other facilities with voluntary management standards that are stricter than laws and agreements.

Environmental action targets

- **Ensure legal compliance**
- **Further enhance low environmental impact operations**

Preventing air pollution

When updating our facilities, we have adopted the use of low sulfur fuels, including kerosene and LPG, for fuel-using manufacturing processes. Furthermore, by taking such measures as installing burners that are effective at NOx reduction in melting furnaces and boilers, we are reducing the amount of nitrogen oxide occurrence.

At the Tohoku Plant, the boiler is operated by heat produced by wood scrap burning equipment, allowing us to reuse the heat energy stored in the waste wood. Furthermore, we undertake countermeasures against dioxins, including thorough management of our incinerators with such equipment as internal temperature regulators, rapid cooling of exhaust gas and particle collection in bag filters.

Tohoku Plant equipment used to capture the heat energy of burning wood scraps

Preventing water pollution

Since fiscal 2001, we have been conducting inspections of water organisms in the waterways that receive exhaust water from our Kurobe facilities. The quality of the water influences types and numbers of organisms living in these waterways, so surveying them provides a method for overall evaluation of the water quality. In fiscal 2002, we expanded the number of survey locations and items measured for these water quality inspections. We will continue to conduct these surveys in the future.

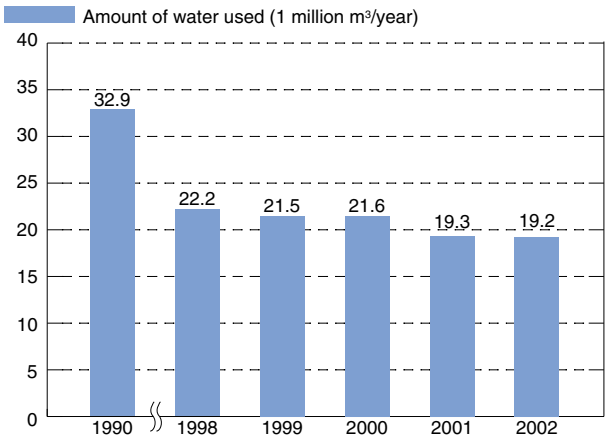
Aquatic life study

Effective water use

Recognizing that water is an important resource, in addition to striving to use cooling water efficiently in our manufacturing processes to reduce our water use, we also actively contribute to regional groundwater preservation by letting rainwater percolate into the ground.

Kurobe facility cooling water collection pond

Transition in amount of water used (limited to YKK Group main domestic plants)



V・Environmental management systems

ISO 14001 certification acquired and applied

ISO 14001 (Environmental Management System) certification is indispensable as an international enterprise. We are promoting the acquisition of this certification for all of our businesses as a means to achieving goals and assuring the implementation of environmental reforms.

Environmental action targets

●Complete ISO 14001 certification for all of our main facilities throughout the world by the end of fiscal 2003

◯Results of fiscal 2002

As an internationally expanding global enterprise we are promoting the establishment of environmental management systems in accordance with the international environmental management standard ISO 14001. With our environmental management systems, we are undertaking the creation of mechanisms that can handle environmental risks with certainty.

In fiscal 2002, five more domestic facilities and thirteen facilities abroad achieved certification, bringing the YKK Group total to 43. Four YKK architectural products plants received certification, completing the certification of all of our main domestic production facilities.

◆Rate of ISO 14001 acquisition by number of employees

as of March 2003

	Domestic	Overseas	Total
Fastening products (manufacturing divisions)	79% (100%)	63%	64%
Architectural products (manufacturing divisions)	63% (90%)	43%	59%
Machinery and engineering	100%	———	100%
Research and development	100%	———	100%
Management, Affiliated companies	28%	0%	22%
Group total (manufacturing divisions)	67% (92%)	59%	63%

◯Continuing efforts

We are seeking to achieve certification for our other domestic facilities, including offices and sales locations. By the end of fiscal 2003, our main sites abroad will also receive ISO 14001, completing the certification of all of our main facilities.

◯YKK Korea Co., Ltd. ISO 14001 Certification

YKK Korea Co., Ltd passed its final ISO 14001 inspection in October 2002 and received certification.

YKK Korea's environmental goals and management plan include reduction of water consumption, energy conservation, and the conservation and reuse of other resources.

First of all, the company conducted regular study groups to raise the awareness and understanding of the staff. With "harmony with the environment" as their highest objective and "giving future generations a clean environment" as their slogan, they undertook many difficult tasks, including establishing goals for each manufacturing process.

In Korean dining tradition, the customs of providing more food than can be consumed and leaving some at the end of a meal have been considered virtuous. So, adapting to the concepts of conservation, resource use reduction and harmony with the environment has actually been fairly difficult.

In practice, since reducing water use has severe effects on product quality, we set up recycling equipment. For the water treatment, we promoted knowledge and techniques that put precedence on improving the quality of the exhaust water, rather than reducing the amount of chemicals used for its treatment.

Employees not only became more conscious of the environment, but also seemed to become more aware in a wider sense. When the plant received ISO 14001 certification, employees said things such as, "I had never thought that our work was connected to the environment, so it was a new discovery for me" and "I learned that many small things add up to big results."

The employees plan to continue to make concerted efforts to implement and develop their environmental management system beyond the requirements for the certification.

Group internal environmental auditing

We have implemented group internal audits by experts in the company who support, advise and assist in improving the environmental performance of the entire group, including environmental risk management and the strength our system for legal compliance.

Environmental action targets

●Implement internal environmental auditing for our main facilities around the world

○Achievements of fiscal 2002

The YKK Group Environment Committee has implemented group internal environmental audits since 1994. Every plant and office conducts voluntary internal environmental audits based on their environmental management systems.

