

Generic PEEK - Glass Fiber

Polyetheretherketone

Generic

Message:

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General Information			
Filler / Reinforcement	Glass fiber reinforced material		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.36 - 1.65	g/cm ³	ASTM D792
23°C	1.37 - 1.62	g/cm ³	ISO 1183
Spiral Flow	8.50 - 41.4	cm	
Molding Shrinkage			
Flow: 23°C	0.19 - 0.81	%	ASTM D955
Transverse flow: 23°C	0.56 - 2.0	%	ASTM D955
23°C	0.15 - 0.93	%	ISO 294-4
Water Absorption			
23°C, 24 hr	0.099 - 0.16	%	ASTM D570
23°C, 24 hr	0.098 - 0.10	%	ISO 62
Equilibrium, 23°C, 50% RH	0.14 - 0.40	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (23°C)	103 - 124		ASTM D785
Durometer Hardness (23°C)	86 - 88		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	4830 - 15000	MPa	ASTM D638
23°C	5900 - 13100	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	2.07 - 178	MPa	ASTM D638
Yield, 23°C	124 - 175	MPa	ISO 527-2
Fracture, 23°C	122 - 183	MPa	ASTM D638
Fracture, 23°C	85.6 - 191	MPa	ISO 527-2
23°C	102 - 187	MPa	ASTM D638
Tensile Elongation			
Yield, 23°C	2.0 - 3.1	%	ASTM D638
Yield, 23°C	1.4 - 3.5	%	ISO 527-2
Fracture, 23°C	0.87 - 4.5	%	ASTM D638
Fracture, 23°C	1.7 - 5.0	%	ISO 527-2

Flexural Modulus			
23°C	4100 - 11400	MPa	ASTM D790
23°C	4810 - 12100	MPa	ISO 178
Flexural Strength			
23°C	153 - 286	MPa	ASTM D790
23°C	138 - 273	MPa	ISO 178
Compressive Stress (23°C)	41.0 - 250	MPa	ISO 604
Coefficient of Friction	0.28 - 0.33		ASTM D1894
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	4.0 - 10	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	29 - 61	kJ/m ²	ISO 179
Notched Izod Impact			
23°C	42 - 140	J/m	ASTM D256
23°C	4.2 - 13	kJ/m ²	ISO 180
Unnotched Izod Impact			
23°C	420 - 970	J/m	ASTM D256
23°C	30 - 65	kJ/m ²	ISO 180
Instrumented Dart Impact (23°C)	13.5 - 14.9	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	298 - 330	°C	ASTM D648
0.45 MPa, not annealed	240 - 338	°C	ISO 75-2/B
1.8 MPa, not annealed	260 - 323	°C	ASTM D648
1.8 MPa, not annealed	237 - 315	°C	ISO 75-2/A
Continuous Use Temperature	248 - 256	°C	ASTM D794
Vicat Softening Temperature	300 - 325	°C	ISO 306
Melting Temperature	343	°C	ISO 11357-3
Linear thermal expansion coefficient			
Flow	2.2E-5 - 2.9E-5	cm/cm/°C	ASTM D696
Flow	3.6E-6 - 4.9E-5	cm/cm/°C	ASTM E831
Flow	1.1E-5 - 3.4E-5	cm/cm/°C	ISO 11359-2
Lateral	1.8E-6 - 3.1E-5	cm/cm/°C	ASTM E831
Lateral	2.0E-6 - 1.2E-4	cm/cm/°C	ISO 11359-2
Thermal Conductivity (23°C)	0.30 - 0.40	W/m/K	ISO 8302
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
--	5.1E+4 - 4.8E+15	ohms	ASTM D257
--	1.0E+12 - 2.6E+13	ohms	IEC 60093
Volume Resistivity			
23°C	5.1E+2 - 1.9E+16	ohms · cm	ASTM D257
23°C	8.4E+14 - 1.0E+16	ohms · cm	IEC 60093
Dielectric Strength			

23°C	6.9 - 23	kV/mm	ASTM D149
23°C	21 - 24	kV/mm	IEC 60243-1
Dielectric Constant			
23°C	3.40 - 4.20		ASTM D150
23°C	3.10 - 3.50		IEC 60250
Dissipation Factor (23°C)	1.0E-3 - 5.0E-3		IEC 60250
Comparative Tracking Index	150 - 200	V	IEC 60112
Insulation Resistance (23°C)	1.0E+12 - 2.5E+14	ohms	IEC 60167
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity	210 - 850	Pa·s	ASTM D3835
Injection	Nominal Value	Unit	
Drying Temperature	119 - 151	°C	
Drying Time	3.0 - 7.0	hr	
Dew Point	-28.9	°C	
Rear Temperature	365 - 366	°C	
Middle Temperature	370 - 386	°C	
Front Temperature	394 - 395	°C	
Nozzle Temperature	370	°C	
Processing (Melt) Temp	371 - 391	°C	
Mold Temperature	179 - 191	°C	
Injection Pressure	86.2 - 104	MPa	
Back Pressure	0.500 - 0.517	MPa	
Screw Speed	55 - 80	rpm	
Injection instructions			

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