

Tefzel® HT-2181

Ethylene Tetrafluoroethylene Copolymer

DuPont Fluoropolymers

Message:

DuPont™ Tefzel® HT-2181 fluoropolymer resin is a general-purpose resin available in translucent, 2.5-mm (0.1-in) pellets. Compared with other grades of Tefzel®, its most unique features are an intermediate flow rate and a balance of properties that make it suitable for a variety of processes and demanding end uses.

Tefzel® HT-2181 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 other fluorocarbon resins. They are mechanically tough and offer an excellent balance of properties.

Tefzel® HT-2181 can perform successfully in applications where other thermoplastics are lacking in mechanical toughness, broad thermal capability, ability to meet difficult environmental conditions, or limited by fabricating problems.

Properly processed products made from neat Tefzel® HT-2181 are inert to most solvents and chemicals, hydrolytically stable, and weather-resistant. The recommended upper service temperature is 155°C (311°F); useful properties are retained at cryogenic ranges. The level and stability of dielectric properties are excellent, and the flame rating is V-0 by the UL94 method. Mechanical properties include outstanding impact strength, cut-through, and abrasion resistance.

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® HT-2181 is ideal for many end products, including electrical components, such as sleeving, coil forms, sockets, connectors, and switches; lab ware, such as tubing, valves, containers, and dishes; battery or instrument components that require chemical inertness; chemical service items, such as valve components, seal glands, pipe plugs, and corrugated tubing; and film.

General Information	
UL YellowCard	E54681-101244451
Features	Copolymer
	Solvent resistance
	Impact resistance, good
	Good electrical performance
	Good wear resistance
	Medium liquidity
	Good chemical resistance
	Good weather resistance
	Good toughness
	Hydrolysis stability
Uses	Films
	Electrical/Electronic Applications
	Valve/valve components
	Pipe fittings
	Switch
	Connector
	Seals
	Container
	Laboratory apparatus

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/cm ³	ASTM D792
Apparent Density	1.30	g/cm ³	Internal method
Melt Mass-Flow Rate (MFR) (297°C/5.0 kg)	6.0	g/10 min	ASTM D3159
Water Absorption (24 hr)	7.0E-3	%	ASTM D570

Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	67		ASTM D2240

Mechanical	Nominal Value	Unit	Test Method
Tensile Strength (23°C)	40.0	MPa	ASTM D638
Tensile Elongation (Break, 23°C)	300	%	ASTM D638
Flexural Modulus (23°C)	1000	MPa	ASTM D790
Compressive Strength (23°C)	17.0	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 D3418
CLTE - Flow (0 to 100°C)	1.3E-4	cm/cm/°C	ASTM D696
Maximum Service Temperature	155	°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)	6.0E-3		ASTM D1531
Arc Resistance	122	sec	ASTM D495

Flammability	Nominal Value	Unit	Test Method
Flame Rating	V-0		UL 94
Oxygen Index	30 - 32	%	ASTM D2863

Additional Information
Weather and Chemical Resistance: Excellent

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

