Tefzel® 280

Ethylene Tetrafluoroethylene Copolymer

DuPont Fluoropolymers

Message:

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 highperformance 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 Information	
UL YellowCard	E54681-244671
Features	High ESCR (Stress Cracking Resistance)
	Copolymer
	Anti-gamma radiation
	Solvent resistance
	Impact resistance, good
	Good electrical performance
	Good wear resistance
	Low liquidity
	Good chemical resistance
	Good weather resistance
	Good toughness
	Hydrolysis stability
Uses	Abrasion Resistant Liners
	Films
	Pump parts
	Lining
	Electrical/Electronic Applications
	Electronic insulation
	Valve/valve components

	Pipe fittings
	Nuclear energy applications
	Fasteners
	Accessories
	Shell

Agency Ratings	IEEE 383
Appearance	Translucent
Forms	Particle
Processing Method	Blow molding
	Extrusion
	Resin transfer molding
	Compression molding
	Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.70	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (297°C/5.0 kg)	4.0	g/10 min	ASTM D3159
Water Absorption (24 hr)	7.0E-3	%	ASTM D570
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore D)	72		ASTM D2240
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength (23°C)	47.0	MPa	ASTM D3159
Tensile Elongation (Break, 23°C)	300	%	ASTM D3159
Flexural Modulus (23°C)	1200	MPa	ASTM D790
Compressive Strength	38.0	MPa	ASTM D695
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (23°C)	No Break		ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Melting Temperature	255 - 280	°C	ASTM D3159
CLTE - Flow (0 to 100°C)	1.3E-4	cm/cm/°C	ASTM E831
Maximum Service Temperature	150	°C	UL 746
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	1.0E+17	ohms·cm	ASTM D257
Dielectric Strength (0.250 mm)	70	kV/mm	ASTM D149
Dielectric Constant (23°C, 1 MHz)	2.50 - 2.60		ASTM D1531
Dissipation Factor (23°C, 1 MHz)	7.2E-3		ASTM D1531
Arc Resistance	122	sec	ASTM D495
Flammability	**Nominal Value**	**Unit**	**Test Method**
Oxygen Index	30 - 32	%	ASTM D2863
Additional Information			

Weather and Chemical Resistance: Excellent

Recommended distributors for this material

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