

Solef® 9009

polyvinylidene fluoride

Solef® 9009 PVDF homopolymer has low/medium viscosity and is used in film extrusion and injection molding.

General

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Features	• Homopolymer	• Medium-low Viscosity
Forms	• Pellets	• Powder
Processing Method	• Film Extrusion	• Injection Molding

Physical	Typical Value	Unit	Test method
Density / Specific Gravity	1.75 to 1.80		ASTM D792
Melt Mass-Flow Rate (MFR)			ASTM D1238
230°C/2.16 kg	5.0 to 11	g/10 min	
230°C/5.0 kg	15 to 30	g/10 min	
Molding Shrinkage - Flow	2.0 to 3.0	%	
Water Absorption (24 hr, 23°C)	< 0.040	%	ASTM D570

Mechanical	Typical Value	Unit	Test method
Tensile Modulus ¹ (23°C, 2.00 mm)	1400 to 2200	MPa	ASTM D638
Tensile Strength ²			ASTM D638
Yield, 23°C, 2.00 mm	45.0 to 60.0	MPa	
Break, 23°C, 2.00 mm	30.0 to 50.0	MPa	
Tensile Elongation ²			ASTM D638
Yield, 23°C, 2.00 mm	5.0 to 10	%	
Break, 23°C, 2.00 mm	20 to 300	%	
Coefficient of Friction			ASTM D1894
vs. Itself - Dynamic	0.15 to 0.35		
vs. Itself - Static	0.20 to 0.40		
Taber Abrasion Resistance			ASTM D4060
1000 Cycles, 1000 g, CS-10 Wheel	5.00 to 10.0	mg	

Impact	Typical Value	Unit	Test method
Charpy Notched Impact Strength ³			ASTM D6110
23°C, 4.00 mm	60.0 to 120	J/m	

Hardness	Typical Value	Unit	Test method
Durometer Hardness (Shore D, 1 sec, 2.00 mm)	73 to 80		ASTM D2240

Thermal	Typical Value	Unit	Test method
Glass Transition Temperature	-40.0	°C	ASTM D4065
Melting Temperature	162 to 168	°C	ASTM D3418

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Thermal	Typical Value	Unit	Test method
Peak Crystallization Temperature (DSC)	133 to 140	°C	ASTM D3418
Crystallization Heat	53.0 to 60.0	J/g	ASTM D3418
Heat of Fusion	53.0 to 60.0	J/g	ASTM D3418
Electrical	Typical Value	Unit	Test method
Surface Resistivity	> 1.0E+14	ohms	ASTM D257
Volume Resistivity	> 1.0E+14	ohms·cm	ASTM D257
Dielectric Strength (23°C, 1.00 mm)	20 to 25	kV/mm	ASTM D149
Dielectric Constant (23°C, 1 kHz)	7.00 to 10.0		ASTM D150
Flammability	Typical Value	Unit	Test method
Flame Rating (0.100 mm)	V-0		UL 94
Oxygen Index (3.00 mm)	44	%	ASTM D2863

Notes

Typical properties: these are not to be construed as specifications.

¹ Type IV, 1.0 mm/min

² Type IV, 50 mm/min

³ 2 m/s



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