

Tefzel® 280

Ethylene Tetrafluoroethylene Copolymer

DuPont Fluoropolymers

PROSPECTOR®

www.ulprospector.com

Technical Data

Product Description

DuPont™ Tefzel® 280 fluoropolymer is a premium resin available in translucent, 2.5-mm (0.1-in) pellets. Compared with other grades of Tefzel®, its most unique features are a relatively low flow rate, a greatly enhanced flex life, and resistance to environmental stress.

Tefzel® 280 and the other Tefzel® fluoropolymers are melt processible, modified copolymers of ethylene and tetrafluoroethylene. They are high-performance resins that can be processed at relatively high rates compared with fluorocarbon resins. They are mechanically tough and offer an excellent balance of properties.

Tefzel® 280 is preferred for applications where other thermoplastics are lacking in mechanical toughness, broad thermal capability, ability to meet unusual thermal, mechanical, and chemical environmental extremes, or limited by fabricating problems. Examples are components and linings for the chemical industry and molded parts with metal inserts of thick sections for use at high temperatures.

Properly processed products made from neat Tefzel® 280 are inert to most solvents and chemicals, hydrolytically stable, and weather resistant. Recommended upper service temperature is 150°C (302°F); useful properties are retained at cryogenic ranges. The level and stability of dielectric properties are excellent and the UL94 method flame rating is V-0. They are resistant to environmental stress cracking and have outstanding impact strength, cut-through and abrasion resistance. High-energy radiation resistance meets IEEE 383 and the resin is approved for nuclear power plant use.

Statements, or data, regarding behavior in a flame situation are not intended to reflect hazards presented by this or any other material when under actual fire conditions.

Typical End Products

Tefzel® 280 is ideal for many end products, including chemical service items, such as lined valves and fittings, pump housings and impellers, column packings and other abrasion resistant linings; high temperature electrical components and insulation; fasteners, corrugated tubing and duct work; and film.

Tefzel® 280 is ASTM D3159 Type I, Grade 1.

General

Material Status	• Commercial: Active		
Literature ¹	• Technical Datasheet (English)		
UL Yellow Card ²	• E54681-244671		
Search for UL Yellow Card	• DuPont Fluoropolymers • Tefzel®		
Availability	• Asia Pacific • Europe	• Latin America • North America	
Features	• Copolymer • Good Abrasion Resistance • Good Chemical Resistance • Good Electrical Properties	• Good Impact Resistance • Good Toughness • Good Weather Resistance • High ESCR (Stress Crack Resist.)	• Hydrolytically Stable • Low Flow • Radiation (Gamma) Resistant • Solvent Resistant
Uses	• Abrasion Resistant Liners • Electrical/Electronic Applications • Electronic Insulation • Fasteners	• Film • Fittings • Housings • Liners	• Nuclear Power Applications • Pump Parts • Tubing • Valves/Valve Parts
Agency Ratings	• IEEE 383		
Appearance	• Translucent		
Forms	• Pellets		
Processing Method	• Blow Molding • Compression Molding	• Extrusion • Injection Molding	• Resin Transfer Molding

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Specific Gravity	1.70	1.70 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (297°C/5.0 kg)	4.0 g/10 min	4.0 g/10 min	ASTM D3159
Water Absorption (24 hr)	7.0E-3 %	7.0E-3 %	ASTM D570



Tefzel® 280

Ethylene Tetrafluoroethylene Copolymer

DuPont Fluoropolymers

PROSPECTOR®

www.ulprospector.com

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength (73°F (23°C))	6820 psi	47.0 MPa	ASTM D3159
Tensile Elongation (Break, 73°F (23°C))	300 %	300 %	ASTM D3159
Flexural Modulus (73°F (23°C))	174000 psi	1200 MPa	ASTM D790
Compressive Strength	5510 psi	38.0 MPa	ASTM D695
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact (73°F (23°C))	No Break	No Break	ASTM D256
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Durometer Hardness (Shore D)	72	72	ASTM D2240
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Melting Temperature	491 to 536 °F	255 to 280 °C	ASTM D3159
CLTE - Flow (32 to 212°F (0 to 100°C))	7.4E-5 in/in/°F	1.3E-4 cm/cm/°C	ASTM E831
Maximum Service Temperature	302 °F	150 °C	UL 746
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Volume Resistivity	1.0E+17 ohms·cm	1.0E+17 ohms·cm	ASTM D257
Dielectric Strength (0.00984 in (0.250 mm))	1800 V/mil	70 kV/mm	ASTM D149
Dielectric Constant (73°F (23°C), 1 MHz)	2.50 to 2.60	2.50 to 2.60	ASTM D1531
Dissipation Factor (73°F (23°C), 1 MHz)	7.2E-3	7.2E-3	ASTM D1531
Arc Resistance	122 sec	122 sec	ASTM D495
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Oxygen Index	30 to 32 %	30 to 32 %	ASTM D2863

Additional Information

Weather and Chemical Resistance: Excellent

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

³ Typical properties: these are not to be construed as specifications.



Tefzel® 280

Ethylene Tetrafluoroethylene Copolymer

DuPont Fluoropolymers

PROSPECTOR®

www.ulprospector.com

Where to Buy

Supplier

DuPont Fluoropolymers

Wilmington, DE USA

Telephone: 302-479-7731

Web: http://www2.dupont.com/Teflon_Industrial/en_US/

Distributor

Please contact the supplier to find a distributor for Tefzel® 280