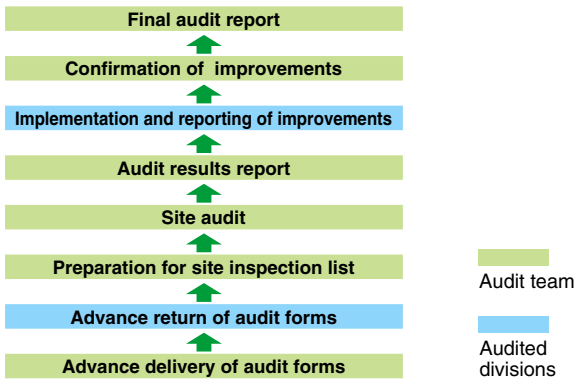
For group internal environmental audits, company experts confirm that they meet the YKK Group's fundamental directives and policies for environmental management and that they are managing environmental risk.

In 2002 internal environmental audits were conducted at 3 domestic plants. Even though we found that they were earnestly undertaking environmental improvement efforts and responding to environmental risk in accordance with their ISO 14001 certified environmental management systems, we determined that there were areas where they were not completely meeting the YKK Group environmental management fundamental directives and fundamental policies. In addition to announcing the audit results at the audited plants and giving explanations about necessary reforms, a report was made to the environmental policy committee that will be used in reevaluating YKK Group environmental efforts.

○Continuing efforts

Internal environmental auditing is considered to be an important part of the whole YKK Group's efforts to promote environmental improvement. In the future we intend to implement internal environmental audits for all of the YKK Group's operations throughout the world as a part of our efforts to fulfill our environmental policies.

◆YKK Group internal environmental auditing process



○Audited facility manager
Observations of Tohoku Plant Manager Hiroyuki Yamaguchi

At the Tohoku Plant, we have sought to live harmoniously with the area since starting operations and have worked to achieve a park-like plant with water and vegetation. We had an opportunity to reevaluate our practices up until now when we received the YKK Group internal audit. Having experts in environmental fields from other parts of the YKK Group check our daily environmental efforts and provide us with a variety of advice and assistance, also gave us a chance to align our approach to the environment with the YKK Group and raise the level of our own efforts. I have no doubt that this process will also help us when the time comes for inspection for renewal of our ISO certification.

Since the Tohoku Plant handles a variety of materials, including aluminums, woods, resins, and glasses, I think that we have to overcome some extra difficulties and make additional efforts to protect the environment. However, if we can fully overcome these difficulties, I am sure that this accomplishment will give us great ability as a plant. This year we are also going to try to achieve zero emissions.

Water park using plant exhaust water

During an audit

Environmental accounting

Along with clarifying money invested in environmental activities and utilizing it for environmental management decision in order to conduct environmental investment more efficiently and effectively, we publish environmental accounting data as material that reveals our corporate posture to the public.

Environmental action targets

● **Implementation and utilization of environmental accounting systems**

◯ Achievements of fiscal 2002

We calculated the money spent on environmental equipment, environmental protection investment and their immediate effects.
For our environmental accounting standards, we conformed to the Ministry of the Environment's Guidelines for the Implementation of Environmental Accounting Systems (MfE: 2002 edition).
The amount invested in environmental equipment for the prevention of pollution has decreased because we have already completed large expenditures on such items as dioxin pollution countermeasures and the replacement of exhaust water treatment facilities. For energy conservation measures, which will continue to be effective over the long term, we are spending about the same amount on equipment annually.

◯ Results of environmental accounting for fiscal 2002

◆Fiscal 2002 environmental conservation cost (limited to domestic YKK Group)

(Unit: ¥1 million/year)

Item		Contents of main initiatives	Equipment investment	cost
Cost within business area	Prevention of pollution	Installment of wood scrap burning heat recovery bag filter	172	643
	Conservation of the global environment	Introduction of equipment in accord with energy conservation measures and fuel changeover	242	436
	Recycling of resources	Installment of equipment for recycling measures	66	556
Work area internal cost total			480	1,635
Upstream/downstream cost		Return waste sash disassembly cost, returnable packing materials	42	78
Management activities cost		ISO 14001 maintenance/management cost, environmental exhibition, environmental report, environmental analysis, tree planting	11	490
R&D cost		Development of environment-friendly products	27	490
Social activities cost		Cooperative volunteer activities with local communities	4	61
Environmental damage cost			0	0
Other costs		Inspection and management of fire extinguishing equipment	4	48
Total			568	2,802
		Fiscal 2001	592	3,317
		Fiscal 2000	1,345	4,030

Fiscal Year	Environmental equipment investment			Environmental costs		Sales	Total equipment investment
	(Unit: ¥100 million)	Sales ratio (%)	Equipment investment ratio (%)	(Unit: ¥100 million)	Sales ratio (%)	(Unit: ¥100 million)	(Unit: ¥100 million)
2002	5.7	0.1	3.6	28.0	0.7	3,857	156
2001	5.9	0.2	2.7	33.2	0.9	3,852	218
2000	13.5	0.3	4.4	40.3	1.0	4,056	307

◯ Example of environmental accounting for one type of measure: expected effectiveness of the installation of a root blower

In the final stage of the rolling manufacturing process of metal materials for fasteners, lubricating oil was removed from the surface of the wire using industrial high-pressure air. However, since the high-pressure air holds water and oil and the temperature is low, sometimes the effectiveness of the removal was not good.
In order to fix this problem, we did a comparative investigation to decide on the installment of new equipment, including consideration of air volume and pressure, dryness, moisture, and energy conservation. We found that not only the type of equipment but that the method of installment also has an impact on the effectiveness. By installing a single root blower on each rolling mill and reducing the pipe length, we achieved better quality, energy efficiency, and a reduction in CO_2 emissions.

