

Worthen Industries – UPACO Adhesives Division

Seeking sustainability through energy reductions and zero-waste to landfill

Overview

Worthen Industries – UPACO Adhesives Division, located in Richmond, provides coatings and adhesives to customers across dozens of industries. Worthen understands that their continual innovation towards environmentally friendly products and processes helps their customers be more environmentally responsible as well.

How do environmental considerations affect Worthen’s culture?

Worthen’s top management has integrated the environmental management system (EMS) into their business processes and is committed to supporting the EMS. Their Environmental Policy and environmental objectives align with their strategic business direction and goals. Worthen implemented its EMS in 2015 and has conducted an independent assessment and a third-party assessment. Their sustainability approach encompasses all facets of environmental protection, worker and community safety, product stewardship and code of conduct. Worthen’s CARE approach stands for Comply, Achieve, Responsible, and Environment. Addressing climate change and other environmental challenges is a source of innovation and an economic driver in their industry. Worthen is developing a comprehensive, four-year greenhouse gas (GHG) inventory for all five of its manufacturing locations to be able to set meaningful carbon reduction goals.



Worthen's CARE Approach

What energy reduction efforts have been most effective?

The plant engineers understand the importance of energy conservation and are constantly searching for ways to improve productivity. The facility had an energy audit from NC State University Industrial Assessment Center that provided them with ideas for energy reduction and efficiency. The plant has already upgraded to LED lights in some spaces because of the energy audit and is replacing more outdoor and indoor fixtures. Moreover, occupancy and light sensors have been installed in some areas. The LED fixtures are more energy efficient than the previous fluorescent lamps, and the sensors turn the fixtures on and off when needed or not needed. This process is ongoing but the facility has already seen the MMBtu of electricity purchased go down from 3,156 to 2,931 since 2017. A new boiler was installed in August 2019 and is designed to consume less natural gas than older, less efficient models. The new boiler is projected to have a 30 percent reduction in energy consumption. Conservation measures have been implemented and additional technologies and concepts, like a possible rooftop solar array, are continually being explored to address energy reduction and efficiency at the facility.

What other ways has Worthen reduced its environmental impact?

- Worthen is working towards zero-landfill with many programs aimed at reducing waste including a bulk storage system as well as maximizing material reuse and upcycling. As many processes as possible are switching to paperless. Recycling efforts have also increased and the facility recently replaced all open-top trash and recycling containers with closed containers to encourage proper disposal. Worthen recently started a recycling partnership with International Paper, Inc. that has kept just under 3,000 pounds of LDPE-B plastic film and cardboard out of the landfill. Worthen continues to explore new outlets for recyclable materials, and continue its existing recycling service with TFC Recycling.
- A new water chiller system reduced water usage by 80 percent.
- Three liquid propane gas forklift trucks have been replaced with electric trucks to reduce emissions. A potential partnership with Virginia Commonwealth University School of Engineering is exploring converting to an electric facility box truck.
- Worthen is committed to assisting customer's with their environmental performance and protecting the natural environment. Worthen's Research & Development team is focused on "green chemistry" and a major component of product testing is its efficacy as having low-impact on the environment.

What are some of Worthen's best practices?

Worthen has made employees, contractors and temporary workers aware of the various aspects of the EMS. Training includes the environmental policy; the significant environmental aspects and related actual or potential impacts associated with their work; their contribution to the effectiveness of the EMS, including the benefits of enhanced environmental performance; and the implications of not conforming with the EMS requirements, including compliance obligations. Internal communication methods include awareness training, position-specific training, visuals and postings, and email communications. Worthen strives to continually improve the suitability, adequacy and effectiveness of the EMS to enhance environmental performance. Progress on improving the EMS is tracked in regular Management Review meetings. Additionally, most of the company's Quality Circle meetings address selected environmental and safety topics, including opportunities for improvements. In addition to striving to improve its operations for customers, Worthen also works to help the local community. The facility began a community vegetable garden to grow yellow squash, zucchini, tomatoes, watermelon, and okra. Rainwater is collected to water the garden. Half of the produce is donated to the Mt. Olive Baptist Church Food Bank.