

Solvay Specialty Polymers Solef[®] 11010 Polyvinylidene Fluoride (PVDF)

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

Material Notes:

Solef[®] 11010 PVDF is a medium-viscosity flexible PVDF copolymer resin and is typically processed by extrusion. Features: Copolymer; Good Flexibility; Medium Viscosity Additional Properties: Crystallization Heat - ASTM D3417 30.0 to 40.0 J/g; Heat of Fusion - ASTM D3417 35.0 to 40.0 J/g Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Solef-11010-Polyvinylidene-Fluoride-PVDF.php

Physical Properties	Metric	English	Comments
Density	1.75 - 1.80 g/cc	0.0632 - 0.0650 lb/in ³	ASTM D792
Water Absorption	<= 0.040 % @Time 86400 sec	<= 0.040 % @Time 24.0 hour	ISO 62
Linear Mold Shrinkage, Flow	0.020 - 0.030 cm/cm	0.020 - 0.030 in/in	
Melt Flow	4.0 - 8.0 g/10 min @Load 5.00 kg, Temperature 230 °C	4.0 - 8.0 g/10 min @Load 11.0 lb, Temperature 446 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	70 - 75	70 - 75	1 sec; ASTM D2240
Tensile Strength at Break	20.0 - 40.0 MPa @Thickness 2.00 mm	2900 - 5800 psi @Thickness 0.0787 in	50 mm/min; ASTM D638
Tensile Strength, Yield	20.0 - 35.0 MPa @Thickness 2.00 mm	2900 - 5080 psi @Thickness 0.0787 in	50 mm/min; ASTM D638
Elongation at Break	200 - 600 %	200 - 600 %	50 mm/min; ASTM D638
Elongation at Yield	10 - 12 %	10 - 12 %	50 mm/min; ASTM D638
Tensile Modulus	0.800 - 1.20 GPa	116 - 174 ksi	1.0 mm/min; ASTM D638
Izod Impact, Notched	1.50 - 2.50 J/cm @Thickness 4.00 mm	2.81 - 4.68 ft-lb/in @Thickness 0.157 in	ASTM D256
Coefficient of Friction, Dynamic	0.15 - 0.35	0.15 - 0.35	vs. Itself; ASTM D1894
Coefficient of Friction, Static	0.20 - 0.40	0.20 - 0.40	vs. Itself; ASTM D1894
Taber Abrasion, mg/1000 Cycles	5.0 - 15	5.0 - 15	CS-10 Wheel, 1000 g; ASTM D1044

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	180 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	100 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	1
	@Temperature -50.0 - 50.0 $\text{Å}^\circ\text{C}$	@Temperature -58.0 - 122 $\text{Å}^\circ\text{F}$	
Specific Heat Capacity	1.20 $\text{J}/\text{g}\cdot\text{Å}^\circ\text{C}$	0.287 $\text{BTU}/\text{lb}\cdot\text{Å}^\circ\text{F}$	ASTM C351
	@Temperature 23.0 $\text{Å}^\circ\text{C}$	@Temperature 73.4 $\text{Å}^\circ\text{F}$	
	1.60 $\text{J}/\text{g}\cdot\text{Å}^\circ\text{C}$	0.382 $\text{BTU}/\text{lb}\cdot\text{Å}^\circ\text{F}$	ASTM C351
	@Temperature 100 $\text{Å}^\circ\text{C}$	@Temperature 212 $\text{Å}^\circ\text{F}$	
Thermal Conductivity	0.190 $\text{W}/\text{m}\cdot\text{K}$	1.32 $\text{BTU}\cdot\text{in}/\text{hr}\cdot\text{ft}\cdot\text{Å}^2\cdot\text{Å}^\circ\text{F}$	ASTM C177
	@Temperature 40.0 $\text{Å}^\circ\text{C}$	@Temperature 104 $\text{Å}^\circ\text{F}$	
Melting Point	158 - 162 $\text{Å}^\circ\text{C}$	316 - 324 $\text{Å}^\circ\text{F}$	DSC
Crystallization Temperature	115 - 130 $\text{Å}^\circ\text{C}$	239 - 266 $\text{Å}^\circ\text{F}$	Peak; ASTM D3418
Vicat Softening Point	90.0 - 105 $\text{Å}^\circ\text{C}$	194 - 221 $\text{Å}^\circ\text{F}$	Rate A (50 $\text{Å}^\circ\text{C}/\text{h}$), Loading 2 (50 N)
Glass Transition Temp, Tg	-35.0 $\text{Å}^\circ\text{C}$	-31.0 $\text{Å}^\circ\text{F}$	ASTM E1356
Flammability, UL94	V-0	V-0	
	@Thickness 0.100 mm	@Thickness 0.00394 in	
Oxygen Index	44 %	44 %	ASTM D2863
	@Thickness 3.00 mm	@Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00\text{e}+14$ ohm-cm	$\geq 1.00\text{e}+14$ ohm-cm	ASTM D257
Surface Resistance	$\geq 1.00\text{e}+14$ ohm	$\geq 1.00\text{e}+14$ ohm	ASTM D257
Dielectric Constant	7.0 - 10	7.0 - 10	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	20.0 - 25.0 kV/mm	508 - 635 kV/in	ASTM D149
	@Thickness 1.00 mm	@Thickness 0.0394 in	
Dissipation Factor	0.20	0.20	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Descriptive Properties	Value	Comments
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Descriptive Properties	Value & Middle East	Comments
	Asia Pacific	
	Europe	
	Latin America	
	North America	
Processing Technique	Extrusion	

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