Equipment investment (¥1,000)	Effective sum (¥1,000/year)	Cost recovery (Years)	Environmental conservation effect (t-CO_2/year)	Environmental performance improvement efficiency (t-CO_2/¥100 million)
23,700	23,011	1	749	3,160

A root blower is an insulated compressor, so the temperature gets up to 40°C, providing plenty of moisture-free air to dry the wire.

◯Effect

◆Substantial effect of major environmental activities for fiscal 2002 (range: Domestic YKK Group)

Environmental investment items	Environmental investment (unit: ¥1 million)	Effective amount (unit: ¥1 million/year)	Description
Energy conservation	192	53	Effect of introduction of high-efficiency equipment, modification of production process
Used paper collection	1	12	Improvement of paper recycling collection places, etc. Effect from profit from selling used paper and reducing costs of disposal by incineration
Measures for coping with waste	34	34	Installation of recycling facilities, etc. Effect from reducing landfill disposal costs
Transportation measures	0	150	Increased transportation route efficiency through implementation of terminal points and shifting to rail transport
Reduction of packaging materials	42	10	Effect of packaging method reform, including the use of returnable packing materials for house makers

◆Effect of environmental conservation for fiscal 2002 (range: Domestic YKK Group)

Items			Impact on the environment (tons/year)					Environmental performance improvement rate (EE value) *2 (tons/¥100 million)
			Results for 2001 (tons/year)	2002 conversion *1 (tons/year)	Results for 2002 (tons/year)	Amount of reduction	Increase/ decrease rate (%)	
Effect on investment resource	CO_2		305,164	305,560	306,754	-1,194	-0.4	-42.605
	Amount of water used		19,250,000	19,274,987	19,198,000	76,987	0.4	2,747.574
	Materials	Aluminum bullion	109,750	109,892	109,374	518	0.5	18.503
		Electrolytic copper	7,820	7,830	9,460	-1,630	-20.8	-58.167
Effect on discharged waste, environment impact	NOx		536	537	464	73	13.5	2.594
	SOx		141	141	131	10	7.2	0.363
	BOD		43	43	46	-3	-6.8	-0.105
	COD		25	25	25	0	0.1	0.001
	Amount of waste disposed of as landfill or by incineration		4,036	4,041	2,875	1,166	28.9	41.622
	PRTR applicable substances		2,028	2,031	2,129	-98	-4.8	-3.511
Effect on transport	Transport(CO_2)		20,081	20,107	16,576	3,531	17.6	126.019

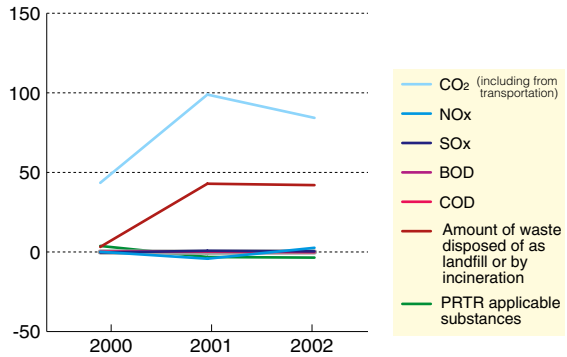
*1. 2002 conversion: Calculated by taking sales results of fiscal 2001 and 2002 into account based on results of impact placed on the environment for fiscal 2001.
2002 conversion = results of impact placed on the environment for fiscal 2001 multiplied by sales results of fiscal 2002 divided by sales results of fiscal 2001.

*2. Environmental performance improvement rate (EE value): Expresses whether or not impact placed on the environment is reduced (or increased) per ¥100 million of environmental conservation cost.
EE value = amount of reduction / environmental conservation cost (¥2.8 billion for fiscal 2002)
The larger the numerical value is, the better the environment improving effect.

◯Continuing efforts

We are planning for the greatest cost-effectiveness by conducting segment accounting (prediction of affects based on various conditions) for the incorporation of new equipment.
Currently most of our efforts are in energy conservation, but we intend to implement the use of new equipment for other environmental measures.
Furthermore, for each product, by identifying the amount of material waste and financial loss during the stages of the manufacturing process and improving the efficiency of work and effectiveness of materials use, we will be able to implement "material flow cost accounting" which would lower costs while lowering environmental impact.

Transition of environmental performance improvement rate (EE value)



Improvement of efficiency was about the same as the previous year.

Ⅵ・Environmental communication

Internal environmental communication

In order to raise the environmental consciousness of our employees, we are implementing the sharing of environmental information and the holding of participatory workshops about the environment.

◯ Environmental seminars

We held an environmental education seminar with the former mayor of Minamata, Masazumi Yoshii. Starting with his own experience with Minamata disease, he introduced many concrete examples of dealing with environmental problems and ways to handle them in the future.

