

Generic PC - Glass Fiber

Polycarbonate

Generic

Message:

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This information is provided for comparative purposes only.

General Information			
Filler / Reinforcement	Glass fiber reinforced material		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.24 - 1.52	g/cm ³	ASTM D792
23°C	1.24 - 1.44	g/cm ³	ISO 1183
--	1.25 - 1.65	g/cm ³	ASTM D1505
Apparent Density	0.64	g/cm ³	ISO 60
Melt Mass-Flow Rate (MFR)			
300°C/1.2 kg	3.8 - 19	g/10 min	ASTM D1238
300°C/1.2 kg	2.1 - 15	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	2.79 - 14.2	cm ³ /10min	ISO 1133
Molding Shrinkage			
Flow: 23°C	4.0E-3 - 0.50	%	ASTM D955
Transverse flow: 23°C	0.20 - 0.73	%	ASTM D955
23°C	0.18 - 0.50	%	ISO 294-4
Water Absorption			
23°C, 24 hr	0.059 - 0.22	%	ASTM D570
23°C, 24 hr	0.076 - 0.40	%	ISO 62
Saturated, 23°C	0.070 - 0.30	%	ASTM D570
Saturated, 23°C	0.068 - 0.31	%	ISO 62
Equilibrium, 23°C	0.24 - 0.32	%	ASTM D570
Equilibrium, 23°C, 50% RH	0.068 - 0.22	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			
23°C	84 - 124		ASTM D785
23°C	65 - 121		ISO 2039-2
Ball Indentation Hardness	115 - 151	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	2610 - 9730	MPa	ASTM D638
23°C	2970 - 9600	MPa	ISO 527-2
Tensile Strength			

Yield, 23°C	49.1 - 127	MPa	ASTM D638
Yield, 23°C	52.7 - 121	MPa	ISO 527-2
Fracture, 23°C	33.8 - 143	MPa	ASTM D638
Fracture, 23°C	43.9 - 131	MPa	ISO 527-2
23°C	54.4 - 147	MPa	ASTM D638
23°C	45.0 - 100	MPa	ISO 527-2
Tensile Elongation			
Yield, 23°C	2.1 - 5.0	%	ASTM D638
Yield, 23°C	1.9 - 5.1	%	ISO 527-2
Fracture, 23°C	0.0 - 7.5	%	ASTM D638
Fracture, 23°C	1.0 - 5.4	%	ISO 527-2
Flexural Modulus			
23°C	2980 - 8550	MPa	ASTM D790
23°C	2790 - 8730	MPa	ISO 178
Flexural Strength			
23°C	82.3 - 221	MPa	ASTM D790
23°C	89.5 - 182	MPa	ISO 178
Yield, 23°C	88.4 - 183	MPa	ASTM D790
Fracture, 23°C	109 - 190	MPa	ASTM D790
Compressive Strength (23°C)	69.8 - 152	MPa	ASTM D695
Coefficient of Friction	0.18 - 0.58		ASTM D1894
Taber Abrasion Resistance (23°C)	11.0 - 17.3	mg	ASTM D1044
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	5.7 - 25	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	26 - 71	kJ/m ²	ISO 179
Notched Izod Impact			
23°C	64 - 160	J/m	ASTM D256
23°C	7.0 - 25	kJ/m ²	ISO 180
Notched Izod Impact (23°C)	10.0 - 10.1	kJ/m ²	ASTM D256
Unnotched Izod Impact			
23°C	93 - 2100	J/m	ASTM D256
23°C	34 - 75	kJ/m ²	ISO 180
Instrumented Dart Impact			
23°C	9.15 - 61.0	J	ASTM D3763
23°C	2.15 - 9.29	J	ISO 6603-2
Multi-Axial Instrumented Impact Peak Force (23°C)	885 - 4030	N	ISO 6603-2
Dart Drop Impact (23°C)	0.452 - 102	J	ASTM D3029
Tensile Impact Strength (23°C)	53.3 - 158	kJ/m ²	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	136 - 153	°C	ASTM D648

