

Solvay Specialty Polymers Solef® 460/461 Polyvinylidene Fluoride (PVDF) (Unverified Data**)

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

Material Notes:

Solef® 460/461 PVDF homopolymer has high melt viscosity and is typically processed by extrusion. Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Solef-460461-Polyvinylidene-Fluoride-PVDF-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.76 g/cc	1.76 g/cc	ASTM D792
Water Absorption	0.020 % @Temperature 23.0 °C, Time 86400 sec	0.020 % @Temperature 73.4 °F, Time 24.0 hour	ASTM D570
Viscosity	2.60e+6 cP @Shear Rate 100 1/s, Temperature 232 °C	2.60e+6 cP @Shear Rate 100 1/s, Temperature 450 °F	Melt; ASTM D3835
Melt Flow	10 g/10 min @Load 21.6 kg, Temperature 230 °C	10 g/10 min @Load 47.6 lb, Temperature 446 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	75	75	ASTM D2240
Tensile Strength at Break	41.0 MPa @Temperature 23.0 °C	5950 psi @Temperature 73.4 °F	50 mm/min; ASTM D638
Tensile Strength, Yield	48.0 MPa @Temperature 23.0 °C	6960 psi @Temperature 73.4 °F	50 mm/min; ASTM D638
Elongation at Break	100 % @Temperature 23.0 °C	100 % @Temperature 73.4 °F	50 mm/min; ASTM D638
Elongation at Yield	10 % @Temperature 23.0 °C	10 % @Temperature 73.4 °F	50 mm/min; ASTM D638
Tensile Modulus	1.31 GPa @Temperature 23.0 °C	190 ksi @Temperature 73.4 °F	50 mm/min; ASTM D638
Flexural Yield Strength	55.0 MPa	7980 psi	50 mm/min; ASTM D790

Mechanical Properties	@Temperature 23.0 °C Metric	@Temperature 73.4 °F English	Comments
Flexural Modulus	1.52 GPa	220 ksi	50 mm/min; ASTM D790
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched	11.0 J/cm	20.6 ft-lb/in	ASTM D256
	1.10 J/cm	2.06 ft-lb/in	ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Coefficient of Friction, Dynamic	0.20	0.20	vs. Itself; ASTM D1894
Coefficient of Friction, Static	0.30	0.30	vs. Itself; ASTM D1894
Taber Abrasion, mg/1000 Cycles	8.0	8.0	CS-17 Wheel
	@Load 1.00 kg	@Load 2.20 lb	

Thermal Properties	Metric	English	Comments
Heat of Fusion	46.0 J/g	19.8 BTU/lb	Crystallization Heat; ASTM D3418
	46.0 J/g	19.8 BTU/lb	ASTM D3418
CTE, linear, Parallel to Flow	130 µm/m-°C	72.2 µin/in-°F	ASTM D696
Specific Heat Capacity	1.34 J/g-°C	0.320 BTU/lb-°F	ASTM D3418
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft²-°F	ASTM D433
Melting Point	160 °C	320 °F	ASTM D3418
Crystallization Temperature	132 °C	270 °F	Peak, DSC; ASTM D3418
Deflection Temperature at 0.46 MPa (66 psi)	127 °C	261 °F	Annealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	88.0 °C	190 °F	Annealed; ASTM D648
Glass Transition Temp, Tg	-39.0 °C	-38.2 °F	ASTM D4065
Flammability, UL94	V-0	V-0	UL 94
Oxygen Index	44 %	44 %	ASTM D2863

Optical Properties	Metric	English	Comments
Refractive Index	1.42	1.42	ASTM D542

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	50% RH; ASTM D257

Electrical Properties	Metric @ Temperature 23.0 °C	English @ Temperature 73.4 °F	Comments
Dielectric Constant	6.0 @Frequency 1.00e+6 Hz, Temperature 23.0 °C	6.0 @Frequency 1.00e+6 Hz, Temperature 73.4 °F	ASTM D150
Dielectric Strength	10.0 kV/mm @Thickness 3.18 mm, Temperature 23.0 °C	254 kV/in @Thickness 0.125 in, Temperature 73.4 °F	ASTM D149

Descriptive Properties	Value	Comments
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
Features	High Viscosity	
	Homopolymer	
Generic	PVDF	
Processing Method	Extrusion	

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