

ETFE: Ethylene Tetrafluoroethylene



PRODUCT DESCRIPTION

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

Afton Plastics processes the following grades of ETFE:

Tefzel™ fluoroplastics grade 200

Tefzel™ fluoroplastics grade 280

Tefzel™ fluoroplastics grade HT-2181

Tefzel™ fluoroplastics grade HT-2183

CONTACT US

Address:

9701 Penn Avenue S. | Suite 107
Bloomington, MN 55431

Toll Free:

1 (800) 344-7499

Fax:

1 (952) 881-6565

Website:

www.aftonplastics.com



PRODUCT BENEFITS

- Temperature range: -150°F to +300°F
- Negligible moisture absorption
- High resistance to outdoor weathering
- Chemically inert to most industrial chemicals and solvents
- Exceptional dielectric insulation properties
- Rugged, good abrasive resistance and impact strength
- Compatible with hot air welding equipment
- Radiation and heat sterilization resistant

TYPICAL APPLICATIONS

- Pump housings and pipe linings
- Impellers and abrasive slurries
- Fluid handling and chemical processing
- Wet bench equipment
- Oxygen respirator components
- Military / defense equipment and components
- Food processing equipment
- Radomes

MATERIAL CLASS

- ASTM D 3159 Type 1, Grade 1
- USP Class VI (may be used in contact with food up to +250°F)
- 3A Sanitary Standard 20-17
- FDA compliant per 21 CFR-177.1550

PROPERTY
GRADE
MECHANICAL/PHYSICAL

	ASTM METHOD	UNIT	HT 2183	280
Melt Flow Rate	D3159	g/10 min	6	4
Specific Gravity	D792	g/cm ³	1.7	1.7
Water Absorption, 24 hr.	D570	%	0.007	0.007
Tensile Strength, 23°C	D638	psi	6,100	6,700
Ultimate Elongation, 23°C	D638	%	300	300
Impact Strength, 23°C, Notched Izod	D256	J/m	no break	no break
Flexural Modulus, 23°C	D790	psi	145,000	170,000
Durometer Hardness, Shore D	D2240	D	67	72
Coefficient of Friction	D1894		0.3 - 0.4	0.3 - 0.4

THERMAL

Melting Point	D3418	°C	255 - 280	255 - 280
Linear Coefficient of Expansion (0°C to 100°C)	D696	mm/mm/°C	13.3 x 10 ⁻⁵	13.3 x 10 ⁻⁵
Limiting Oxygen Index	D2863	%	30 - 32	30 - 32
Upper Service Temperature		°C	155	150
Flammability	UL 94		V-0	V-0

ELECTRICAL

Surface Resistivity	D257	ohm-sq	> 10 ¹⁵	> 10 ¹⁵
Volume Resistivity	D257	ohm-cm	10 ¹⁷	10 ¹⁷
Dielectric Strength (10 mil film)	D149	Volts/mil	1,800	1,800
Dielectric Constant, 23°C, 1 MHz	D1531		2.5 - 2.6	2.5 - 2.6
Dissipation Factor, 23°C, 1 MHz	D1531		0.0072	0.0072