

Generic PEEK - Carbon Fiber

Polyetheretherketone

Generic

Message:

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General Information			
Filler / Reinforcement	Carbon fiber reinforced material		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.33 - 1.54	g/cm ³	ASTM D792
23°C	1.34 - 1.48	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (380°C/10.0 kg)	8.00 - 61.3	cm ³ /10min	ISO 1133
Molding Shrinkage			
Flow: 23°C	0.036 - 0.22	%	ASTM D955
Transverse flow: 23°C	0.52 - 1.1	%	ASTM D955
23°C	0.12 - 0.62	%	ISO 294-4
Water Absorption			
23°C, 24 hr	0.062 - 0.15	%	ASTM D570
23°C, 24 hr	0.098 - 0.10	%	ISO 62
Saturated, 23°C	0.29 - 0.41	%	ISO 62
Equilibrium, 23°C, 50% RH	0.093 - 0.31	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (23°C)	105 - 124		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	7010 - 43900	MPa	ASTM D638
23°C	9400 - 27000	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	184 - 270	MPa	ASTM D638
Yield, 23°C	130 - 242	MPa	ISO 527-2
Fracture, 23°C	136 - 284	MPa	ASTM D638
Fracture, 23°C	144 - 324	MPa	ISO 527-2
23°C	145 - 318	MPa	ASTM D638
Tensile Elongation			
Yield, 23°C	1.3 - 2.6	%	ASTM D638
Yield, 23°C	1.3 - 3.3	%	ISO 527-2
Fracture, 23°C	0.93 - 2.5	%	ASTM D638
Fracture, 23°C	1.2 - 5.0	%	ISO 527-2

Flexural Modulus			
23°C	7810 - 31700	MPa	ASTM D790
23°C	5850 - 37300	MPa	ISO 178
Flexural Strength			
23°C	212 - 435	MPa	ASTM D790
23°C	192 - 462	MPa	ISO 178
Compressive Strength			
23°C	170 - 1360	MPa	ASTM D695
23°C	49.0 - 303	MPa	ISO 604
Shear Strength (23°C)	95.3 - 122	MPa	ASTM D732
Coefficient of Friction	0.12 - 0.35		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)	25 - 61	kJ/m ²	ISO 179
Notched Izod Impact			
23°C	53 - 110	J/m	ASTM D256
23°C	6.4 - 9.1	kJ/m ²	ISO 180
Unnotched Izod Impact			
23°C	380 - 920	J/m	ASTM D256
23°C	29 - 61	kJ/m ²	ISO 180
Instrumented Dart Impact (23°C)	4.40 - 17.4	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	288 - 340	°C	ASTM D648
0.45 MPa, not annealed	298 - 350	°C	ISO 75-2/B
1.8 MPa, not annealed	287 - 317	°C	ASTM D648
1.8 MPa, not annealed	260 - 332	°C	ISO 75-2/A
Continuous Use Temperature	248 - 251	°C	ASTM D794
Vicat Softening Temperature	295 - 340	°C	ISO 306
Melting Temperature	340 - 343	°C	ISO 11357-3
Linear thermal expansion coefficient			
Flow	1.9E-6 - 3.2E-5	cm/cm/°C	ASTM D696
Flow	2.0E-6 - 5.2E-5	cm/cm/°C	ASTM E831
Flow	1.0E-6 - 3.2E-5	cm/cm/°C	ISO 11359-2
Lateral	7.2E-6 - 5.4E-5	cm/cm/°C	ASTM E831
Lateral	3.9E-5 - 1.0E-4	cm/cm/°C	ISO 11359-2
Thermal Conductivity (23°C)	0.45 - 0.99	W/m/K	ISO 8302
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
--	50 - 1.3E+5	ohms	ASTM D257
--	1.0E+2 - 2.5E+10	ohms	IEC 60093
Volume Resistivity			

23°C	1.4E-5 - 2.5E+5	ohms·cm	ASTM D257
23°C	1.0E+3 - 2.5E+7	ohms·cm	IEC 60093
Insulation Resistance (23°C)	1.0E+2 - 2.5E+10	ohms	IEC 60167
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity	200 - 920	Pa·s	ASTM D3835
Injection	Nominal Value	Unit	
Drying Temperature	120 - 152	°C	
Drying Time	3.0 - 7.0	hr	
Dew Point	-28.9	°C	
Suggested Max Moisture	0.099 - 0.10	%	
Rear Temperature	365 - 366	°C	
Middle Temperature	373 - 385	°C	
Front Temperature	373 - 396	°C	
Nozzle Temperature	370 - 371	°C	
Processing (Melt) Temp	371 - 390	°C	
Mold Temperature	178 - 192	°C	
Injection Pressure	102 - 103	MPa	
Back Pressure	0.500 - 0.519	MPa	
Screw Speed	55 - 80	rpm	
Injection instructions			

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