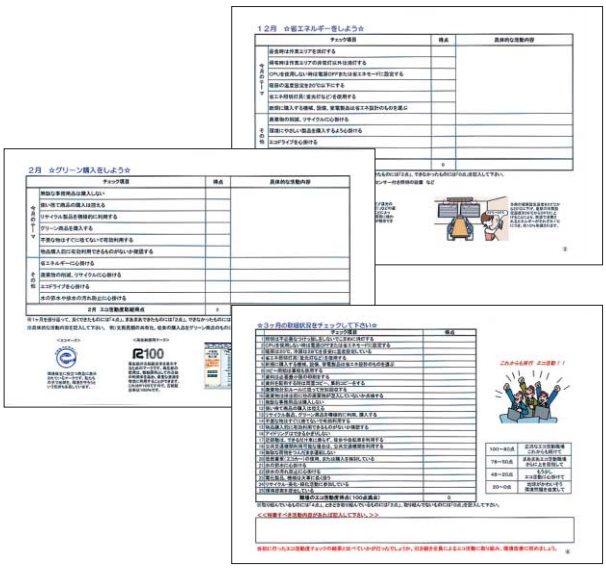
He explained that, by undertaking environmental protection activities with clear principles, the small efforts of each individual can add up to big results. We were able to see how our environmental protection efforts in each area of our work have an impact.

Masazumi Yoshii, the former Mayor of Minamata, gives a presentation at a seminar on the environment (September 18, 2002)

◯ Environmental Action 25 (Workplace efforts)

Continuing from last year with the goal of raising environmental consciousness and increasing the implementation of global environmental protection efforts, we began Environmental Action 25 for all of the employees of the YKK Group.

This time we created a 25 item list of basic environmental efforts that can be made at the workplace. These were organized into monthly themes with three-month periods for scoring efforts and checking their success. Some workplaces included action goals for ISO certification and most workplaces improved their environmental efforts.



◯ Environmental education through e-learning

For newly hired employees, we have conducted environmental education about environmental problems and the environmental protection efforts of the YKK Group. Since 2001, we have also implemented environmental education by e-learning for new hires to study before starting work.

◯ Collection of data from YKK Group plants abroad

We have created a database by collecting environmental data from the YKK Groups plants abroad.

Along with giving us an overview of the state of environmental efforts at our facilities in every country, we intend to use this database when making policies to promote the entire Group environmental improvement.

Environmental communication with society

The YKK Group creates opportunities for employees to participate actively in environmental protection and volunteer activities. In order to make the public aware of our environmental efforts and the environmentally friendly products offered by the YKK Group, we are making environmental information broadly available.

●Coexistence with local communities

○Environmental protection activities of YKK Do Brazil Ltda.

In Brazil, few companies have ISO certification, so YKK Do Brazil undertook the following activities to raise environmental consciousness not just in the company, but also throughout the local community.

Sponsoring environmental events

At a shopping center in the suburbs of Sorocaba, YKK Do Brazil held an event with panels covering the themes of the global environment, Brazil's nature, the company's industrial activities and environmental protection along with a children's coloring corner on environmental themes.

The main purposes of this event were to show the citizens of Sorocaba the importance of environmental protection, to promote the environmental protection efforts of YKK Do Brazil and to raise the awareness of YKK company employees.

Vegetation of the Sorocaba River watershed

As an important part of our environmental protection efforts, we proposed revegetation activities in the surrounding region. For this purpose, YKK Do Brazil planted 400 tree saplings.

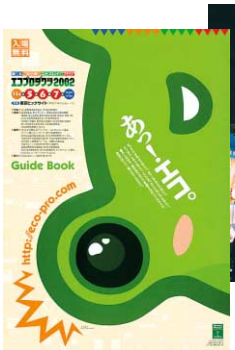
Presentation of lectures about environmental protection

The YKK Do Brazil Sorocaba Plant ISO Chief gave a lecture about the global environment and the plant's production activities with the theme of environmental management at a regional work training school. The participants were ordinary citizens and it included a panel discussion. We believe that this helped contribute to raising awareness about the environment of local citizens.

●Promoting environmental information

○Participation in exhibitions

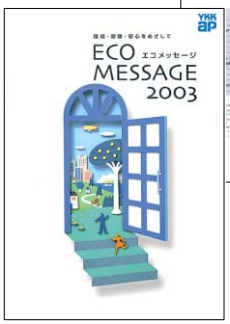
With the concept of "providing environmentally sound products widely to society" we sponsored an exhibit at Eco Products 2002. We provided a hands-on corner for people to learn about environmentally friendly products, including insulating APSWORD Wood sashes, which are easy to disassemble and recycle when they are no longer needed, and our biodegradable Hook and Loop Fasteners which are made mainly of polylactic acid, a plant-based material with low environmental impact.

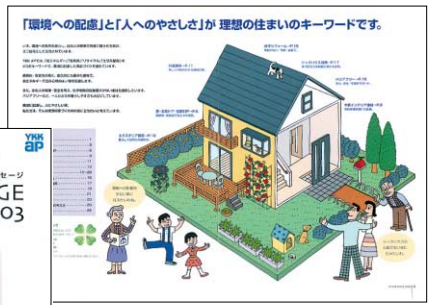


Eco Products 2002 December 5 - 7, 2002
Tokyo Big Site

○Eco Message 2003

Continuing from last year, in February 2003, we published a catalog with detailed information about the YKK Group's environmentally friendly architectural products.





