

Solvay Specialty Polymers Hyflon® PFA 420 Perfluoroalkoxy (PFA)

Category : Polymer , Thermoplastic , Fluoropolymer , PFA

Material Notes:

Hyflon® PFA is a 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. PFA resins are designed to retain their properties over a wide range of temperatures (-196/260°C or -320/500°F) and are the material of choice in applications such as linings in the Chemical Process Industry, specialty cables, semiconductor industry, aero space, etc. Hyflon® PFA 420 is a high molecular weight, low melt flow rate multi-purpose resin designed for pipe, cable and stock shapes extrusion, injection, compression, and transfer molding. Hyflon PFA 420 is an ASTM D3307 - Type II resin. Features: Flame Retardant; High Heat Resistance; High Molecular Weight; Low Flow; Semi Crystalline Uses: Aerospace Applications; Cable Jacketing; Liners; Piping; Semiconductor Molding Compounds Additional Properties: Crystallization Heat - DSC 25.0 to 35.0 J/g; Flex Life - ASTM D2176 (300.0 µm): 9.0E+4 to 1.2E+5 Cycles; Heat of Fusion - DSC 25.0 to 35.0 J/g Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Hyflon-PFA-420-Perfluoroalkoxy-PFA.php

Physical Properties	Metric	English	Comments
Density	2.13 - 2.18 g/cc	0.0770 - 0.0788 lb/in ³	ASTM D792
Melt Flow	1.5 - 3.0 g/10 min @Load 5.00 kg, Temperature 372 °C	1.5 - 3.0 g/10 min @Load 11.0 lb, Temperature 702 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	59	59	ASTM D2240
Tensile Strength at Break	>= 26.0 MPa	>= 3770 psi	ASTM D638
Elongation at Break	>= 300 %	>= 300 %	ASTM D638
Tensile Modulus	0.500 - 0.600 GPa	72.5 - 87.0 ksi	1.0 mm/min; ASTM D638
Izod Impact, Notched	NB	NB	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	120 - 200 µm/m-°C	66.7 - 111 µin/in-°F	
Specific Heat Capacity	0.900 - 1.10 J/g-°C	0.215 - 0.263 BTU/lb-°F	ASTM C351
Thermal Conductivity	0.200 W/m-K @Temperature 40.0 °C	1.39 BTU-in/hr-ft ² -°F @Temperature 104 °F	ASTM C177
Melting Point			DSC

Thermal Properties	300 - 310 Â°C Metric	572 - 590 Â°F English	Comments
Crystallization Temperature	275 - 285 Â°C	527 - 545 Â°F	Peak; ASTM D3418
Maximum Service Temperature, Air	260 Â°C	500 Â°F	Continuous Use
Flammability, UL94	V-0	V-0	
Oxygen Index	95 %	95 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+17 ohm-cm	>= 1.00e+17 ohm-cm	ASTM D257
Surface Resistance	>= 1.00e+17 ohm	>= 1.00e+17 ohm	ASTM D257
Dielectric Constant	2.1	2.1	ASTM D150
	@Frequency 100000 Hz	@Frequency 100000 Hz	
	2.1	2.1	ASTM D150
	@Frequency 50.0 Hz	@Frequency 50.0 Hz	
Dielectric Strength	35.0 - 40.0 kV/mm	889 - 1020 kV/in	ASTM D149
Dissipation Factor	<= 0.00050	<= 0.00050	ASTM D150
	@Frequency 100000 Hz	@Frequency 100000 Hz	
	<= 0.00050	<= 0.00050	ASTM D150
	@Frequency 50.0 Hz	@Frequency 50.0 Hz	

Descriptive Properties	Value	Comments
Agency Ratings	ASTM D 3307 Type II	
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	Latin America	
	North America	
Form	Pellets	
Processing Technique	Compression Molding; Extrusion	
	Injection Molding; Resin Transfer Molding	

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