

Retail Systems Business

Sanden's retail systems business has many accomplishments involving environmental protection. Major achievements include measures to reduce the use of ozone-depleting substances and other hazardous substances and initiatives to help prevent global warming. Enactment of the Kyoto Protocol is currently causing a shift in the environmental strategies of customers. In response, we are offering customers many proposals and ideas concerning products and technologies that meet their environmental needs. We are already studying ways to conform to the projected enactment in Japan of regulations similar to the tight environmental restrictions now enforced in Europe (End of Life Vehicles (ELVs), Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS), Waste from Electric and Electronic Equipment (WEEE), and others).

Underpinning all these activities is our fundamental stance of approaching environmental issues as a business. We are devoted to supplying customers with value by adopting their viewpoints. We intend to use this stance to reach for even higher goals in the coming years.

Markedly Reducing the Use of Ozone-Depleting Substances

In the past, we have used HCFCs in cooling units and thermal insulation. Recently, we switched to HFC, a move that is significantly lowering the release of ozone-depleting compounds. In cooling units, we have replaced HCFC-22 with HFC-404A and HFC-134a. For the production of hard foamed urethane used for

thermal insulation, we now use HFC-245fa instead of HCFC-141b. We have started work on developing a foaming process that does not require CFCs in order to completely eliminate the use of these compounds.

Substantially Reducing the Use of Hazardous Substances

We have significantly reduced the use of lead, PVC, and other hazardous substances in our retail systems products. We use lead-free solder for circuit boards and are studying the use of eco-wiring that uses a PVC-free coating. Another goal is the

elimination of hexavalent chromium. This material is used to treat zinc-plated steel panels, screws, and other items used in our products. Plans include a switch to chrome-free materials and greater use of stainless steel.

Greatly Reducing the Use of Substances that Pollute the Air

For interior and exterior showcase coatings, we have changed to powder-based coatings that require no organic solvents. This makes a big contribution to preventing air pollution.

Development of Next-Generation, Energy-Efficient Freezer and HVAC Systems

At the Akagi Plant, we have constructed a testing building with a full-size model of a retail store. The model matches in every way an actual store. We use this facility to monitor changes in the interior as well as exterior environments. One particular objective of this model store is to devise methods to both eliminate CFC refrigerants and cut energy consumption. To develop the necessary systems, we are receiving assistance from the New Energy and Industrial Technology Development Organization (NEDO), an independent public corporation. Lower energy efficiency is a big problem concerning the use of non-CFC refrigerants. To deal with this issue, we are working on a centralized management technique that can oversee all store systems. We are determined to take energy-conservation management to an even higher level. The new testing building is capable of recreating many types of interior and exterior environments. By performing experiments under conditions identical to those in any region of Japan in any season, we can develop outstanding systems and create products from the perspective of our customers.



In addition to the above activities, we are making progress in technologies for the removal of hazardous substances for the conservation of energy. This allows us to constantly supply value from the perspective of our customers. As part of these programs, the Akagi Plant uses a newly constructed testing building to develop energy-efficient freezer and HVAC systems.

The goal is to create even more value for customers.