FLUOROTHERM POLYMERS INC

PTFE	FEP	PFA	PVDF	ETFE	CTFE	ECTFE

A Letter from Fluorotherm



To Our Valued Customers:

Fluorotherm started out as a specialty manufacturer of fluoropolymer products in 1992, under the aegis of Norton Performance Plastics, now St. Gobain Performance Polymers. That was 16 years ago!

With a strong R&D background in fluoropolymers, gained by our key people during their employment with DuPont; we have continued to progress toward a wider product range to serve a broad range of applications in diverse markets.

Now, not only have we moved to expand our operations here in the US and overseas, but are responding to customer demand more than ever. Our newest products include:

- Expanded tubing line to cover a broad range of sizes in PTFE, FEP, PFA, ETFE and PVDF
- Immersion Coil Heat Exchangers in high temperature usage PVDF frames and either FEP or PFA tubing
- Custom fabricated tube products with flared, flanged, and custom shapes

We hope that you will join us in helping Fluorotherm pave a successful path for the future. We are grateful to all of our customers for their continued support.



Volume II

FLUOROTHERM TM

PTFE vs. PE (Polyethylene)

PE tubing has been used in various structures to stabilize interior temperatures, but PTFE has been proven to exceed PE's properties, making it a more efficient polymer. The Table below summarizes some of the comparisons between PE and PTFE.

Many formed PTFE products are consolidated by sintering in an oven or used in unsintered form (eg: thread sealant tape). Paste extrusion and calendaring methods are used with fine powder PTFE resins while granular PTFE resins are processed by ram extrusion and molding (visit <u>www.fluorotherm.com</u> for more information).

Density	2.2 - 2.3	0.92 - 1
Melting Point (°C)	342	104
Dielectric Constant (1 kHz)	2	2.3
Temperature $\frac{1}{2}$ (°C)*	505	404
Refractive Index	1.35	1.51

*Temperature $\frac{1}{2}$ refers to the temperature at which 50% of the polymer is lost after 30 minutes of heating in a vacuum.

In addition, PTFE has an excellent resistance to solvents and chemicals while PE is susceptible to hot hydrocarbons.

Please visit <u>http://www.fluorotherm.com/ptfe_properties.html</u> to find out more about PTFE and its advantages for your business.