

# Solef® 90615/2002

## polyvinylidene fluoride

Solef® 90615 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	1.75 to 1.80	g/cm <sup>3</sup>	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/10.0 kg)	0.50 to 2.0	g/10 min	ASTM D1238
Water Absorption (24 hr, 23°C)	< 0.040	%	ASTM D570

Mechanical	Typical Value	Unit	Test method
Tensile Modulus <sup>1</sup> (23°C, 1.50 mm)	800 to 1000	MPa	ASTM D638
Tensile Strength <sup>2</sup>			ASTM D638
Yield, 23°C, 1.50 mm	25.0 to 35.0	MPa	
Break, 23°C, 1.50 mm	40.0 to 55.0	MPa	
Tensile Elongation <sup>2</sup>			ASTM D638
Yield, 23°C, 1.50 mm	15 to 20	%	
Break, 23°C, 1.50 mm	> 200	%	
Coefficient of Friction			ASTM D1894
vs. Itself - Dynamic	0.25 to 0.35		
vs. Itself - Static	0.20 to 0.40		
Taber Abrasion Resistance			ASTM D4060
1000 Cycles, 1000 g, CS-17 Wheel	4.00 to 8.00	mg	

Impact	Typical Value	Unit	Test method
Charpy Notched Impact Strength (23°C)	110	kJ/m <sup>2</sup>	ISO 179/1eA

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

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			ISO 75-2/B
0.45 MPa, Unannealed	98.0	°C	
Glass Transition Temperature	-40.0	°C	ASTM D4065
Vicat Softening Temperature	95.0	°C	ISO 306 <sup>3</sup>

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Thermal	Typical Value Unit	Test method
Melting Temperature	169 to 174 °C	ASTM D3418
Peak Crystallization Temperature (DSC)	141 to 145 °C	ASTM D3418
CLTE - Flow (-30 to 50°C)	1.5E-4 to 1.8E-4 cm/cm/°C	ASTM E831
Specific Heat		ASTM E968
23°C	1230 J/kg/°C	
100°C	1630 J/kg/°C	
Thermal Conductivity (23°C)	0.21 W/m/K	ASTM C177
Crystallization Heat	38.0 to 46.0 J/g	ASTM D3417
Heat of Fusion	40.0 to 48.0 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.

- <sup>1</sup> Type IV, 1.0 mm/min
- <sup>2</sup> Type IV, 50 mm/min
- <sup>3</sup> Rate A (50°C/h), Loading 2 (50 N)



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