

Case Study

Seal Safe FRH-46-WG Reduces Fire Hazards in Metal Casting Operations, Improves Worker Safety

BACKGROUND:

The customer is a foundry. The manufacturer melts aluminum billets and casts them into various parts, including front end control arms for the automotive industry. All of the equipment utilized in the casting process is controlled by hydraulics. A hydraulic fluid is moved through the system with pumps, valves, and hoses under constant pressure ranging from 1500 to 3000 psi. The constant movement of the equipment causes wear overtime, which leads to fitting, valve, and hose leaks. If the hydraulic fluid leaks into the ladle of molten aluminum, it will ignite.

The manufacturer identified several opportunities for improvement over the competitive supplier:

- Provide hydraulic fluids that reduce risk of fire; improve worker safety.
- Supply heat transfer fluids, coolants, process cleaners, rust inhibitors, and floor cleaner to simplify the purchasing and accounts payable processes.
- Enhance service and technical support to ensure performance of hydraulic fluids.

These factors provided DuBois the opportunity to implement a solution to ensure process safety, improve business processes, and provide complete technical support.

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THE DUBOIS SOLUTION:

In such operations, a fire-resistant hydraulic fluid must be utilized. To be considered fire resistant, a fluid must undergo extensive testing and gain certification from Factory Mutual. Because the fluid is fire resistant (note: NOT fire-proof), it will burn until the source of the fluid is eliminated, such as by turning off the machine or pump, and the fire will then dissipate. A standard mineral oil-based hydraulic fluid would continue to burn, even after stopping the flow of the fluid.



For this application, DuBois introduced **Seal Safe FRH-46-WG**, a water-glycol hydraulic fluid designed to meet the demands of today's modern, high-performance hydraulic systems. Seal Safe-46-WG is FM approved, meeting the fire resistance performance requirements of Factory Mutual.

RESULTS AND BENEFITS:

The customer noted the improved service and technical support they received as well as the product's superior corrosion protection and shear stability. These factors have helped them extend equipment life and minimize downtime. Upon trial completion, the customer also recommended **Seal Safe FRH-46-WG** to their sister plant, with similar results.



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