

Solef® 460/461

Polyvinylidene Fluoride
Solvay Specialty Polymers

Message:

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

General Information			
Features	High Viscosity		
	Homopolymer		
Processing Method	Extrusion		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.76	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/21.6 kg)	10	g/10 min	ASTM D1238
Water Absorption (23°C, 24 hr)	0.020	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	75		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ¹ (23°C)	1310	MPa	ASTM D638
Tensile Strength ²			ASTM D638
Yield, 23°C	48.0	MPa	
Break, 23°C	41.0	MPa	
Tensile Elongation ³			ASTM D638
Yield, 23°C	10	%	
Break, 23°C	100	%	
Flexural Modulus ⁴ (23°C)	1520	MPa	ASTM D790
Flexural Strength ⁵ (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	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	110	J/m	ASTM D256
Unnotched Izod Impact (23°C)	1100	J/m	ASTM D256
Thermal	Nominal 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	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	Nominal Value	Unit	Test Method
Volume Resistivity ⁶ (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	Nominal Value	Unit	Test Method
Flame Rating	V-0		UL 94
Oxygen Index	44	%	ASTM D2863
Optical	Nominal Value		Test Method
Refractive Index	1.420		ASTM D542
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (232°C, 100 sec ⁻¹)	2600	Pa·s	ASTM D3835
NOTE			
1.	50 mm/min		
2.	50 mm/min		
3.	50 mm/min		
4.	50 mm/min		
5.	50 mm/min		
6.	50% RH		

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