Ingersoll Rand Site Switches to No-GHG Foaming Agent and Saves Almost $100,000

In pursuit of several major environmental and financial goals, employees at a Trane manufacturing site in Fort Smith, Arkansas set out to change processes regarding the foam needed for production of their custom air handlers.

Trane custom air handlers use Ecomate, which helps protect the environment while providing excellent insulation and safety properties.

As a trusted technology provider, Ingersoll Rand and their family of brands are continually seeking new and innovative ways to decrease the environmental impact of products and address the impacts of their manufacturing processes. The goals of this facility were clear: reduce harmful chemicals used in manufacturing; reduce costs of materials and waste disposal; and reduce greenhouse gas (GHG) emissions. Therefore, they've adopted use of Ecomate®, a foaming agent that meets Ingersoll Rand's environmental targets and does not contribute to ozone depletion or global warming.

Sustainable Opportunity

A cross-functional team identified opportunities to address and remedy concerns related to the foam product used during assembly of their custom air handlers. The F-Gas foam used produced a significant amount of GHGs, and product shortages caused delays in delivery. A change was important due to the sheer volume and size of units produced yearly - over 300, varying in size from 20 to 200 feet, each using a 4 inch thick layer of foam spanning the unit. The advent of newer, more environmentally-responsible options that met operational and budgetary needs enabled a change.

Processes

Employees from across the enterprise researched, then selected Ecomate by Foam Supplies, Inc. for its cost-effectiveness, environmental-protection features, and material performance. The changeover to Ecomate began in 2010 and was completed by April 2012. During this time, teams from both companies identified and refined exact needs for the foam, reviewed adhesion and chemical aspects, and tested the application system to ensure process compliance. No changes to equipment or the factory floor were needed. Ecomate specialists provided hands-on training to manufacturing employees.

Results and Benefits

Using the Ecomate foaming agent is helping Ingersoll Rand significantly advance their aggressive sustainability, waste reduction, and cost-saving goals. Savings achieved by mid-2012 include:

- Cost savings of $80,000 in materials and $10,000 in disposal, in the first year alone
- No GHGs (100 percent reduction for this process, saving about 3000 metric tons CO2e/yr), no ozone depletion, no global warming potential, no VOCs (volatile organic compounds)
- Product uses returnable totes rather than 55 gallon drums that required handling and disposal
- Less shipping costs and fuel usage – 2-day transit vs. 9-days for previous foam

Additional benefits include that Ecomate provides better adhesion and is easier to apply in corners.

Informational Link(s):

Ecomate
ecomatesystems.com

Foam Supplies, Inc.
foamsupplies.com

Trane Custom Air Handlers
trane.com

Center for Energy Efficiency and Sustainability
cees.ingersollrand.com