

Solvay Specialty Polymers Solef[®] 60512 Polyvinylidene Fluoride (PVDF)

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

Material Notes:

Solef[®] 60512 PVDF copolymer has high viscosity of the melt and it is a grade for offshore piping. Features: Copolymer; High

Viscosity Uses: Piping Additional Properties: Crystallization Heat - ASTM D3417 42.0 to 50.0 J/g; Heat of Fusion - ASTM D3417 41.0 to 50.0 J/g Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Solef-60512-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	2.5 - 4.0 g/10 min @Load 10.0 kg, Temperature 230 °C	2.5 - 4.0 g/10 min @Load 22.0 lb, Temperature 446 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	70	70	ASTM D2240
Tensile Strength at Break	34.0 - 40.0 MPa @Thickness 2.00 mm	4930 - 5800 psi @Thickness 0.0787 in	50 mm/min; ASTM D638
Tensile Strength, Yield	34.0 - 40.0 MPa @Thickness 2.00 mm	4930 - 5800 psi @Thickness 0.0787 in	50 mm/min; ASTM D638
Elongation at Break	100 - 300 %	100 - 300 %	50 mm/min; ASTM D638
Elongation at Yield	9.0 - 12 %	9.0 - 12 %	50 mm/min; ASTM D638
Tensile Modulus	1.25 - 1.40 GPa @Thickness 2.00 mm	181 - 203 ksi @Thickness 0.0787 in	1.0 mm/min; ASTM D638
Izod Impact, Notched	10.0 J/cm @Thickness 4.00 mm	18.7 ft-lb/in @Thickness 0.157 in	ASTM D256
Coefficient of Friction	0.20 - 0.40	0.20 - 0.40	vs. Itself; ASTM D1894
Coefficient of Friction, Dynamic	0.20 - 0.30	0.20 - 0.30	vs. Itself; ASTM D1894
Taber Abrasion, mg/1000 Cycles	5.0 - 10	5.0 - 10	CS-10 Wheel, 1000 g; ASTM D1044

Mechanical Properties	Metric	English	Comments
Thermal Properties			
	Metric	English	Comments
CTE, linear, Parallel to Flow	130 - 180 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	72.2 - 100 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	1
	@Temperature 0.000 - 40.0 $\text{Å}^\circ\text{C}$	@Temperature 32.0 - 104 $\text{Å}^\circ\text{F}$	
Specific Heat Capacity	1.20 J/g- $\text{Å}^\circ\text{C}$	0.287 BTU/lb- $\text{Å}^\circ\text{F}$	ASTM C351
	@Temperature 23.0 $\text{Å}^\circ\text{C}$	@Temperature 73.4 $\text{Å}^\circ\text{F}$	
	1.60 J/g- $\text{Å}^\circ\text{C}$	0.382 BTU/lb- $\text{Å}^\circ\text{F}$	ASTM C351
	@Temperature 100 $\text{Å}^\circ\text{C}$	@Temperature 212 $\text{Å}^\circ\text{F}$	
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft $\text{Å}^2\cdot\text{Å}^\circ\text{F}$	ASTM C177
	@Temperature 23.0 $\text{Å}^\circ\text{C}$	@Temperature 73.4 $\text{Å}^\circ\text{F}$	
Melting Point	170 - 174 $\text{Å}^\circ\text{C}$	338 - 345 $\text{Å}^\circ\text{F}$	DSC
Crystallization Temperature	142 - 146 $\text{Å}^\circ\text{C}$	288 - 295 $\text{Å}^\circ\text{F}$	Peak; ASTM D3418
Vicat Softening Point	167 $\text{Å}^\circ\text{C}$	333 $\text{Å}^\circ\text{F}$	Rate A (50 $\text{Å}^\circ\text{C}/\text{h}$), Loading 2 (50 N)
Glass Transition Temp, Tg	-40.0 $\text{Å}^\circ\text{C}$	-40.0 $\text{Å}^\circ\text{F}$	ASTM E1356

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

Descriptive Properties	Value	Comments
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	Latin America	
	North America	

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