

# Teflon® PFA 350

Perfluoroalkoxy  
DuPont Fluoropolymers

## Message:

For inventory control purposes product name may be followed by an X.  
Products labeled PFA 350 and PFA 350 X are equivalent and all information in this document is applicable to both.  
Typical Application

Applications for DuPont™ Teflon ® PFA 350 include extruded tubing for use in handling aggressive fluids at high pressures; chemical linings for pipes used in the chemical processing industry; film for high flex service; and traditional extruded, injection-molded, or blow-molded articles requiring the unique performance of Teflon ® .

Description  
DuPont™ Teflon ® PFA 350 is a general-purpose fluoroplastic resin available in pellet form. Compared with other grades of Teflon ® PFA, its most unique features are a relatively low flow rate, greatly increased flex life, and enhanced resistance to environmental stress-cracking over both Teflon ® PFA 340 and 345 (Teflon ® PFA 350 has a typical MIT folding endurance of 500,000\*, compared to that of 15,000 and 50,000 for Teflon ® PFA 340 and 345 respectively). Teflon ® PFA 350 is preferred when extended service is required in hostile environments involving chemical, thermal, and mechanical stress. Table 1 shows the typical property data for Teflon ® PFA 350.

Teflon ® PFA 350 is used when traditional extrusion and molding processes are required for producing products with the superior properties of a fluoroplastic resin. Compared to other thermoplastics, the high melt strength and thermal stability of Teflon ® PFA 350 can be used to improve processing rates. Compared with other fluoroplastics, creep resistance at high service temperatures provides a superior balance and level of end-use properties. Teflon ® PFA 350 combines the processing ease of conventional thermoplastics with many properties similar to those of polytetrafluoroethylene. Properly processed products made from neat Teflon ® PFA 350 resin provide the superior properties characteristic of fluoroplastic resins: chemical inertness, exceptional dielectric properties, heat resistance, toughness and flexibility, low coefficient of friction, non-stick characteristics, negligible moisture absorption, low flammability, performance at temperature extremes, and excellent weather resistance. In a flame situation, products of Teflon ® PFA 350 resist ignition and do not promote flame spread. When ignited by flame from other sources, their contribution of heat is very small and added at a slow rate with very little smoke. Teflon ® PFA 350 meets the requirements of ASTM D3307, Type III

General Information	
UL YellowCard	E54681-244681
Features	Low friction coefficient
	Low hygroscopicity
	Low smoke
	High ESCR (Stress Cracking Resistance)
	Good electrical performance
	Good creep resistance
	Good melt strength
	Good flexibility
	Low liquidity
	Good chemical resistance
	Good weather resistance
	Heat resistance, medium
	Thermal stability, good
	Good toughness
Uses	Films
	Lining

Blow molding applications

Pipe fittings

Forms	Particle		
Processing Method	Blow molding		
	Extrusion		
	Resin transfer molding		
	Compression molding		
	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	2.15	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (372°C/5.0 kg)	2.0	g/10 min	ASTM D3307, ISO 12086
Water Absorption (24 hr)	< 0.030	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	55		ASTM D2240, ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			ASTM D3307, ISO 12086
23°C	28.0	MPa	ASTM D3307, ISO 12086
250°C	14.0	MPa	ASTM D3307, ISO 12086
Tensile Elongation			ASTM D3307, ISO 12086
Fracture, 23°C	300	%	ASTM D3307, ISO 12086
Fracture, 250°C	500	%	ASTM D3307, ISO 12086
Flexural Modulus			ASTM D790, ISO 178
23°C	625	MPa	ASTM D790, ISO 178
250°C	69.0	MPa	ASTM D790, ISO 178
Thermal	Nominal Value	Unit	Test Method
Melting Temperature	305	°C	ASTM D4591
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+18	ohms·cm	ASTM D257, ISO 1325
Dielectric Strength			
0.250 mm <sup>1</sup>	80	kV/mm	ASTM D149
0.250 mm	80	kV/mm	IEC 60243-1
Dielectric Constant (1 MHz)	2.03		ASTM D150, IEC 60250
Dissipation Factor (1 MHz)	< 2.0E-4		ASTM D150, IEC 60250
Flammability	Nominal Value	Unit	Test Method
Flame Rating <sup>2</sup>	V-0		UL 94
Oxygen Index	> 95	%	ASTM D2863, ISO 4589-2
Additional Information	Nominal Value	Unit	Test Method
Critical Shear Rate (372°C)	12.0	sec^-1	
MIT Folding Endurance <sup>3</sup> (200.0 µm)	5.0E+5	Cycles	ASTM D2176
Weather and Chemical Resistance: Outstanding			

NOTE	
1.	Method A (short time)
2.	These results are based on laboratory tests under controlled conditions and do not reflect performance under actual fire conditions, current rating is a typical theoretical value.
3.	Depending on fabrication conditions

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