Ensinger TECAFLON™ PVDF Polyvinylidene Fluoride (PVDF) - extruded products

Category : Polymer , Thermoplastic , Fluoropolymer , PVDF

Material Notes:

Polyvinylidene fluoride, or PVDF, is a fluorinated thermoplastic resin which has good resistance to most mineral and organic acids, aliphatic and aromatic hydrocarbons, alcohols, halogenated solvents, and oxidizing environments. It also has good aging resistance, with is properties remaining constant after many years of continuous use.Chemical resistance (PVDF has a high chemical resistance to strong acids, aliphatics, and aromatics, and to numerous mineral organic compounds)Fire resistant properties (in the Underwriter's test, PVDF was given the highest classification (V-O), indicating that is was non-flammable and self-extinguishing)UV and gamma radiation stabilityVery high dielectric and piezoelectric constantsTecaflon™ PVDF is FDA compliantAbsolutely non-toxic (PVDF can be used in repeated contact with food products. Its surface, like glass, is unfavorable to the proliferation of microorganisms)Good mechanical properties in tension as well as in deflection, torsion, and compression compared to other fluorinated polymersDoes not swell or alter in a wet environmentUses standard machining and welding techniquesTECAFLON™ PVDF's excellent chemical and physical properties and the ease with which it can be processed make it especially suitable for components in the chemical, petrochemical, hydrometallurgical, pharmaceutical, food, nuclear, and paper and pulp industries, as well as the semiconductor processing industry.Information Provided by Ensinger Industries, Inc.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Ensinger-TECAFLON-PVDF-Polyvinylidene-Fluoride-PVDF-extruded-products.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.78 g/cc	1.78 g/cc	ASTM D792
Density	1.77 g/cc	0.0640 lb/in³	ASTM D792
Water Absorption	0.020 % @Temperature 22.8 °C, Time 86400 sec	0.020 % @Temperature 73.0 °F, Time 24.0 hour	ASTM D570

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	100	100	ASTM D785
Tensile Strength at Break	53.8 MPa @Temperature 22.8 °C	7800 psi @Temperature 73.0 °F	ASTM D638
Elongation at Break	35 % @Temperature 22.8 °C	35 % @Temperature 73.0 °F	ASTM D638
Tensile Modulus	2.41 GPa @Temperature 22.8 °C	350 ksi @Temperature 73.0 °F	ASTM D638
Flexural Strength	74.12 MPa @Temperature 22.8 °C	10750 psi @Temperature 73.0 °F	ASTM D790
	2.14 GPa	310 ksi	

Mechanical Properties	Metric	English	Comments
Flexural Modulus	@Temperature 22.8 °C	@Temperature 73.0 °F	ASTM D790
Compressive Strength	80.0 MPa @Temperature 22.8 °C	11600 psi @Temperature 73.0 °F	ASTM D695
Izod Impact, Notched	1.60 J/cm @Temperature 22.8 °C	3.00 ft-lb/in @Temperature 73.0 °F	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	128 µm/m-°C	71.0 µin/in-°F	ASTM D696
Thermal Conductivity	0.190 W/m-K	1.32 BTU-in/hr-ft²-°F	ASTM C177
Melting Point	172 °C	342 °F	ASTM D3448
Deflection Temperature at 0.46 MPa (66 psi)	149 °C	300 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	129 °C	264 °F	ASTM D648
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Volume Resistivity	5.00e+14 ohm-cm @Temperature 22.8 °C	5.00e+14 ohm-cm @Temperature 73.0 °F	ASTM D257
Dielectric Constant	9.0 @Frequency 60.0 Hz, Temperature 22.8 °C	9.0 @Frequency 60.0 Hz, Temperature 73.0 °F	50% RH; ASTM D150
Dielectric Strength	11.0 kV/mm	280 kV/in	ASTM D149
Dissipation Factor	0.060 @Frequency 60.0 Hz, Temperature 22.8 °C	0.060 @Frequency 60.0 Hz, Temperature 73.0 °F	ASTM D150

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