

KF 1100

Polyvinylidene Fluoride

Kureha Corporation

Message:

KF 1100 PVDF homopolymer is a medium-high viscosity PVDF resin typically processed by extrusion or compression molding. This material offers excellent chemical resistance at ambient and elevated temperatures. PVDF is also inherently UV stable, mechanically tough, abrasion

General Information			
Features	Homopolymer		
	Medium Viscosity		
Uses	Fibers		
	Film		
Forms	Pellets		
	Powder		
Processing Method	Extrusion		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.77 to 1.79	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/5.0 kg)	2.0 to 4.0	g/10 min	ASTM D1238
Water Absorption (Equilibrium)	0.030	%	ASTM D570
Solution Viscosity - DMF (30°C)	110	cm ³ /g	
Hardness	Nominal Value	Unit	Test Method
Shore Hardness ¹ (Shore D, 23°C)	79		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2430	MPa	ISO 527-2
Tensile Stress (Yield)	59.0	MPa	ISO 527-2
Tensile Strain (Break)	36	%	ISO 527-2
Flexural Modulus	1500	MPa	ISO 178
Flexural Stress	71.0	MPa	ISO 178
Compressive Modulus	1500	MPa	ISO 604
Compressive Stress	71.0	MPa	ISO 604
Taber Abrasion Resistance (1000 Cycles, 1000 g)	31.0	mg	ISO 9352
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (Area)			ASTM D256
-40°C	2.90	kJ/m ²	
-20°C	3.40	kJ/m ²	
0°C	13.3	kJ/m ²	
20°C	33.0	kJ/m ²	

Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	-37.0	°C	ASTM D746
Glass Transition Temperature	-35.0	°C	DMA
Vicat Softening Temperature	172	°C	ISO 306/A50
Peak Melting Temperature	173	°C	ASTM D3418
Peak Crystallization Temperature (DSC)	140	°C	ASTM D3418
CLTE - Flow (23 to 80°C)	1.6E-4	cm/cm/°C	ISO 11359-2
Specific Heat (23°C)	1200	J/kg/°C	JIS K7123
Thermal Conductivity (23°C)	0.17	W/m/K	ASTM E1530
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	ASTM D257
Volume Resistivity	1.0E+14 to 1.0E+15	ohms·cm	ASTM D257
Dielectric Strength (0.0340 mm)	300	kV/mm	ASTM D149
Dielectric Constant (1 kHz)	10.0		ASTM D150
Dissipation Factor (1 kHz)	0.015		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating (equivalent)	V-0		UL 94
Oxygen Index ²	44	%	ISO 4589-2
Optical	Nominal Value		Test Method
Refractive Index ³	1.420		ASTM D542
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity			ASTM D3835
240°C, 50.0 sec ⁻¹	3300	Pa·s	
260°C, 50.0 sec ⁻¹	2500	Pa·s	
NOTE			
1.	50N		
2.	Type-IV		
3.	25°C		

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