Teflon® PFA 345

Perfluoroalkoxy

DuPont Fluoropolymers

Message:

For inventory control purposes product name may be followed by an X.
Products labeled PFA 345 and PFA 345 X are equivalent and all information in this document is applicable to both.
Typical Application
Applications for DuPont™ Teflon ® PFA 345 include extruded tubing, wire and cable insulation, injection molded parts, and chemically resistant linings for bellows, valves, fittings, pipes, pumps, and other fluid-handling components.
Description
DuPont™ Teflon ® PFA 345 is a medium melt flow rate fluoroplastic resin available in pellet form. Compared with Teflon ® PFA 340, it offers increased flex life and greater resistance to environmental stress-cracking (Teflon ® PFA 345 offers a typical MIT folding endurance of 50,000* compared to 15,000 in Teflon ® PFA 340). Table 1 shows the typical property data for Teflon ® PFA 345.
Teflon ® PFA 345 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 345 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 345 combines the processing ease of conventional thermoplastics with many properties similar to those of polytetrafluoroethylene.
Properly processed products made from neat Teflon® PFA 345 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 345 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 345 meets the requirements of ASTM D3307, Type III

General Information	
Features	Low friction coefficient
	Low hygroscopicity
	Low smoke
	High ESCR (Stress Cracking Resistance)
	Good electrical performance
	Good creep resistance
	Good melt strength
	Good flexibility
	Medium liquidity
	Good chemical resistance
	Good weather resistance
	Heat resistance, medium
	Thermal stability, good
	Good toughness
Uses	Pump parts
	Lining
	Wire and cable applications
	Valve/valve components
	Pipe fittings

	Accessories

Forms	Particle
Processing Method	Extrusion
	Resin transfer molding
	Compression molding
	Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	2.14	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (372°C/5.0 kg)	5.0	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 (23°C)	29.0	MPa	ASTM D3307, ISO 12086
Tensile Elongation (Break, 23°C)	300	%	ASTM D3307, ISO 12086
Flexural Modulus (23°C)	551	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 [1]	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 [2]	V-0		UL 94
Oxygen Index	> 95	%	ASTM D2863, ISO 4589-2
Additional Information	**Nominal Value**	**Unit**	**Test Method**
Critical Shear Rate (372°C)	21.0	sec^-1	
MIT Folding Endurance [3] (200.0 µm)	5.0E+4	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

Recommended distributors for this material

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