0.45 MPa, not annealed	139 - 149	°C	ISO 75-2/B
0.45 MPa, annealed	144 - 149	°C	ASTM D648
0.45 MPa, annealed	143 - 148	°C	ISO 75-2/B
1.8 MPa, not annealed	133 - 152	°C	ASTM D648
1.8 MPa, not annealed	131 - 146	°C	ISO 75-2/A
1.8 MPa, annealed	135 - 143	°C	ASTM D648
1.8 MPa, annealed	131 - 144	°C	ISO 75-2/A
Continuous Use Temperature	129 - 133	°C	ASTM D794
Glass Transition Temperature	148	°C	DSC
Vicat Softening Temperature			
--	143 - 169	°C	ASTM D1525
--	142 - 154	°C	ISO 306
Ball Indentation Temperature	125 - 140	°C	IEC 60598-1
Linear thermal expansion coefficient			
Flow	1.9E-5 - 4.6E-5	cm/cm/°C	ASTM D696
Flow	2.1E-5 - 5.0E-5	cm/cm/°C	ASTM E831
Flow	1.9E-5 - 5.1E-5	cm/cm/°C	ISO 11359-2
Lateral	7.0E-6 - 7.5E-5	cm/cm/°C	ASTM D696
Lateral	5.2E-5 - 7.2E-5	cm/cm/°C	ASTM E831
Lateral	6.0E-5 - 7.1E-5	cm/cm/°C	ISO 11359-2
Specific Heat (23°C)	1050 - 1250	J/kg/°C	ASTM C351
Thermal Conductivity			
23°C	0.13 - 0.35	W/m/K	ASTM C177
23°C	0.21 - 0.30	W/m/K	ISO 8302
RTI Elec	79.1 - 130	°C	UL 746
RTI Imp	75.0 - 130	°C	UL 746
RTI	75.0 - 130	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
--	5.0 - 7.2E+15	ohms	ASTM D257
--	1.0E+4 - 1.0E+15	ohms	IEC 60093
Volume Resistivity			
23°C	0.0 - 2.5E+16	ohms·cm	ASTM D257
23°C	1.0E+13 - 2.5E+16	ohms·cm	IEC 60093
Dielectric Strength			
23°C	16 - 30	kV/mm	ASTM D149
23°C	15 - 37	kV/mm	IEC 60243-1
Dielectric Constant			
23°C	3.00 - 3.54		ASTM D150
23°C	2.95 - 5.13		IEC 60250
23°C	3.21		IEC 60250
Dissipation Factor			

23°C	8.0E-4 - 0.010		ASTM D150
23°C	8.0E-4 - 9.4E-3		IEC 60250
Arc Resistance	100 - 120	sec	ASTM D495
Comparative Tracking Index	171 - 175	V	IEC 60112
Insulation Resistance (23°C)	1.0E+4 - 1.0E+12	ohms	IEC 60167
Flammability	Nominal Value	Unit	Test Method
Glow Wire Flammability Index	957 - 960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature	824 - 960	°C	IEC 60695-2-13
Oxygen Index			
--	30 - 40	%	ASTM D2863
--	35 - 38	%	ISO 4589-2
Injection	Nominal Value	Unit	
Drying Temperature	119 - 122	°C	
Drying Time	2.9 - 4.1	hr	
Drying Time, Maximum	27	hr	
Dew Point	-28.9 - -28.6	°C	
Suggested Max Moisture	0.020 - 0.024	%	
Suggested Shot Size	50	%	
Suggested Max Regrind	20	%	
Rear Temperature	276 - 316	°C	
Middle Temperature	289 - 316	°C	
Front Temperature	288 - 329	°C	
Nozzle Temperature	269 - 321	°C	
Processing (Melt) Temp	288 - 323	°C	
Mold Temperature	79.0 - 103	°C	
Injection Pressure	84.6 - 123	MPa	
Holding Pressure	6.89 - 90.0	MPa	
Back Pressure	0.150 - 1.98	MPa	
Screw Speed	45 - 76	rpm	
Cushion	4.76 - 9.53	mm	
Vent Depth	0.051	mm	
Injection instructions			

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