For inquiries concerning Eco Message 2003:

YKK AP Inc., Corporate Administration, General Affairs Department
TEL: 03-3864-2182 FAX: 03-3864-2330

Ⅶ・Environmental impact data for each site

Main domestic plants

Kurobe Plant

200 Yoshida Kurobe-city, Toyama 938-8601
Tel: 0765-54-8000

•Date of ISO 14001 certification	August 1998
•Property area	1,017,000 m^2
•Total floor area of building	814,000 m^2
•Use district	Industrial area
•Type of business	Fastening products manufacturing, architectural products manufacturing, manufacturing of precision machinery, equipment and dies
•No. of employees	4,473
•Energy management specified plant	Type I heat management, Type I electricity management
•Electrical power consumption	195,954,000 kWh/year
•Fuel consumption (crude conversion)	18,152 kL/year
•Water consumption	9,903,000 m^3/year
•Exhaust water discharge destination	River
•Leakage/outflow accidents	None

Kurobe Ekko Plant

9425 Yoshida Kurobe-city, Toyama 938-8603
Tel: 0765-57-0815

•Date of ISO 14001 certification	December 2002
•Property area	221,000 m^2
•Total floor area of building	154,000 m^2
•Use district	Industrial area
•Type of business	Manufacture of architectural product parts, Manufacture of rain shutters
•No. of employees	670
•Energy management specified plant	Type I heat management, Type I electricity managemant*1
•Electrical power consumption	30,747,000 kWh/year
•Fuel consumption (crude conversion)	976 kL/year
•Water consumption	657,000 m^3/year
•Exhaust water discharge destination	Sea
•Leakage/outflow accidents	None

*1: Based on Kurobe Plant management, energy management designation plant designated as Kurobe Plant because power received from Kurobe Plant's power reception/transformer equipment.

Kurobe Makino Plant

938 Makino Kurobe-city, Toyama 938-8602
Tel: 0765-54-1100

•Date of ISO 14001 certification (Expansion of Certification)	August 2000
•Property area	104,000 m^2
•Total floor area of building	53,000 m^2
•Use district	Industrial area
•Type of business	Fastening products manufacturing, architectural products extrusion die machining
•No. of employees	191
•Energy management specified plant	Type I electricity management
•Electrical power consumption	33,377,000 kWh/year
•Fuel consumption (crude conversion)	761 kL/year
•Water consumption	843,000 m^3/year
•Exhaust water discharge destination	River
•Leakage/outflow accidents	None

Kurobe Ogyu Plant

1, Ogyu Kurobe-city, Toyama 938-8604
Tel: 0765-57-2051

•Date of ISO 14001 certification	September 2002
•Property area	337,000 m^2
•Total floor area of building	126,000 m^2
•Use district	Not specified
•Type of business	Architectural products machining/assembly
•No. of employees	727
•Energy management specified plant	Type I electricity management
•Electrical power consumption	12,944,000 kWh/year
•Fuel consumption (crude conversion)	416 kL/year
•Water consumption	226,000 m^3/year
•Exhaust water discharge destination	River
•Leakage/outflow accidents	None

Namerikawa Plant

3003 Sugimoto Namerikawa-city, Toyama 936-8510
Tel: 076-477-2300

•Date of ISO 14001 certification	June 2002
•Property area	667,000 m^2
•Total floor area of building	116,000 m^2
•Use district	Not specified
•Type of business	Architectural products machining/assembly
•No. of employees	380
•Energy management specified plant	Type II electricity management
•Electrical power consumption	10,694,000 kWh/year
•Fuel consumption (crude conversion)	423 kL/year
•Water consumption	232,000 m^3/year
•Exhaust water discharge destination	River
•Leakage/outflow accidents	None

Toyama Mizuhashi Plant

15-21 Mizuhashiichidabukuro Toyama-city, Toyama 939-3555
Tel: 076-479-2110

•Date of ISO 14001 certification	June 2002
•Property area	34,000 m^2
•Total floor area of building	20,000 m^2
•Use district	Semi-industrial area
•Type of business	Wooden architectural products machining
•No. of employees	61
•Energy management specified plant	Does not apply
•Electrical power consumption	2,024,000 kWh/year
•Fuel consumption (crude conversion)	104 kL/year
•Water consumption	3,000 m^3/year
•Exhaust water discharge destination	Sewerage system
•Leakage/outflow accidents	None

Hokkaido Plant

1-22-33 Shinko-minami Ishikari-city, Hokkaido 061-3296
Tel: 0133-64-4134

•Date of ISO 14001 certification	Certification expected by the end of fiscal 2003
•Property area	63,000 m^2
•Total floor area of building	22,000 m^2
•Use district	Industrial area
•Type of business	Architectural products manufacturing
•No. of employees	145
•Energy management specified plant	Does not apply
•Electrical power consumption	3,567,000 kWh/year
•Fuel consumption (crude conversion)	150 kL/year
•Water consumption	9,000 m^3/year
•Exhaust water discharge destination	Sewerage system
•Leakage/outflow accidents	None

Tohoku Plant

1, Sanbongiyoshida Sanbongi-cho Shida-gun, Miyagi 989-6392
Tel: 0229-52-3500

•Date of ISO 14001 certification	June 2000
•Property area	729,000 m^2
•Total floor area of building	324,000 m^2
•Use district	Industrial area
•Type of business	Architectural products manufacturing
•No. of employees	1,499
•Energy management specified plant	Type I heat management, Type I electricity management
•Electrical power consumption	73,982,000 kWh/year
•Fuel consumption (crude conversion)	6,470 kL/year
•Water consumption	3,708,000 m^3/year
•Exhaust water discharge destination	River
•Leakage/outflow accidents	None

Shikoku Plant

4000 Yoshida Utazu-cho, Ayauta-gun, Kagawa 769-0293
Tel: 0877-46-8014

•Date of ISO 14001 certification	March 2000
•Property area	330,000 m^2
•Total floor area of building	180,000 m^2
•Use district	Industrial area
•Type of business	Architectural products manufacturing
•No. of employees	891
•Energy management specified plant	Type I heat management, Type I electricity managemant
•Electrical power consumption	34,070,000 kWh/year
•Fuel consumption (crude conversion)	12,484 kL/year
•Water consumption	1,416,000 m^3/year
•Exhaust water discharge destination	Sea
•Leakage/outflow accidents	None

