Hyflon® PFA P450

Perfluoroalkoxy

Solvay Specialty Polymers

Message:

Hyflon® PFA is a unique family of semi-crystalline, melt processable perfluoropolymers which combine excellent mechanical characteristics to unique properties such as chemical inertness, heat resistance, inherent flame resistance, low surface energy, and exceptional dielectric properties. Hyflon® PFA resins have been designed to retain their properties over a wide range of temperatures from cryogenic to 250-260°C (482-500°F) and are the material of choice in applications such as linings in the Chemical Process Industry, specialty cables, semiconductor industry, aerospace, and other challenging industries.
Hyflon® PFA P450 is a medium molecular weight, high melt flow rate multi purpose resin designed for cable extrusion and injection molding. Hyflon® PFA P450 has obtained UL758 recognition for continuous use at 260°C (500°F) and is an ASTM D3307 - Type I resin.

General Information	
UL YellowCard	E109081-218804
Features	Semicrystallization High liquidity Heat resistance, high Medium molecular weight Flame retardancy
Uses	Semiconductor molding compound Lining Cable sheath Aerospace applications
Agency Ratings	ASTM D 3307 Type I UL 758
Forms	Particle
Processing Method	Extrusion Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	2.12 - 2.17	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (372°C/5.0 kg)	10 - 17	g/10 min	ASTM D1238
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore D)	55 - 60		ASTM D2240
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus [1] (23°C)	500 - 600	MPa	ASTM D1708
Tensile Strength (Break, 23°C)	> 21.0	MPa	ASTM D1708
Tensile Elongation (Break, 23°C)	> 280	%	ASTM D1708
Bending life (300.0 µm)	4.0E+3 - 6.0E+3	Cycles	ASTM D2176

Heat of crystallization	25.0 - 35.0	J/g	DSC
Heat of Fusion	25.0 - 35.0	J/g	DSC
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength	No Break		ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Continuous Use Temperature	260	°C	
Melting Temperature	300 - 310	°C	ASTM D3307
Peak Crystallization Temperature (DSC)	275 - 285	°C	DSC
CLTE - Flow	1.2E-4 - 2.0E-4	cm/cm/°C	ASTM D696
Specific Heat (23°C)	900 - 1100	J/kg/°C	DSC
Thermal Conductivity (40°C)	0.20	W/m/K	ASTM C177
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	> 1.0E+17	ohms	ASTM D257
Volume Resistivity	> 1.0E+17	ohms·cm	ASTM D257
Dielectric Strength	35 - 40	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
23°C, 50 Hz	2.10		ASTM D150
23°C, 100 kHz	2.10		ASTM D150
Dissipation Factor			ASTM D150
23°C, 50 Hz	< 5.0E-4		ASTM D150
23°C, 100 kHz	< 5.0E-4		ASTM D150
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating	V-0		UL 94
Oxygen Index	95	%	ASTM D2863

Additional Information

PROCESSING
Because PFA is corrosive in the melt, machinery used to process Hyflon should be lined with corrosion resistant alloys. Clean, reworked material can be used up to 25% in weight.
HEALTH SAFETY AND ENVIRONMENT
Hyflon PFA P450 is a very inert polymer and it is not harmful if used and handled according to standard processing procedures. If handled inappropriately, it may release harmful toxic chemicals. Please refer to the Material Safety Data Sheets for more information on handling and safety.
PACKAGING AND STORAGE
Hyflon PFA P450 resin is available in 25 kg (55 lbs) and 500 kg (1102 lbs) packaging. Though it has an indefinite shelf life, it is recommended to store it in a clean area, protected by direct sun light and possible contamination.

NOTE

1.	1.0 mm/min

Recommended distributors for this material

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