



Technical Data Sheet

Solef® 460S/461S

polyvinylidene fluoride

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

General

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Features	• High Viscosity • Homopolymer
Processing Method	• Extrusion

Physical	Typical Value	Unit	Test method
Density / Specific Gravity	1.75 to 1.80		ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/21.6 kg)	4.0 to 18	g/10 min	ASTM D1238
Water Absorption (24 hr, 23°C)	< 0.040	%	ASTM D570

Mechanical	Typical Value	Unit	Test method
Tensile Modulus ¹ (23°C)	1300 to 1700	MPa	ASTM D638
Tensile Strength ¹			ASTM D638
Yield, 23°C	35.0 to 55.0	MPa	
Break, 23°C	30.0 to 50.0	MPa	
Tensile Elongation ¹			ASTM D638
Yield, 23°C	5.0 to 15	%	
Break, 23°C	20 to 300	%	
Flexural Modulus ¹ (23°C)	1400 to 1800	MPa	ASTM D790
Flexural Strength ¹ (Yield, 23°C)	50.0 to 65.0	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	5.00 to 10.0	mg	

Impact	Typical Value	Unit	Test method
Notched Izod Impact (23°C)	100 to 120	J/m	ASTM D256
Unnotched Izod Impact (23°C)	1000 to 1200	J/m	ASTM D4812

Hardness	Typical Value	Unit	Test method
Durometer Hardness (Shore D)	73 to 80		ASTM D2240

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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
Melting Temperature	158 to 162	°C	ASTM D3418
Peak Crystallization Temperature (DSC)	128 to 135	°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	42.0 to 54.0	J/g	ASTM D3418
Heat of Fusion	42.0 to 54.0	J/g	ASTM D3418
Electrical	Typical Value	Unit	Test method
Volume Resistivity ² (23°C)	1.0E+14	ohms-cm	ASTM D257
Dielectric Strength (23°C, 3.18 mm)	20 to 25	kV/mm	ASTM D149
Dielectric Constant (23°C, 1 MHz)	5.00 to 7.00		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)	2400 to 2750	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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Progress beyond

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