Kyushu Plant

1-10 Shinminato-cho, Yatsushiro-city, Kumamoto 866-8511
Tel: 0965-37-1111

•Date of ISO 14001 certification	March 1999
•Property area	342,000 m^2
•Total floor area of building	205,000 m^2
•Use district	Industrial area
•Type of business	Architectural products manufacturing
•No. of employees	1,022
•Energy management specified plant	Type I heat management, Type I electricity managemant
•Electrical power consumption	33,688,000 kWh/year
•Fuel consumption (crude conversion)	13,500 kL/year
•Water consumption	2,066,000 m^3/year
•Exhaust water discharge destination	Sea
•Leakage/outflow accidents	None

Metal Materials Research Laboratory

9-5-1 Narita Tomiya-cho, Kurokawa-gun, Miyagi 981-3341
Tel: 022-351-5500

•Date of ISO 14001 certification	April 2001
•Property area	15,000 m^2
•Total floor area of building	4,000 m^2
•Use district	Industrial area
•Type of business	Research and development
•No. of employees	16
•Energy management specified plant	Does not apply
•Electrical power consumption	943,000 kWh/year
•Fuel consumption (crude conversion)	14 kL/year
•Water consumption	2,000 m^3/year
•Exhaust water discharge destination	Sewerage system
•Leakage/outflow accidents	None

17 YKK AP Plants

Namerikawa Plant, Akita Plant, Niigata Plant, Tochigi Plant, Ibaraki Plant, Saitama Plant, Chiba Plant, Keiyo Plant, Kanagawa Plant, Shizuoka Plant, Mie Plant, Shiga Plant, Ochiai Plant, Ochiai Second Plant, Yamaguchi Plant, Fukuoka Plant, Kumamoto Plant

•Date of ISO 14001 certification	The Namerikawa Plant was certified in December 1998 and other plants were certified in May 2001 and January 2002, completing certification of all of the plants.
•Property area	254,000 m^2
•Total floor area of building	190,000 m^2
•Type of business	Architectural products machining/assembly
•No. of employees	1,954
•Energy management specified plant	Namerikawa Plant: Type II Electricity Management Other Plants: do not apply
•Electrical power consumption	15,855,000 kWh/year
•Fuel consumption (crude conversion)	914 kL/year
•Water consumption	222,000 m^3/year
•Leakage/outflow accidents	None

Plants that have completed ISO 14001 certification abroad

		Property area (1000 m²)	Total floor area of building (1000 m²)	Type of business	No. of employees
[1] North and Central America	YKK (U.S.A.) Inc.	1,226	223	Fasteners, S&B, T&P manufacture	927
	YKK Canada Inc.	57	29	Fasteners, S&B manufacture	175
	YKK AP America Inc.	809	72	Architectural products manufacture	390
[2] South America	YKK Do Brazil Ltda.	247	51	Fasteners, S&B, T&P manufacture	431
[3] East Asia	Shanghai YKK Zipper Co.,Ltd.	61	45	Fasteners manufacture	556
	YKK Hong Kong Ltd.	14	143	Fasteners manufacture	654
	Dalian YKK Zipper Co.,Ltd.	148	69	Fasteners manufacture	408
	YKK Taiwan Co.,Ltd.(Fastening Products Division)	79	111	Fasteners manufacture	871
	YKK Korea Co.,Ltd.	43	31	Fasteners manufacture	304
	YKK Zipper Shenzhen Co.,Ltd.	105	74	Fasteners manufacture	746
	YKK Taiwan Co.,Ltd.(Architectural Products Division)	12	7	Architectural products manufacture	78
[4] South Asia	P.T. YKK Zipper Indonesia	84	33	Fasteners manufacture	864
	P.T. YKK Zipper Indonesia Cibitung PPD plant	11	8	Fabric material for fasteners manufacture	86
	P.T. Zipco Indonesia	159	76	Fasteners and fastener parts manufacture	690
	YKK Singapore Pte. Ltd.	14	12	Fasteners manufacture	218
	YKK (Thailand) Co.,Ltd.	146	30	Fasteners, S&B manufacture	435
	YKK Zipper Philippines Inc.	60	12	Fasteners manufacture	233
	YKK India Pvt.Ltd.	105	28	Fasteners manufacture	319
	P.T. YKK Alumico Indonesia	164	64	Architectural products manufacture	1,137
[5] Europe	YKK (U.K.) Ltd.	74	38	Fasteners manufacture	215
	YKK Stocko Fasteners GmbH.	49	23	S&B manufacture	271
	YKK Deutschland GmbH.	56	20	Fasteners manufacture	180
	YKK France SARL	62	25	Fasteners, T&P manufacture	182
	YKK Italia S.p.A.	138	33	Fasteners manufacture	206
	YKK Espana S.A.	49	10	Fasteners manufacture	252
	YKK Hellas A.E.B.E.	30	3	Fasteners manufacture	36
	YKK Metal ve Plastik Urunleri Sanayi ve Ticaret A.S.	67	23	Fasteners, S&B manufacture	204
	YKK Egypt S.A.E.	17	6	Fasteners manufacture	82
	YKK Southern Africa (Pty) Ltd.	33	18	Fasteners, S&B manufacture	201

S&B manufacture: snaps, buttons, rivets and other metal parts manufacture
T&P manufacture: Hook and Loop Fasteners, fabric tape, buckles and other resin products manufacture

Site Mini Report

YKK (U.S.A.) Inc. Macon Plant: Efforts to reduce risks from chemical substances

[1] Incorporation of a web-based management system for MSDS

Since 2001, this plant has contracted with an MSDS (material safety data sheet) management company and conducted MSDS management and updating via a web site. With on-site terminals, as well as 24-hour telephone support, employees can get the latest information about harmful substances as soon as they need it and receive emergency support if necessary. Furthermore, organization of troublesome papers is unnecessary.

