

FLUORINATED ETHYLENE PROPYLENE (FEP)

KEY FEATURES

- High Resistance to Outdoor Weathering
- Negligible Moisture Absorption
- Exceptional Dielectric Insulation Properties
- Low Coefficient of Friction
- Non Stick Surfaces
- Compatible with Hot Air Welding Equipment
- High Degree of Stress Crack Resistance
- Chemically Inert to Most Industrial Chemicals
- Very Low Gas Permeation and Outgassing
- Temperature Range: -400°F to +392°F

DESCRIPTION

Fluorinated Ethylene Propylene (FEP) is a copolymer of tetrafluoroethylene and hexafluoropropylene. This melt-processible fluoropolymer exhibits excellent resistance to heat, wear and chemicals. Typical applications are pump housings, chemical processing equipment, food processing, and medical components.

TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Physical	Chemical Designation			FEP	
	Filler				
	Density		g/cm ³	2.12 - 2.17	D792
Mechanical	Tensile Modulus	@ 73 °F (23°C)	PSI		
	Tensile Strength	@ 73 °F (23°C)	PSI	4,350	D638
	Shear Strength	@ 73 °F (23°C)	PSI		
	Ultimate Elongation	@ 73 °F (23°C)	%	300-325	D638
	Flexural Modulus	@ 73 °F (23°C)	PSI	95,000	D790
	Flexural Strength	@ 73 °F (23°C)	PSI		
	Compressive Modulus	@ 73 °F (23°C)	PSI		
	Compressive Strength	@ 73 °F (23°C)	PSI		
	Izod (charpy) Impact Strength	@ 73 °F (23°C)	J/m	no break	D256
	Durometer Hardness		D	55-56	D2240
	Coefficient of Friction			0.25	D1894

TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Thermal	Vicat Softening Point				
	Melting Temperature		°C	255-260	D3418
	Thermal Expansion (CLTE)	0°C to 100°C	mm/mm/°C		
	Continuous Service Temperature		°C	205	
	Limiting Oxygen Index		%	> 95	
Electrical	Surface Resistivity		ohms-sq	10 ¹⁶	D257
	Volume Resistivity		ohm-cm	10 ¹⁸	D257
	Dielectric Strength (10 mil film)		V/mil	2,000	D149
	Dielectric Constant	@23°C, 10 ³ Hz		2.15	D150
	Dissipation Factor	@23°C, 10 ³ Hz		0.0003	D150
Other	Moisture Absorption	24 hrs	%	<0.01	D570
	Moisture Absorption	@ Saturation, 73 °F	%		
	Flammability	UL 94		V-O	UL 94
	Food Grade			Y	

*The data stated above are typical values intended for reference and comparison purposes only.

*The data should not be used as a basis for design specifications or quality control.

*The information is provided as a guide to the best of our knowledge and given without obligation or liability.

*Testing under individual application circumstances is recommended.