

Solvay Specialty Polymers Hylar® MP20 PVDF Polyvinylidene Fluoride (discontinued **)

Category : Polymer , Thermoplastic , Fluoropolymer , PVDF , Polyvinylidene fluoride (PVDF), Molded/Extruded

Material Notes:

Data provided by the manufacturer. Hylar® polymers have the characteristic stability of fluoropolymers combined with a unique polarity that influences its solubility and electrical properties. In addition to standard molding and extrusion, Hylar® polymers lend themselves well to solution-applied coatings.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Hylar-MP20-PVDF-Polyvinylidene-Fluoride-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	1.77 - 1.79 g/cc	0.0639 - 0.0647 lb/in ³	ASTM D792
Water Absorption	0.020 %	0.020 %	ASTM D570
Linear Mold Shrinkage	0.025 - 0.030 cm/cm	0.025 - 0.030 in/in	
Melt Flow	7.0 - 10 g/10 min @Load 12.5 kg	7.0 - 10 g/10 min @Load 27.6 lb	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	76 - 80	76 - 80	ASTM D2240
Tensile Strength, Ultimate	35.0 - 45.0 MPa	5080 - 6530 psi	ASTM D638
Tensile Strength, Yield	35.0 - 48.0 MPa	5080 - 6960 psi	ASTM D638
Elongation at Break	50 - 250 %	50 - 250 %	ASTM D638
Elongation at Yield	10 %	10 %	ASTM D638
Tensile Modulus	1.38 - 1.73 GPa	200 - 251 ksi	ASTM D638
Flexural Yield Strength	48.0 - 55.0 MPa	6960 - 7980 psi	ASTM D790
Flexural Modulus	1.138 - 2.07 GPa	165.1 - 300 ksi	ASTM D790
Izod Impact, Notched	0.800 - 1.30 J/cm	1.50 - 2.44 ft-lb/in	
Izod Impact, Unnotched	NB	NB	Low Temp; ASTM D256
Coefficient of Friction, Dynamic	0.10 - 0.25	0.10 - 0.25	ASTM D1894
Coefficient of Friction, Static	0.15	0.15	ASTM D1894

Thermal Properties	Metric	English	Comments
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Thermal Properties	Metric	English	Comments
CTE, linear	100 - 120 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	55.6 - 66.7 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ASTM D696
	@Temperature 20.0 $^\circ\text{C}$	@Temperature 68.0 $^\circ\text{F}$	
Specific Heat Capacity	1.90 J/g- $^\circ\text{C}$	0.454 BTU/lb- $^\circ\text{F}$	DSC
Thermal Conductivity	0.190 - 0.220 W/m-K	1.32 - 1.53 BTU-in/hr-ft ² - $^\circ\text{F}$	ASTM C177
Melting Point	165 - 168 $^\circ\text{C}$	329 - 334 $^\circ\text{F}$	ASTM D3418
Maximum Service Temperature, Air	150 $^\circ\text{C}$	302 $^\circ\text{F}$	No oxidative or thermal degradation after 5 years at 150 $^\circ\text{C}$ (300 $^\circ\text{F}$)
Deflection Temperature at 1.8 MPa (264 psi)	105 - 115 $^\circ\text{C}$	221 - 239 $^\circ\text{F}$	TMA
Brittleness Temperature	≤ -43.0 $^\circ\text{C}$	≤ -45.4 $^\circ\text{F}$	ASTM D2236
Flammability, UL94	V-0	V-0	
Oxygen Index	43 %	43 %	ASTM D2863

Optical Properties	Metric	English	Comments
Refractive Index	1.42	1.42	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.40e+16 ohm-cm	1.40e+16 ohm-cm	ASTM D257
Dielectric Constant	6.0	6.0	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	6.8	6.8	ASTM D150
	@Frequency 60 Hz	@Frequency 60 Hz	
Dissipation Factor	12.4 kV/mm	315 kV/in	Short-Time 500 V/sec
	@Thickness 3.17 mm	@Thickness 0.125 in	
Arc Resistance	0.032	0.032	ASTM D150
	@Frequency 60 Hz	@Frequency 60 Hz	
Arc Resistance	0.153	0.153	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Arc Resistance	≥ 50 sec	≥ 50 sec	ASTM D495

Processing Properties	Metric	English	Comments
Processing Temperature	215 - 232 $^\circ\text{C}$	419 - 450 $^\circ\text{F}$	Preheat

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