

Solvay Specialty Polymers Solef® 32008 PVDF Copolymer (Unverified Data**)

Category : Polymer , Thermoplastic , Fluoropolymer , PVDF , Polyvinylidene fluoride (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-32008-PVDF-Copolymer-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.75 g/cc	0.0632 lb/in ³	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	5.0 g/10 min	ASTM D1238
	@Load 2.16 kg, Temperature 230 °C	@Load 4.76 lb, Temperature 446 °F	
	15 g/10 min	15 g/10 min	ASTM D1238
	@Load 5.00 kg, Temperature 230 °C	@Load 11.0 lb, Temperature 446 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	47	47	ASTM D2240
	@Thickness 2.00 mm	@Thickness 0.0787 in	
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	0.200 GPa	29.0 ksi	1 mm/min; ASTM D638
Flexural Yield Strength	8.00 MPa	1160 psi	2 mm/min; ASTM D790
Flexural Modulus	0.200 GPa	29.0 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	17.0 J/g	7.31 BTU/lb	80°C to end of melting
	19.0 J/g	8.17 BTU/lb	Crystallization Heat
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	168 °C	334 °F	Crystallinity by DSC; ASTM D 3418
Crystallization Temperature	128 °C	262 °F	
Deflection Temperature at 0.46 MPa (66 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	75.0 °C @Load 1.00 kg, Thickness 4.00 mm	167 °F @Load 2.20 lb, Thickness 0.157 in	ISO 306
Brittleness Temperature	-53.0 °C	-63.4 °F	ASTM D746A
Glass Transition Temp, Tg	-28.0 °C	-18.4 °F	DMTA
Decomposition Temperature	320 - 340 °C	608 - 644 °F	Thermal Stability via TGA : beginning - and at 1% weight loss in air
Oxygen Index	50 - 65 % @Thickness 3.00 mm	50 - 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

Electrical Properties	Metric	English	Comments
Surface Resistance	$\geq 1.00\text{e}+14\ \text{ohm}$	$\geq 1.00\text{e}+14\ \text{ohm}$	Voltage 1 V after 2 min - 500 V; ASTM D 257/DIN 53483
Dielectric Constant	7.0	7.0	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

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