

Generic PC - Carbon Fiber

Polycarbonate

Generic

Message:

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General Information			
Filler / Reinforcement	Carbon fiber reinforced material		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.22 - 1.40	g/cm ³	ASTM D792
23°C	1.23 - 1.42	g/cm ³	ISO 1183
--	1.24 - 1.37	g/cm ³	ASTM D1505
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	1.1 - 18	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	3.40 - 10.1	cm ³ /10min	ISO 1133
Molding Shrinkage			
Flow: 23°C	0.066 - 0.32	%	ASTM D955
Transverse flow: 23°C	0.28 - 0.50	%	ASTM D955
23°C	0.065 - 0.51	%	ISO 294-4
Water Absorption			
23°C, 24 hr	0.076 - 0.15	%	ASTM D570
23°C, 24 hr	0.14 - 0.20	%	ISO 62
Saturated, 23°C	0.070 - 0.30	%	ISO 62
Equilibrium, 23°C, 50% RH	0.095 - 0.21	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (23°C)	118 - 120		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	6760 - 19700	MPa	ASTM D638
23°C	6900 - 18200	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	87.8 - 148	MPa	ASTM D638
Yield, 23°C	56.4 - 144	MPa	ISO 527-2
Fracture, 23°C	91.6 - 152	MPa	ASTM D638
Fracture, 23°C	88.3 - 152	MPa	ISO 527-2
23°C	95.7 - 165	MPa	ASTM D638
Tensile Elongation			
Yield, 23°C	1.5 - 3.1	%	ASTM D638, ISO 527-2
Fracture, 23°C	0.90 - 3.8	%	ASTM D638

Fracture, 23°C	1.0 - 2.7	%	ISO 527-2
Flexural Modulus			
23°C	5700 - 17000	MPa	ASTM D790
23°C	5870 - 16500	MPa	ISO 178
Flexural Strength			
23°C	137 - 243	MPa	ASTM D790
23°C	139 - 227	MPa	ISO 178
Yield, 23°C	146 - 177	MPa	ASTM D790
Fracture, 23°C	154 - 260	MPa	ASTM D790
Coefficient of Friction	0.12 - 0.55		ASTM D1894
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	6.0 - 10	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	22 - 50	kJ/m ²	ISO 179
Notched Izod Impact			
23°C	48 - 120	J/m	ASTM D256
23°C	5.3 - 9.3	kJ/m ²	ISO 180
Unnotched Izod Impact			
23°C	340 - 730	J/m	ASTM D256
23°C	20 - 39	kJ/m ²	ISO 180
Instrumented Dart Impact			
23°C	9.40 - 18.7	J	ASTM D3763
23°C	1.20 - 104	J	ISO 6603-2
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	139 - 151	°C	ASTM D648
0.45 MPa, not annealed	140 - 152	°C	ISO 75-2/B
1.8 MPa, not annealed	137 - 152	°C	ASTM D648
1.8 MPa, not annealed	134 - 148	°C	ISO 75-2/A
Continuous Use Temperature	130	°C	ASTM D794
Vicat Softening Temperature	151 - 160	°C	ISO 306
Linear thermal expansion coefficient			
Flow	1.0E-6 - 3.3E-5	cm/cm/°C	ASTM D696
Flow	1.2E-5 - 1.0E-4	cm/cm/°C	ASTM E831
Flow	9.6E-6 - 4.2E-5	cm/cm/°C	ISO 11359-2
Lateral	7.0E-6 - 5.8E-5	cm/cm/°C	ASTM D696
Lateral	1.1E-5 - 7.6E-5	cm/cm/°C	ASTM E831
Lateral	4.1E-5 - 6.1E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity (23°C)	0.30 - 0.47	W/m/K	ISO 8302
RTI Elec	80.0 - 81.0	°C	UL 746
RTI Imp	80.0 - 81.3	°C	UL 746
RTI	80.0 - 81.0	°C	UL 746
Electrical	Nominal Value	Unit	Test Method

Surface Resistivity			
--	2.5 - 6.3E+10	ohms	ASTM D257
--	5.5 - 1.3E+11	ohms	IEC 60093
Volume Resistivity			
23°C	5.0 - 2.5E+8	ohms·cm	ASTM D257
23°C	0.50 - 1.0E+4	ohms·cm	IEC 60093
Insulation Resistance (23°C)	1.0E+2 - 2.5E+7	ohms	IEC 60167
Injection	Nominal Value	Unit	
Drying Temperature	120 - 122	°C	
Drying Time	4.0 - 5.0	hr	
Suggested Max Moisture	0.020 - 0.022	%	
Rear Temperature	288 - 316	°C	
Middle Temperature	300 - 317	°C	
Front Temperature	300 - 328	°C	
Nozzle Temperature	300 - 301	°C	
Processing (Melt) Temp	295 - 317	°C	
Mold Temperature	92.5 - 103	°C	
Injection Pressure	86.0 - 121	MPa	
Back Pressure	0.232 - 0.305	MPa	
Screw Speed	45 - 46	rpm	
Injection instructions			

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