Solef® 60512

polyvinylidene fluoride

Solef® 60512 PVDF copolymer has high viscosity of the melt and it is a grade for offshore piping.

General		
Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Features	• Copolymer	• High Viscosity
Uses	• Piping	

Physical	Typical Value	Unit	Test method
Density / Specific Gravity	1.75 to 1.80		ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/10.0 kg)	2.5 to 4.0	g/10 min	ASTM D1238
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)	1250 to 1400	MPa	ASTM D638
Tensile Strength [2]			ASTM D638
Yield, 23°C, 2.00 mm	34.0 to 40.0	MPa	
Break, 23°C, 2.00 mm	34.0 to 40.0	MPa	
Tensile Elongation [2]			ASTM D638
Yield, 23°C, 2.00 mm	9.0 to 12	%	
Break, 23°C, 2.00 mm	100 to 300	%	
Coefficient of Friction			ASTM D1894
vs. Itself - Dynamic	0.20 to 0.30		
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
Notched Izod Impact [3] (23°C, 4.00 mm)	1000	J/m	ASTM D6110

Hardness	Typical Value	Unit	Test method
Durometer Hardness (Shore D, 2.00 mm)	70		ASTM D2240

Thermal	Typical Value	Unit	Test method
Glass Transition Temperature	-40.0	°C	ASTM D4065
Vicat Softening Temperature	167	°C	ASTM D1525 [4]
Melting Temperature	170 to 174	°C	ASTM D3418
Peak Crystallization Temperature (DSC)	142 to 146	°C	ASTM D3418
CLTE - Flow (0 to 40°C)	1.3E-4 to 1.8E-4	cm/cm/°C	ASTM D696

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Thermal	Typical Value	Unit	Test method
Specific Heat			ASTM E968
23°C	1200	J/kg/°C	
100°C	1600	J/kg/°C	
Thermal Conductivity (23°C)	0.20	W/m/K	ASTM C177
Crystallization Heat	42.0 to 50.0	J/g	ASTM D3417
Heat of Fusion	41.0 to 50.0	J/g	ASTM D3417

Electrical	Typical Value	Unit	Test method
Surface Resistivity	> 1.0E+14	ohms	ASTM D257
Volume Resistivity	> 1.0E+14	ohms·cm	ASTM D257

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, Partial Break

[4] Rate A (50°C/h), Loading 2 (50 N)

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