APPLICATION SPOTLIGHT

ARO®

Pumping Polyols and Isocyanates in Foam Manufacturing

GLOBALGEAR SOLUTION

Project Overview

Pumping polyols and isocyanates for making foam such as for mattresses, pillows, and seat cushions is a very challenging pumping application because polyols and isocyanates tend to crystallize when exposed to air. Typically, these compounds are thought to be pumped by expensive magnetically coupled gear pumps in foam manufacturing, however ARO has provided a more robust and reliable solution.

Customer Overview

Based in Chattanooga, Tennessee, Foametix (FKA Burtin Polymer Labs) is a major foam manufacturer that strives to supply the highest quality energy saving products for the industrial, commercial, and residential markets. With an emphasis on a tight thermal envelope and quality control, Foametix's projects have improved indoor air quality, provided better acoustics, and lowered operating costs.

Solution

Polyols are a family of solvents with varying boiling temperature, viscosity, and polarity, and are commonly combined with isocyanates, highly reactive chemicals, in the manufacturing of flexible and rigid foams, fibers, coatings such as paints and varnishes, and elastomers. In 2006, ARO and their distribution team partnered with Burtin Polymers to provide eight GG210 iron pumps and four GG130 iron pumps for pumping polyol and isocyanates. The GlobalGear pumps were equipped with TuffSeall™, a triple lip seal cartridge designed for difficult to seal viscous liquid applications, as a more cost-effective pumping alternative versus the traditional magnetically coupled gear pumps. The GlobalGear pumps that were provided in 2006 have now been running for over 18 years while providing consistent results.

Many polyols contain melamine or calcium carbonate which are abrasive fillers that can prematurely wear out magnetically driven gear pumps. Using the GlobalGear iron pumps with TuffSeall has proven such success that other major foam manufacturers have followed suit. Recently, ten GG210 and three GG130 iron pumps with TuffSeall were ordered for similar applications to pump polyol and isocyanates. ARO GlobalGear pumps with TuffSeall are the preferred solution in a wide variety of applications, including:

- Tanker Loading and Offloading
- Tank Farm Transfer
- Charging and Metering
- Paints, Coatings, and Resins
- Corn Syrup, Molasses, and Liquid Sweeteners

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