

Encouraging Environmental Excellence – Silver Level Award

Saint-Gobain Performance Plastics – Akron

In 2014, Saint-Gobain Performance Plastics facility (Saint-Gobain) received an Ohio EPA Encouraging Environmental Excellence (E3) Silver Level Award. The silver level recognizes businesses and others that have a good environmental compliance record and have completed environmental stewardship activities. The silver level is open to any business, industry, trade association, professional organization or local government of Ohio.

Located in Akron, Saint-Gobain manufactures flexible tubing products including Tygon®, Pharmed®, and Norprene® tubing at the Akron, Ohio facility.



Environmental Efforts and Results

Saint-Gobain identified an opportunity to reduce their water usage through their corporate global prioritization program. Prior to 2010, the facility used and was permitted to discharge approximately 81.5 million gallons of water annually as contact and non-contact cooling media for the plastic tubing extrusion process. The process water was then discharged to a small stream external to the manufacturing facility. Through the installation of a semi-closed loop water system, the plant was able to reduce the plant's discharge water by 98 percent annually to 1.63 million gallons. It has also been able to reduce the purchase of city water by 75 percent, saving approximately \$20,000 annually.

The water recycling system includes duplication of critical components to minimize downtime and the effects of any mechanical problems. The system consists of two 55-ton chillers, a heat exchanger, two 330 gallon per minute (gpm) pumps and buffer tanks. The water is treated by a multimedia filter, reverse osmosis system and disinfection with hydrogen peroxide. The unit provides disinfected water at a temperature of 50°F. The piping system includes an additional path for a potential future clean room for manufacturing.

Saint-Gobain also achieved a reduction of CO₂ from 2010 to 2012 of more than 150 metric tons. This reduction was achieved through lighting upgrades with motion sensors, installation of high-efficiency heaters and air conditioning units and improved insulation in the offices.

Saint-Gobain performed a life-cycle assessment on some of the Tygon® tubing products as part of their sustainable product development program to determine their environmental impacts, reviewing products from the generation of raw resources, through the manufacturing, transportation, use and to the products' end of life management. The assessment results are used to identify the environmental impact of their products, to improve product performance and to help promote their environmentally responsible products. One of the products that Saint-Gobain produces is phthalate-free bio-based flexible tubing.

Saint-Gobain Performance Plastics facility in Akron is recognized for:

- Reducing water discharge by 98 percent through the installation of a semi-closed loop water recycling system.
- Using a life-cycle assessment of its products to improve performance.
- Reducing CO₂ emissions by 150 metric tons.

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Systemic Approach to Environmental Management

Saint-Gobain has used a three-year objective and target planning cycle since 2007. The 2010-2013 cycle objectives were to reduce water consumption by 6 percent and also reduce the facility air emissions, including CO₂. Projects identified are given budgets and assigned personnel to implement them.

Saint-Gobain has been ISO 14001 certified since 2005. Management commitment and support of continuous improvement are core elements of the ISO14001 program and participation in the program sustains Saint-Gobain's environmental progress into the future. Saint-Gobain undergoes internal EMS audits and uses LEAN manufacturing tools to improve the facility's efficiency. The water and CO₂ reduction projects are integrated with the ISO 14001 Environmental Management System and ISO 9001 Quality System as well to help them succeed.

For more information

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For more information about Ohio EPA's Encouraging Environmental Excellence program, contact the Office of Compliance Assistance and Pollution Prevention (OCAPP) at 800-329-7518, or visit epa.ohio.gov/ocapp/ohioe3.aspx.