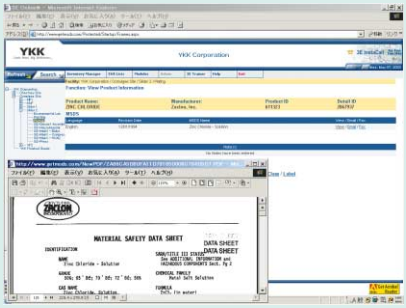
[2] Waste minimization plan

The law requires that every year a plan to reduce harmful substances be made and implemented. There are no requirements about the amount of the effect of these plans, but the community expects that businesses will make continuous efforts to reduce the amounts of harmful materials they use.

The Macon Plant has succeeded in reducing the amount of harmful substance discharge, by reducing VOC (volatile organic compounds) use, including discontinuing the use of kerosene in die casting, switching to low mercury fluorescent lights and reusing ethylene glycol, among other efforts.

[3] Reducing industrial waste in accordance with ISO 14001

This plant has been following a plan to reduce industrial waste adopted with the introduction of ISO 14001. Achievements to date, include reducing the use of cyanide by eliminating it in zinc plating and introducing a new plating line, reducing the amount of cyanide sludge (about 8 tons per year reduction), eliminating selenium in black dyeing, and reduction of paint booth sludge (booth sludge successfully converted to normal waste through the use of a non-methyl ethyl ketone thinner for washing).



MSDS web-based management system

Results of fiscal 2002

Power (1000 kWh)	Fuel (kL)	CO_2 (t)	Amount recycled (t)	Amount disposed of (t)	Recycling rate (%)	Amount of paper used (t)	Water consumption (1000 m^3)	Exhaust water discharge destination	Leakage/ outflow accidents
134,155	4,476	57,371	635	245	72	24.7	786	Sewerage system	None
8,539	782	4,672	170	98	63	3.6	78	Sewerage system	None
24,741	3,314	15,729	1,505	568	73	6	241	Sewerage system	None
12,718	1,107	7,612	536	519	51	2.6	248	River	None
13,083	955	7,217	679	19	97	9.5	297	Sewerage system	None
24,190	1,089	11,476	249	23	92	13.3	213	Sewerage system	None
11,758	1,298	7,658	195	32	86	8.7	326	Sewerage system	None
58,242	3,030	29,223	404	1,071	27	19.9	1,000	River	None
6,714	640	4,102	110	169	39	5.2	102	River	None
21,078	1,302	10,978	644	367	64	6.6	369	River	None
422	0	151	5	2	75	0.6	3	River	None
14,392	2,142	9,864	—	—	—	11	301	River	None
6,461	4,937	15,846	0	67	0	1.7	66	River	None
32,652	977	13,684	0	12	0	1.7	279	River	None
5,009	329	2,665	63	19	77	3.7	112	Sewerage system	None
8,233	640	4,689	8	68	11	4.3	223	Sea	None
3,310	292	1,997	62	63	50	2.2	77	River	None
7,753	3,058	10,923	99	75	57	1.9	207	Sewerage system	None
30,672	5,263	21,873	2,680	53	98	6.8	285	River	None
5,003	1,504	5,871	68	347	16	2.4	80	Sewerage system	None
3,837	5,507	12,573	345	110	76	7.7	34	Sewerage system	None
4,380	797	3,442	189	0	100	3.1	86	Sewerage system	None
4,124	861	3,259	52	136	28	3.3	61	Sewerage system	None
8,230	3,125	9,449	480	59	89	—	404	River	None
10,060	638	4,916	261	345	43	6.6	120	River	None
556	105	443	—	—	—	—	5	Sewerage, underground	None
4,235	485	2,523	8	43	17	2.8	219	Sewerage system	None
701	131	610	9	—	—	1.1	44	Sewerage system	None
2,932	495	2,808	37	17	69	1.7	—	Sewerage system	None

* In fiscal 2002 there were no accidents of leakage or outflow outside these plants.

Site Mini Report

Shanghai YKK Zipper Co., Ltd.

[1] Installation of die casting zinc dust filtering equipment

To prevent the emission of zinc dust from die casting chimneys, we installed particle removal equipment with highly effective filters. This system not only improves the work environment of the plant, but also the environment of the area around the plant by reducing the amount of zinc soot and smoke in the air.

[2] Reuse of exhaust water from plating purified water equipment

In the past, water used in the plating process was simply expelled, but now by collecting this water in a tank, it can be reused in the grinding and the degreasing lines. (30 - 50 m^3/day)

[3] Awarded prize for environmental reliability

In recognition for its environmental improvement efforts, including strictly following all laws and regulations, causing no environmental disasters and reducing waste, the Shanghai Minhang Environmental Protection Agency awarded Shanghai YKK Zipper with a commendation as a business that reliably protects the environment.

Particle filtration equipment

Water collection tank

Ⅷ • Outside opinions about the YKK Group efforts to protect the environment

Looking at the environmental management systems of domestic businesses, the environmental management at production sites is established and I feel that the staff members have clear awareness of the environment and safety. I can also see that the company has taken a positive stance toward the environment with their products by adapting their Eco Products Vision for new product development. They can be commended for offering a product concept focused on sustainability that not only considers environmental function, but also emphasizes safety, worry-free use, and a comfortable lifestyle.
On the other hand, some issues still remain and I expect that YKK will grapple with them as they further develop their environmental management and management for sustainability.

