

## THERMALLY CONDUCTIVE FLUOROPOLYMERS

Fluorotherm Polymers Inc., specializes in manufacturing and designing performance products utilizing thermally conductive fluoropolymer tubing. This capability extends far beyond the generic carbon filled PTFE that has been available for a long time.

Our depth of expertise stems from Fluorotherm® Corrosion Resistant Heat Exchanger products that were originally offered for heating and cooling chemically aggressive and ultrapure fluids. These heat exchangers are used in plating, acid bath pickling, pharmaceutical fluid conditioning and silicon wafer processing, potable water treatment and in galvanizing (zinc coating), to name just a few applications. Our markets include automotive, mining and metallurgy, environmental, aerospace, semiconductor and metals processing. Since 1992, and since 1975 under earlier ownership, our heat exchangers have established a strong reputation for design ruggedness, delivering guaranteed rated thermal capacities, and longevity of use.

Since plastics have a lower thermal conductivity than most metals, they are perceived to be relatively inefficient for heat transfer. However, metals suffer from the disadvantage of low corrosion resistance to many solvents and liquids (including sea water, in marine applications) and excessive weight. A brand new metal heat exchanger works well as long as the metal surface is clean. In real life industrial environments, factors such as corrosion, etching and particulates, coat the metal surfaces. This phenomenon reduces the conductivity of the metal surface, and that new metal exchanger no longer has the originally rated thermal efficiency. Over time, this results in target temperatures not being achieved and in poor temperature control.

*Some exotic alloys such as Columbium, Titanium and Tantalum offer high but selective corrosion resistance, unlike fluoropolymers which have nearly universal resistance to chemical attack (resistance to most chemicals).*

Fluorotherm® conductive tubing is formulated specifically to address the above problems. This tubing has been used successfully since 1996, and is available in FEP and PFA. The non-stick, and low friction coefficient properties of FEP and PFA make them highly preferred materials over metals and metal alloys. Besides the traditional applications, newer ones include electric batteries, solar power and plant greenhouses. The need for Fluorotherm's conductive tubing is driven in these cases by the requirement for chemical resistance, ease of fabrication, non-stick property, and useful life.

For more information on Fluorotherm's conductive tubing products, or questions regarding your application, please contact us at [sales@fluorotherm.com](mailto:sales@fluorotherm.com).



CONDUCTIVE FEP TUBING FEP