

Solvay Specialty Polymers Hyflon[®] PFA M640 Perfluoroalkoxy (PFA)

Category : Polymer , Thermoplastic , Fluoropolymer , PFA

Material Notes:

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. Features: Flame Retardant; High Heat Resistance; Low Flow; Semi Crystalline Uses: Aerospace Applications; Cable Jacketing; Liners; Piping; Semiconductor Molding Compounds Additional Properties: Crystallization Heat - DSC 18.0 to 26.0 J/g; Flex Life - ASTM D2176 (300.0 μ m): 4.0E+3 to 6.0E+3 Cycles; Heat of Fusion - DSC 18.0 to 26.0 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-M640-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 | 10 - 17 g/10 min @Load 5.00 kg, Temperature 372 [°] C | 10 - 17 g/10 min @Load 11.0 lb, Temperature 702 [°] F | ASTM D1238 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|-------------------|-----------------|-----------------------|
| Hardness, Shore D | 55 - 60 | 55 - 60 | ASTM D2240 |
| Tensile Strength at Break | >= 21.0 MPa | >= 3050 psi | ASTM D638 |
| Elongation at Break | >= 280 % | >= 280 % | 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 μ m/m- [°] C | 66.7 - 111 μ in/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 | 280 - 290 [°] C | 536 - 554 [°] F | DSC |

| Crystallization Temperature Thermal Properties | 255 - 265 Å°C Metric | 491 - 509 Å°F English | Peak: ASTM D3418 Comments |
|---|-------------------------|--------------------------|------------------------------|
| Maximum Service Temperature, Air | 250 Å°C | 482 Å°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 | 2.0 | 2.0 | ASTM D150 |
| | @Frequency 100000 Hz | @Frequency 100000 Hz | |
| Dielectric Strength | 2.0 | 2.0 | 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 | |
| Dissipation Factor | <= 0.00050 | <= 0.00050 | ASTM D150 |
| | @Frequency 50.0 Hz | @Frequency 50.0 Hz | |

| Descriptive Properties | Value | Comments |
|------------------------|---|----------|
| Agency Ratings | ASTM D 3307, Type VII; UL 758 | |
| 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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