Interview with Committee Head Morino

● Creation of a vision and a system for coping with environmental issues for the entire corporation

Management structure and objective maintenance systems are established at the site level, but the YKK Group as a whole still lacks mid-term and long-term visions and plans. For this reason, there is a lack of performance evaluation, including measuring the overall degree of success and how this is reflected for next year in the annual plan, so it is difficult to see the achievements of the group as a whole. In the future, they must also include business bases abroad in the creation of a system for the whole group.

● Development of environmentally friendly products that respond to the needs of the market

I hope that YKK will further develop products that contribute to society by responding to consumer and community needs regarding the environment. For this purpose, they should have people in charge of not only the development of these eco products, but also people in charge of marketing them. I hope they will become more aware of this connection with the marketplace.

● Awareness of relationships with society and stakeholders

Their current environmental efforts are focused mostly on production management, development systems and internal company affairs, and their perspective on their connection to society is a little weak. For example, in the case of recycling, they should not only consider recycling at plants and the recyclability of their products, but they should strengthen their relationship with recycling as a part of society (such as aluminum reuse), including increasing access to other companies, industries and consumers. Stakeholders and communities want partnerships with businesses, and I expect that in the future, YKK will further develop their communication with them through business activities and product sales.

Interview with staff in charge of LCA

At the Kurobe Recycling Center

海野みづえ

So-Tech Consulting, Inc.
Chief Executive Officer Mizue Unno

Profile of Mizue Unno

- Chiba University Graduate School of Agriculture Master's Degree
- Founded So-Tech Consulting, Inc. in 1996 after working at a management consulting company

Special Lecturer for environmental planning at Tokyo University Graduate School
Director of the Environmental Planning Council of Japan

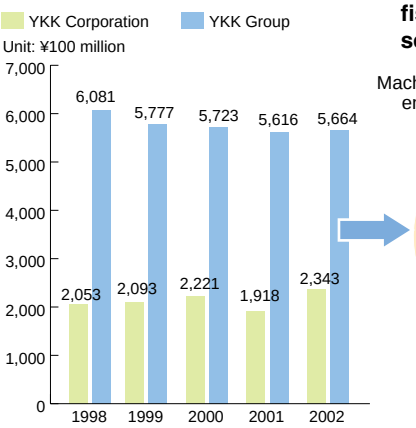
History of environmental conservation efforts

1970	Pollution Council established
1991	Environmental department established
1992	Environmental Charter enacted
	7 working groups of Environmental Council formed
1993	YKK Group Environmental Facilities Committee established
1994	YKK Group Environment Council established
	YKK Corporation internal environmental inspection started
	YKK Group Environmental Declaration (group charter established)
	YKK Group environmental action targets set
1996	Voluntary plan submitted to the Ministry of International Trade and Industry
1997	Green purchase started
1998	ISO14001 certification acquired (2 domestic bases)
1999	Name changed to YKK Group Environmental Policy Committee
	Environmental leaflet published
	Exhibition at Eco Products 1999 (continued in following years)
	ISO 14001 certification acquired (2 domestic bases, 1 overseas base)
2000	Environmental report published (continued in following years)
	Architectural Products Environmental Committee established
	Product assessment caried out
	Environmental label established
	Environmental accounting system devised and implemanted
	ISO 14001 certification acquired (4 domestic bases, 1 range expansion base, 1 overseas base)
2001	LCA assessment carried out
	ISO 14001 certification acquired (1 domestic base, 2 range expansion bases, 12 overseas bases)
2002	Architectural Products division publishes "Eco Message 2002" (continued in following years)
	PVC sash material label
	ISO 14001 certification acquired (4 domestic bases, 10 overseas bases)
2003	Eco Clover environmental label created
	ISO 14001 certification acquired (1 domestic base, 5 overseas bases)

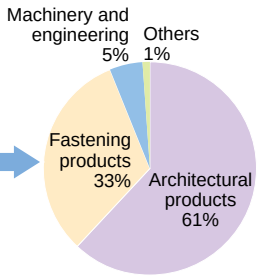
YKK Group outline

With YKK Corporation as our mother company, the YKK Group is developing its global business in Japan and around the world with architectural products businesses (manufacturing and selling architectural products, including windows, doors, wood materials and exterior materials) and fastening products businesses (manufacturing and selling fastening products, including fasteners, buttons and fabric tape used in clothing).

◆ **Net sales**



◆ **Group net sales for fiscal 2002 sector comparison**



[YKK Corporation]

Established	January 1, 1934
Capital	11,922,717,000 yen as of October 1, 2002
Employees	10,310 as of the end of March 2003
Manufactured Products	Fastening products, architectural products, precision machinery, equipment and molds
Head Office	1, Kandaizumi-cho, Chiyoda-ku, Tokyo, 101-8642, Japan Tel 03-3864-2000
Plants	Kurobe Plant, Kurobe Makino Plant, Kurobe Ekko Plant, Kurobe Ogyu Plant, Namerikawa Plant, Hokkaido Plant, Tohoku Plant, Shikoku Plant, Kyushu Plant

[YKK Group]

Group Companies	129 companies in 60 countries 1) YKK Corporation and other group companies (18) 2) YKK AP Group companies (6) 3) Overseas corporations: 105 companies in 59 countries (268 facilities including 88 plants)
Employees	35,187 (16,750 in Japan, 18,437 abroad) *as of the end of March 2003

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