

Solvay Specialty Polymers Solef® 1015/0078 PVDF Homopolymer (discontinued **)

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

Material Notes:

Key features of this grade: Plasticized, Offshore, Piping, Formulated. Recommended processing is extrusion. Available as granules. General information about SOLEF® PVDF: SOLEF® PVDF is a fluorinated semi-crystalline thermoplastic which is obtained by polymerizing vinylidene fluoride. Important properties include excellent chemical resistance to most aggressive substances and solvents, excellent mechanical strength and toughness, high abrasion resistance, high temperature capabilities, excellent aging resistance, high purity, resistance to UV and nuclear radiation, excellent intrinsic fire resistance, resistance to weathering, low permeability to most gases and liquids, and easily melt-processed by standard methods of molding and extrusion. Tensile properties are achieved with varying methods of sample fabrication. Information provided by Solvay Solexis, Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Solef-10150078-PVDF-Homopolymer-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	1.69 g/cc	0.0611 lb/in ³	ISO 1183
Linear Mold Shrinkage	0.020 - 0.030 cm/cm	0.020 - 0.030 in/in	
Melt Flow	1.2 g/10 min	1.2 g/10 min	ASTM D1238
	@Load 5.00 kg, Temperature 230 °C	@Load 11.0 lb, Temperature 446 °F	
	4.0 g/10 min	4.0 g/10 min	ASTM D1238
	@Load 10.0 kg, Temperature 230 °C	@Load 22.0 lb, Temperature 446 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	70	70	ASTM D2240
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Tensile Strength, Ultimate	25.0 - 45.0 MPa	3630 - 6530 psi	50 mm/min; ASTM D638
Tensile Strength, Yield	32.0 - 42.0 MPa	4640 - 6090 psi	50 mm/min; ASTM D638
Elongation at Break	100 - 350 %	100 - 350 %	50 mm/min; ASTM D638
Elongation at Yield	15 - 25 %	15 - 25 %	50 mm/min; ASTM D638
Modulus of Elasticity	1.00 GPa	145 ksi	1 mm/min; ASTM D638
Flexural Yield Strength	39.0 MPa	5660 psi	2 mm/min; ASTM D790
Flexural Modulus	1.00 GPa	145 ksi	2 mm/min; ASTM D790

Mechanical Properties	7.75 J/cm Metric	14.5 ft-lb/in English	Comments
Impact, Notched	@Thickness 4.00 mm, Temperature 23.0 °C	@Thickness 0.157 in, Temperature 73.4 °F	ASTM D256
Coefficient of Friction	0.20 - 0.30	0.20 - 0.30	ASTM D1894
Coefficient of Friction, Static	0.20 - 0.40	0.20 - 0.40	ASTM D1894
Taber Abrasion, mg/1000 Cycles	5.0 - 10	5.0 - 10	CS10 / 1 kg

Thermal Properties	Metric	English	Comments
Heat of Fusion	54.0 J/g	23.2 BTU/lb	Crystallization Heat
	56.0 J/g	24.1 BTU/lb	80°C to end of melting
CTE, linear	130 - 160 µm/m-°C @Temperature 20.0 °C	72.2 - 88.9 µin/in-°F @Temperature 68.0 °F	ASTM D696
Specific Heat Capacity	1.20 J/g-°C	0.287 BTU/lb-°F	
	1.60 J/g-°C @Temperature 100 °C	0.382 BTU/lb-°F @Temperature 212 °F	
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft ² -°F	ASTM C177
Melting Point	172 °C	342 °F	Crystallinity by DSC; ASTM D 3418
Crystallization Temperature	142 °C	288 °F	
Deflection Temperature at 0.46 MPa (66 psi)	133 °C @Thickness 4.00 mm	271 °F @Thickness 0.157 in	after annealing 150°C 16 hr; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	55.0 °C @Thickness 4.00 mm	131 °F @Thickness 0.157 in	after annealing 150°C 16 hr; ASTM D648
Vicat Softening Point	170 °C @Load 1.00 kg, Thickness 4.00 mm	338 °F @Load 2.20 lb, Thickness 0.157 in	ISO 306
Brittleness Temperature	<= -55.0 °C	<= -67.0 °F	ASTM D746A
Glass Transition Temp, Tg	-32.0 °C	-25.6 °F	DMTA
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	>= 1.00e+14 ohm-cm	>= 1.00e+14 ohm-cm	Intensity = 10 mA after 2 min @ 23°C; ASTM D 257; DIN 53483

Electrical Properties	$\geq 1.00 \times 10^{14}$ ohm	$\geq 1.00 \times 10^{14}$ ohm	Comments
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