

Hyflon® PFA M620

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 M620 is a low melt flow rate multi-purpose resin designed for pipe, cable, and stock shapes extrusion, injection, compression, and transfer molding. Hyflon® PFA M620 has obtained UL758 recognition for continuous use at 250°C (482°F) and is an ASTM D3307 - Type VIII resin.

| General Information | | | |
|--|--------------------------------|-------------------|-------------|
| UL YellowCard | E109081-218801 | | |
| Features | Semicrystallization | | |
| | Low liquidity | | |
| | Heat resistance, high | | |
| | Flame retardancy | | |
| Uses | Semiconductor molding compound | | |
| | Lining | | |
| | Cable sheath | | |
| | Piping system | | |
| | Aerospace applications | | |
| Agency Ratings | ASTM D 3307, Class VIII | | |
| | UL 758 | | |
| Forms | Particle | | |
| Processing Method | Extrusion | | |
| | Resin transfer molding | | |
| | Compression molding | | |
| | Injection molding | | |
| Physical | Nominal Value | Unit | Test Method |
| Specific Gravity | 2.12 - 2.17 | g/cm ³ | ASTM D792 |
| Melt Mass-Flow Rate (MFR) (372°C/5.0 kg) | 2.0 - 5.0 | 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) | > 26.0 | MPa | ASTM D1708 |

| | | | |
|---|-----------------|----------|-------------|
| Tensile Elongation (Break, 23°C) | > 300 | % | ASTM D1708 |
| Bending life (300.0 μm) | 7.0E+4 - 1.0E+5 | Cycles | ASTM D2176 |
| Heat of crystallization | 18.0 - 26.0 | J/g | DSC |
| Heat of Fusion | 18.0 - 26.0 | 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 | 280 - 290 | °C | ASTM D3307 |
| Peak Crystallization Temperature (DSC) | 255 - 265 | °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 | 2.00 | | ASTM D150 |
| 23°C, 100 kHz | 2.00 | | 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 M620 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 M620 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 from direct sunlight and possible contamination. | | | |
| NOTE | | | |
| 1. | 1.0 mm/min | | |

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