

Product-Related Resource Conservation and Recycling

In our Environmental Vision, we have set the goal of making all products eco-products by 2010. As part of efforts to achieve this objective, we have established in-house standards for energy-efficient performance and the elimination of the use of hazardous substances as well as resource conservation assessment standards aimed at improving product-based resource conservation to guide product development.

Refrigeration Units for Vending Machines That Are Easier to Remove and Install



Fixation of the fan duct and evaporator



Fixation of the fan duct and air duct

Enhancing our vending machine repair services is key to extending the life of our vending machines. Sanden made its fiscal 2005 model vending machines easier to disassemble to facilitate refrigeration unit repair. We accomplished this by using a simple catch to hold the fan duct and air duct in place and reducing the number of screws used in the unit by switching to a sandwich design to hold the fan duct and evaporator in place. In addition, we made component removal and installation easier by switching to a design that enables the fan duct ASSY to be removed and installed without the use of screws. Through these improvements, we reduced the total time it takes to remove and install a unit from 13 and a half minutes to nine and a half minutes—a 30% increase in labor efficiency.

Reducing the Use of Hazardous Chemicals in Products

Hazardous chemicals contained in products can have an impact on the environment at the use, disposal, and recycling stages of the product life cycle. Sanden is proactively working to completely eliminate the use of ozone-depleting CFCs targeted by Japan's Law Concerning the Protection of the Ozone Layer through the Control of Specified Substances and Other Measures[JS1] and find substitutes for the heavy metals that have a major detrimental impact on the environment and the human body.

To ensure that the products we deliver to customers can be used with peace of mind, we have enlisted the cooperation of the manufacturers that supply us with parts and other items in the promotion of these Groupwide initiatives.

Reducing the Use of Heavy Metals in Response to European Environmental Directives

In Europe, the EU has issued directives aimed at increasing recyclability in member countries that essentially prohibit the use of hazardous chemicals. Since July 2003, the End-of-Life Vehicles directive has fundamentally prohibited the use of four heavy metals—mercury, lead, cadmium, and hexavalent chromium—in automobiles. In addition, the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) directive will prohibit the use of six substances—four heavy metals and the two bromine-based fire retardants PBB and PBDE—in consumer electronics as of July 2006.

Sanden is taking steps to reduce and eliminate the lead in solder and paint and the hexavalent chromate in screws and iron sheet treated with chromate while working to meet the environment-related needs of individual customers on a global basis. Specifically, in the automobile industry, we established a collaborative framework with surface treatment specialists and surface treatment agent companies to develop products that do not contain these substances. Under this framework, we solved technical problems and verified quality, bringing to market 60 production models for three customers that meet the environmental specifications required by these customers, before the EU directives were put into force.

In addition, we developed production technologies for lead-free solder and began the full-fledged commercial production of lead-free solder in November 2003. In fiscal 2006, we plan to make approximately 60% of the boards produced at our electronic device plant lead-free. In the future, we will promote the use of this know-how at affiliates with the goal of completely eliminating the use of lead in solder.