Solvay Specialty Polymers Solef® 31008 PVDF Copolymer (discontinued **)

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

Material Notes:

Key features of this grade: High Flexibility/ High Elongation/Cold Impact Resistance, Wire & Cable, Plenum, Formulated. Recommended processing is extrusion. Available as powder & 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-31008-PVDF-Copolymer-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	1.76 g/cc	0.0636 lb/in³	ISO 1183
Water Absorption	<= 0.040 %	<= 0.040 %	ISO 62 (method 1)
Linear Mold Shrinkage	0.020 - 0.030 cm/cm	0.020 - 0.030 in/in	
Melt Flow	5.0 g/10 min @Load 2.16 kg, Temperature 230 °C	5.0 g/10 min @Load 4.76 lb, Temperature 446 °F	ASTM D1238
	15 g/10 min @Load 5.00 kg, Temperature 230 °C	15 g/10 min @Load 11.0 lb, Temperature 446 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	63 @Thickness 2.00 mm	63 @Thickness 0.0787 in	ASTM D2240
Tensile Strength, Ultimate	14.0 - 30.0 MPa	2030 - 4350 psi	50 mm/min; ASTM D638
Tensile Strength, Yield	14.0 - 35.0 MPa	2030 - 5080 psi	50 mm/min; ASTM D638
Elongation at Break	350 - 600 %	350 - 600 %	50 mm/min; ASTM D638
Elongation at Yield	10 - 12 %	10 - 12 %	50 mm/min; ASTM D638
Modulus of Elasticity	0.800 GPa	116 ksi	1 mm/min; ASTM D638
Flexural Yield Strength	33.0 MPa	4790 psi	2 mm/min; ASTM D790
Flexural Modulus	0.850 GPa	123 ksi	2 mm/min; ASTM D790

Mechanical Properties	Metric	English	Comments
Izod Impact, Notched	@Thickness 4.00 mm, Temperature 23.0 °C	@Thickness 0.157 in, Temperature 73.4 °F	Notched V 10 mm; 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 - 15	5.0 - 15	CS10 / 1 kg

Thermal Properties	Metric	English	Comments
Heat of Fusion	32.0 J/g	13.8 BTU/lb	Crystallization Heat
	34.0 J/g	14.6 BTU/lb	80°C to end of melting
CTE, linear	130 - 150 µm/m-°C @Temperature 20.0 °C	72.2 - 83.3 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	0.180 W/m-K	1.25 BTU-in/hr-ft²-°F	ASTM C177
Melting Point	169 °C	336 °F	Crystallinity by DSC; ASTM D 3418
Crystallization Temperature	127 °C	261 °F	
Deflection Temperature at 0.46 MPa (66 psi)	82.0 °C @Thickness 4.00 mm	180 °F @Thickness 0.157 in	after annealing 150°C 16 hr; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	48.0 °C @Thickness 4.00 mm	118 °F @Thickness 0.157 in	after annealing 150°C 16 hr; ASTM D648
Vicat Softening Point	140 °C @Load 1.00 kg, Thickness 4.00 mm	284 °F @Load 2.20 lb, Thickness 0.157 in	ISO 306
Brittleness Temperature	-30.0 °C	-22.0 °F	ASTM D746A
Glass Transition Temp, Tg	-30.0 °C	-22.0 °F	DMTA
Decomposition Temperature	320 - 350 °C	608 - 662 °F	Thermal Stability via TGA : beginning - and at 1% weight loss in air
Oxygen Index	46 - 65 % @Thickness 3.00 mm	46 - 65 % @Thickness 0.118 in	sheet; ASTM D2863

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
Surface Resistance	>= 1.00e+14 ohm	>= 1.00e+14 ohm	Voltage < 1 V after 2 min - 500 V; ASTM D 257/DIN 53483
Dielectric Constant	7.0 @Frequency 1e+6 Hz	7.0 @Frequency 1e+6 Hz	ASTM D150

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