

## Solvay Specialty Polymers Solef® 9009 Polyvinylidene Fluoride (PVDF) (discontinued \*\*)

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

### Material Notes:

Solef® 9009 PVDF homopolymer has low/medium viscosity and is used in film extrusion and injection molding. Information provided by Solvay Specialty Polymers.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Solvay-Specialty-Polymers-Solef-9009-Polyvinylidene-Fluoride-PVDF-nbspdiscontinued-.php](http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Solef-9009-Polyvinylidene-Fluoride-PVDF-nbspdiscontinued-.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.75 - 1.80 g/cc	1.75 - 1.80 g/cc	ASTM D792
Water Absorption	<= 0.040 % @Temperature 23.0 °C, Time 86400 sec	<= 0.040 % @Temperature 73.4 °F, Time 24.0 hour	ASTM D570
Linear Mold Shrinkage, Flow	0.020 - 0.030 cm/cm	0.020 - 0.030 in/in	
Melt Flow	7.0 - 13 g/10 min @Load 3.80 kg, Temperature 230 °C	7.0 - 13 g/10 min @Load 8.38 lb, Temperature 446 °F	ASTM D1238
	10 - 20 g/10 min @Load 5.00 kg, Temperature 230 °C	10 - 20 g/10 min @Load 11.0 lb, Temperature 446 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	73 - 80 @Thickness 2.00 mm, Time 1.00 sec	73 - 80 @Thickness 0.0787 in, Time 0.000278 hour	ASTM D2240
Tensile Strength at Break	30.0 - 50.0 MPa @Thickness 2.00 mm, Temperature 23.0 °C	4350 - 7250 psi @Thickness 0.0787 in, Temperature 73.4 °F	Type IV, 50 mm/min; ASTM D638
Tensile Strength, Yield	45.0 - 60.0 MPa @Thickness 2.00 mm, Temperature 23.0 °C	6530 - 8700 psi @Thickness 0.0787 in, Temperature 73.4 °F	Type IV, 50 mm/min; ASTM D638
Elongation at Break	20 - 300 % @Thickness 2.00 mm, Temperature 23.0 °C	20 - 300 % @Thickness 0.0787 in, Temperature 73.4 °F	Type IV, 50 mm/min; ASTM D638
Elongation at Yield	5.0 - 10 % @Thickness 2.00 mm,	5.0 - 10 % @Thickness 0.0787 in,	Type IV, 50 mm/min; ASTM D638

Mechanical Properties	Temperature 23.0 °C Metric	Temperature 73.4 °F English	Comments
Tensile Modulus	1.40 - 2.20 GPa @Thickness 2.00 mm, Temperature 23.0 °C	203 - 319 ksi @Thickness 0.0787 in, Temperature 73.4 °F	Type IV, 1.0 mm/min; ASTM D638
Impact	37.4 - 107 @Thickness 4.00 mm	37.4 - 107 @Thickness 0.157 in	J/m Charpy Notched Impact Strength; 2 m/s; ASTM D6110
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 - 10 @Load 1.00 kg	5.0 - 10 @Load 2.20 lb	CS-10 Wheel; ASTM D4060

Thermal Properties	Metric	English	Comments
Heat of Fusion	53.0 - 60.0 J/g	22.8 - 25.8 BTU/lb	Crystallization Heat; ASTM D3418
	53.0 - 60.0 J/g	22.8 - 25.8 BTU/lb	ASTM D3418
CTE, linear, Parallel to Flow	140 µm/m-°C	77.8 µin/in-°F	ASTM D696
Specific Heat Capacity	1.20 J/g-°C @Temperature 23.0 °C	0.287 BTU/lb-°F @Temperature 73.4 °F	ASTM C351
	1.60 J/g-°C @Temperature 100 °C	0.382 BTU/lb-°F @Temperature 212 °F	ASTM C351
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft <sup>2</sup> -°F	ASTM C177
Melting Point	162 - 168 °C	324 - 334 °F	ASTM D3418
Crystallization Temperature	133 - 140 °C	271 - 284 °F	Peak, DSC; ASTM D3418
Glass Transition Temp, Tg	-40.0 °C	-40.0 °F	ASTM D4065
Flammability, UL94	V-0 @Thickness 0.100 mm	V-0 @Thickness 0.00394 in	UL 94
Oxygen Index	44 % @Thickness 3.00 mm	44 % @Thickness 0.118 in	ASTM D2863

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+14 ohm-cm	>= 1.00e+14 ohm-cm	ASTM D257
Surface Resistance	>= 1.00e+14 ohm	>= 1.00e+14 ohm	ASTM D257

Electrical Properties Dielectric Strength	20.0 - 25.0 kV/mm Metric	508 - 635 kV/in English	Comments ASTM D149
	@Thickness 1.00 mm, Temperature 23.0 °C	@Thickness 0.0394 in, Temperature 73.4 °F	

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

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