Initiatives in Purchasing

- Green purchasing
- CSR purchasing

Green Purchasing

Akebono introduced its Green Purchasing Guideline in 2005, revising it in 2011. Under the guideline we are considering the environment and CSR from the purchasing stage by working together with suppliers to procure materials, components, and secondary materials that have a low environmental impact. We are also encouraging our suppliers to improve their environmental management performance by recommending activities to acquire external accreditation such as ISO 14001. Going forward, our next challenge is to promote these practices at overseas bases as well.

***Green Purchasing**
Green purchasing refers to the preferential selection and acquisition of products that cause less negative environmental impact. The scope of products covers materials, secondary materials, office articles and equipment used in the course of manufacturing. Manufacture of "Green Products" requires the practice of green purchasing.

Response to Substances of Very High Concern*

In cooperation with our suppliers, Akebono performs testing of purchased products to determine if they contain substances of very high concern (SVHC*) or banned substances. The tests are performed on the individual product level and their results are communicated back to the suppliers. We are also promoting labeling of purchased items in line with laws and regulations.

***Substances of Very High Concern**
A substance may (but not necessarily must) be designated as SVHC if it meets one or more of the following criteria: it is carcinogenic, mutagenic or toxic for reproduction, and in addition is either persistent, bioaccumulative and toxic, or very persistent and very bioaccumulative. Such substances are identified as having probability of causing serious adverse effects to human health or the environment.

Initiatives in Production

- Initiatives for 3Rs (reduce, reuse, and recycle)
- Reduction of CO_2 emissions
- Pursuit of zero-emissions
- Reduction of industrial waste
- Promotion of ISO 14001

Introduction of Air Purification System

In China, where air pollution is a growing problem, industrial zones in each area apply voluntary standards. In Suzhou, we established a new air cleaning system (electrostatic precipitator*1, low temperature plasma treatment*2, scrubber treatment*3, activated charcoal treatment, activated charcoal regeneration), and applied voluntary standards that exceed those of the law and regulations. This air cleaning system also helps to deodorize the air.

*1 Electrostatic precipitator: A device that charges dust and oil mist in the atmosphere using a corona discharge from a discharge terminal, then collects the dust and mist at a collection terminal. The running cost is low due to the small electric current.
*2 Low temperature plasma treatment: Low temperature plasma is air that has around 1% plasmarized (separated into positive ions and electrons) so that it contains plasma ions at room temperature (a few degrees Celsius) and is able to dissolve organic matter.
*3 Scrubber treatment: Adsorbing and capturing dust and matter in the air using a water shower.

Developing Young Engineers to Design Environmentally Considerate Facilities

Akebono is looking to develop engineers who will design the facilities of the future by conducting a program for "building a miniature production line for brake manufacturing processes that can be operated by a single motor." Under the program, a team of young engineers who are within the first five years of their assignment to the production engineering division undertake "miniature line building" concurrently with their ordinary work, undertaking all steps from planning and design to production.

This initiative has been carried out since fiscal 2010. In fiscal 2016, we produced the miniature production line for next generation friction materials. The original facility that the line is based on was installed at Akebono Brake Yamagata Manufacturing Co., Ltd. in 2012. The production line can manufacture small lots, and consumes half the amount of electricity compared to the conventional line.

Building miniature production lines involves considering the operability of each process as well as the timing coordination over the entire line and so forth. This resulted in various innovations such as reducing the weight of moving parts. Looking ahead, we will develop engineers who will take a birds-eye-view of the entire line and apply their own skills to designing energy-saving, high efficiency facilities.

Initiatives in Logistics

- Innovation in shipping materials
- Response to revised Energy Conservation Law

Initiatives in Eco-Friendly Driving

The Akebono Group member Alocs Corporation (a logistics solution company) is employing a truck operation dynamic management system. The system utilizes data on individual vehicles gleaned from onboard sensors, such as engine speed, driving speed, acceleration rate and location. This data is automatically transmitted to the headquarters. Associates in charge of truck operation management use the data to give timely instructions to each driver so that they can avoid crowded routes and helps to ensure that drivers are taking breaks as needed. In these ways, Akebono is ensuring safe and environment-friendly truck operations. In addition, the system also enables objective determination and ranking of drivers' eco-driving by recording data about idling time and sudden acceleration and braking. Through measures such as these, the system can be used to increase motivation for eco-driving and safe driving. Akebono will continue working to save energy and rationalize its distribution operations, ensuring safety while protecting the environment.