

Solef® 460/461

polyvinylidene fluoride

Solef® 460/461 PVDF homopolymer has high melt viscosity and is typically processed by extrusion.

General

Material Status	• Commercial: Active
Availability	<ul style="list-style-type: none"> • Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Features	<ul style="list-style-type: none"> • High Viscosity • Homopolymer
Processing Method	• Extrusion

Physical

	Typical Value	Unit	Test method
Density / Specific Gravity	1.76		ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/21.6 kg)	10	g/10 min	ASTM D1238
Water Absorption (24 hr, 23°C)	0.020	%	ASTM D570

Mechanical

	Typical Value	Unit	Test method
Tensile Modulus ¹ (23°C)	1310	MPa	ASTM D638
Tensile Strength ¹			ASTM D638
Yield, 23°C	48.0	MPa	
Break, 23°C	41.0	MPa	
Tensile Elongation ¹			ASTM D638
Yield, 23°C	10	%	
Break, 23°C	100	%	
Flexural Modulus ¹ (23°C)	1520	MPa	ASTM D790
Flexural Strength ¹ (Yield, 23°C)	55.0	MPa	ASTM D790
Coefficient of Friction			ASTM D1894
vs. Itself - Dynamic	0.20		
vs. Itself - Static	0.30		
Taber Abrasion Resistance			
1000 Cycles, 1000 g, CS-17 Wheel	8.00	mg	

Impact

	Typical Value	Unit	Test method
Notched Izod Impact (23°C)	110	J/m	ASTM D256
Unnotched Izod Impact (23°C)	1100	J/m	ASTM D256

Hardness

	Typical Value	Unit	Test method
Durometer Hardness (Shore D)	75		ASTM D2240

Thermal

	Typical Value	Unit	Test method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Annealed	127	°C	
1.8 MPa, Annealed	88.0	°C	
Glass Transition Temperature	-39.0	°C	ASTM D4065

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Thermal	Typical Value	Unit	Test method
Melting Temperature	160	°C	ASTM D3418
Peak Crystallization Temperature (DSC)	132	°C	ASTM D3418
CLTE - Flow	1.3E-4	cm/cm/°C	ASTM D696
Specific Heat	1340	J/kg/°C	ASTM D3418
Thermal Conductivity	0.20	W/m/K	ASTM D433
Crystallization Heat	46.0	J/g	ASTM D3418
Heat of Fusion	46.0	J/g	ASTM D3418

Electrical	Typical Value	Unit	Test method
Volume Resistivity ² (23°C)	1.0E+15	ohms·cm	ASTM D257
Dielectric Strength (23°C, 3.18 mm)	10	kV/mm	ASTM D149
Dielectric Constant (23°C, 1 MHz)	6.00		ASTM D150

Flammability	Typical Value	Unit	Test method
Flame Rating	V-0		UL 94
Oxygen Index	44	%	ASTM D2863

Optical	Typical Value	Unit	Test method
Refractive Index	1.420		ASTM D542

Fill Analysis	Typical Value	Unit	Test method
Melt Viscosity (232°C, 100 sec ⁻¹)	2600	Pa·s	ASTM D3835

Notes

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

¹ 50 mm/min

² 50% RH



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