

Ethylene Tetrafluoroethylene (ETFE)

KEY FEATURES

- High Resistance to Outdoor Weathering
- Compatible with Hot Air Welding Equipment
- Negligible Moisture Absorption
- Radiation and Heat Sterilization Resistant
- Exceptional Dielectric Insulation Properties
- Chemically Inert to All Industrial Chemicals and Solvents
- Rugged, Good Abrasive Resistance and Impact Strength
- Temperature Range: -150°F to +300°F

DESCRIPTION

Ethylene Tetrafluoroethylene (ETFE) is a modified copolymer of ethylene and tetrafluoroethylene that is often used in applications that demand mechanical toughness with thermal and chemical resistance.

TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Physical	Density		g/cm ³	1.7	D792
	Chemical Designation			ETFE	
	Filler				

	Properties	Condition	Units	Value	ASTM Test
Mechanical	Tensile Modulus	@ 73 °F (23°C)	PSI		
	Tensile Strength (Grade 280)	@ 73 °F (23°C)	PSI	6,700	D638
	Shear Strength	@ 73 °F (23°C)	PSI		
	Ultimate Elongation	@ 73 °F (23°C)	%	300	D638
	Flexural Modulus (Grade 280)	@ 73 °F (23°C)	PSI	170,000	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, (Grade 280)		D	72	D2240
	Coefficient of Friction			0.3 - 0.4	D1894

	Properties	Condition	Units	Value	ASTM Test
Thermal	Upper Service Temperature		°C	150	
	Thermal Expansion (CLTE)	0°C to 100°C	mm/mm/°C	13.3*10 ⁻⁵	D696
	Limiting Oxygen Index		%	30-32	D2863

	Properties	Condition	Units	Value	ASTM Test
Electrical	Surface Resistivity		ohms-sq	>10 ¹⁵	D257
	Dielectric Constant	@23°C, 1MHz		2.5 - 2.6	D1531
	Volume Resistivity		ohm-cm	>10 ¹⁷	D257
	Dielectric Strength (10 mil film)		V/mil	1,800	D149
	Dissipation Factor	@23°C, 1 MHz		0.0072	D1531

	Properties	Condition	Units	Value	ASTM Test
Other	Moisture Absorption	24 hrs	%	0.007	D570
	Moisture Absorption	@ Saturation, 73 °F	%		
	Flammability	UL 94		V-O	
	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