

“ Striving To Protect Heat Transfer Equipment And Maintain Productivity Under The Toughest Conditions ”

Most plant engineers and maintenance managers know that thermal degradation will cause their heat transfer fluids to break down after a few months of service. What they don't know is that there's something they can do about it. Selecting the proper heat transfer fluid – one that has above average thermal stability – can significantly minimize the effects of thermal degradation and prolong their heat transfer fluid's life.

The first step in improving the performance of your heat transfer fluid system requires knowing the condition of the fluid inside the system. Annual laboratory testing should help determine whether maximum performance is being delivered or whether it is time to consider changing fluids.

In addition to laboratory testing, other indicators inside the plant may provide clues to thermal degradation problems. Having to constantly top-up a system after only a few days or weeks of service is a strong sign that a fluid may be suffering from the effects of thermal degradation and deteriorating too quickly.

Many plant managers in the plastics sector, for instance, have grown accustomed to replenishing their heat transfer fluid every four to six months. Each time they undertake the process they have to shut down the entire production system – resulting in lost manufacturing time. One company that was determined to break this cycle of change-outs was Charlotte Pipe and Foundry Company of Muncy, Pennsylvania.

Charlotte Pipe uses heat transfer fluids to convert thousands of pounds of raw materials into plastic PVC pipe. Since PVC manufacturing requires operating at temperatures of up to 300°C (572°F) and air contact is unavoidable, the company's heat transfer fluids are



constantly being placed under a high level of stress. If this heat is not removed, it raises the temperature of the operating surface and ultimately deteriorates the quality of the product.

If the heat transfer fluid does not perform, the company must shut down the whole production line to clean and refill the heat transfer system.

This change-out cycle was broken five years ago when Charlotte Pipe replaced its old brand of heat transfer fluid with

Petro-Canada's CALFLO AF. The plant manager made the switch after tests revealed that the previous brand was creating a lot of excess sludge in the extruders and clogging up the system. He chose Petro-Canada when the same tests showed that CALFLO AF stood up better to system oxidation and higher temperatures, while not producing any sludge.

Finding a heat transfer fluid with a long life was the main reason Akzo-Nobel's Casco Impregnated Papers of Coburg, Ontario, selected CALFLO AF. The company is a leading producer of melamine film, which is a durable finish applied to counters, tabletops and other forms of particleboard.

In 1992, Casco invested approximately \$1 million in a drying oven to dry out finished pieces of melamine film. Operating temperatures for the oven can reach up to 554°F (290°C). The oven must consistently process between 115 to 165 feet of five-foot wide melamine film every minute or else Casco's entire production timetable is thrown off schedule. These factors were taken into account when deciding to purchase the 10,000 litres of heat transfer fluid required for the oven to operate effectively.

Casco and the Petro-Canada service team have taken samples and completed a fluid analysis on CALFLO AF for every year that it has been in the drying oven. Much to the satisfaction of Casco, the results show that the fluid has neither oxidized nor thickened out of grade during the nine years that it has been in use.

CALFLO AF is a premium heat transfer fluid designed for use in non-pressurized, indirectly heated, liquid phase heat transfer systems that operate continuously at temperatures of up to 572°F (300°C). It contains specially formulated anti-oxidative chemistry, which helps it to stave off oxidation and lower operating costs by providing longer fluid life and less change-outs versus competitive brands.

CALFLO AF is currently being used to provide effective heat transfer, protect heat transfer equipment and improve productivity in many different industries around the world including plastics, rubber, die-casting and aluminum manufacturing plants.

If you would like to know more about CALFLO AF, please contact us at:

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