



OVERVIEW

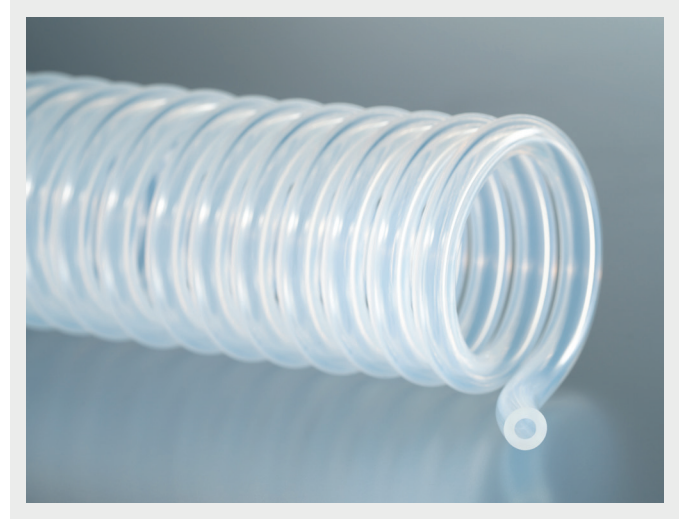
The development of PTFE was a significant breakthrough in polymer science. The special processing requirements of PTFE led researchers to develop a melt-processable version of PTFE resulting in FEP. This new resin was compatible with existing processing methods and equipment. Melt processability also allowed for long continuous extrusions of FEP in applications such as wire and cable.

While similar to PTFE in many of its properties, FEP has its own preferred attributes. It has a slightly higher coefficient of friction, lower continuous service temperature, and is more transparent than PTFE. FEP also offers lower gas and vapor permeability properties and excellent UV resistance.

FEP's excellent attributes make it ideal for a diverse range of applications from environmental monitoring equipment to medical devices.

Fillers available with FEP extrusions:

- Radio-opaque (Bismuth & Barium)
- Carbon
- UV inhibitors
- Pigments
- More available upon request



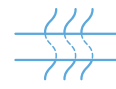
FEP tubing also can be formed post-extrusion for a variety of industry applications and customized solutions.



CHEMICAL RESISTANCE



DIELECTRIC STRENGTH



GAS PERMEABILITY

APPLICATIONS

- Catheter componentry
- Wire and cable insulation
- Analytical and fluid management tubing
- Protection for fiber optics

PRODUCTS

- Tubing
- Sub-Lite-Wall tubing and heat shrink
- Custom profiles
- Heat shrink AS23053™/11
- Monofilament
- Drawn fiber
- Multi-Lumens
- Co-extrusions
- Convoluted tubing (AS 81914)
- Coated optical fiber







KEY PROPERTIES




- Excellent coefficient of friction
- Chemically resistant
- Gamma, ETO, e-beam and autoclave sterilizable
- Maximum working temperature 400 °F / 204 °C
- Lower gas/vapor permeability than PTFE
- Increased translucence as compared to PTFE
- Biocompatible: USP Class VI Certified








FEP







FEP - Fluorinated Ethylene Propylene

The information presented in this publication is believed to be accurate and is not intended to constitute a specification. Property characteristics are dramatically impacted by geometry and processing method, thus properties of extruded parts may vary. In some instances, data may not be available for publication and will be notated as "na" where applicable. These tables are meant to serve as a general guideline only. Users should evaluate the material to determine suitability for their own particular application.

PHYSICAL		ASTM	FEP
	Density (g/cc)	D792	2.12-2.17
	Water Absorption (%)	D570	0.004
	Standard Percent Crystallinity (%)		70
	Refraction Index		1.33-1.35
	Radiation Resistance (MRad)		10
	Oxygen Index (%)	D2863	95 min.

ELECTRICAL		ASTM	FEP
	Volume Resistivity (Ω-cm)	D257	1x10 ¹⁷ -1x10 ¹⁸
	Dielectric Constant 1 MHz	D150	2-2.1
	Dielectric Strength (V/mil)	D149	500-2000

THERMAL		ASTM	FEP
	Thermal Conductivity (W/m-K)	C117	0.19-0.25
	Maximum Service Temp, Air (°C)		200-205
	Minimum Service Temp, Air (°C)		-200 to -240
	Melt Temp (°C)		265-275
	Glass Temp (°C)		80
	Decomposition Temp (°C)	E1131	380-430
	Coefficient of Thermal Expansion, linear 20° (µm/m-°C)	D696	100-135

MECHANICAL		ASTM	FEP
	Hardness, Shore D	D2240	55-60
	Ultimate Tensile Strength (MPa)	D638	18-34
	Elongation at Break (%)	D638	245-400
	Modulus of Elasticity (GPa)	D638	0.44-0.64
	Flexural Modulus (GPa)	D790	0.58-0.62
	Coefficient of Friction		0.04-0.20

- OVER 50 YEARS OF INDUSTRY SOLUTIONS -

Zeus delivers precision polymer solutions that transform businesses, markets, and lives. We have dedicated ourselves to building partnerships, products, and services for the benefit of our customers.

Headquartered in Orangeburg, South Carolina, Zeus employs approximately 1,300 people and operates multiple facilities around the world.