

Generic PPE+PS - Glass Fiber

Polyphenylene Ether + PS

Generic

Message:

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General Information			
Filler / Reinforcement	Glass fiber reinforced material		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.15 - 1.31	g/cm ³	ASTM D792
23°C	1.13 - 1.41	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/5.0 kg)	4.5 - 18	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (280°C/10.0 kg)	6.80 - 15.6	cm ³ /10min	ISO 1133
Molding Shrinkage			
Flow: 23°C	0.19 - 0.40	%	ASTM D955
Transverse flow: 23°C	0.30 - 0.80	%	ASTM D955
23°C	0.19 - 0.61	%	ISO 294-4
Water Absorption			
23°C, 24 hr	0.054 - 0.11	%	ASTM D570
23°C, 24 hr	0.059 - 0.15	%	ISO 62
Saturated, 23°C	0.060 - 0.24	%	ISO 62
Equilibrium, 23°C, 50% RH	0.058 - 0.070	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (23°C)	104 - 108		ASTM D785
Ball Indentation Hardness	100 - 130	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	3600 - 13800	MPa	ASTM D638
23°C	3660 - 11300	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	58.8 - 167	MPa	ASTM D638
Yield, 23°C	50.0 - 155	MPa	ISO 527-2
Fracture, 23°C	66.1 - 165	MPa	ASTM D638
Fracture, 23°C	63.1 - 155	MPa	ISO 527-2
23°C	75.1 - 101	MPa	ASTM D638
Tensile Elongation			
Yield, 23°C	1.7 - 3.1	%	ASTM D638
Yield, 23°C	1.7 - 3.0	%	ISO 527-2

Fracture, 23°C	1.4 - 5.2	%	ASTM D638
Fracture, 23°C	1.5 - 3.0	%	ISO 527-2
Flexural Modulus			
23°C	3190 - 11900	MPa	ASTM D790
23°C	3000 - 9710	MPa	ISO 178
Flexural Strength			
23°C	96.1 - 169	MPa	ASTM D790
23°C	117 - 195	MPa	ISO 178
Yield, 23°C	99.7 - 225	MPa	ASTM D790
Fracture, 23°C	118 - 177	MPa	ASTM D790
Coefficient of Friction	0.27 - 0.89		ASTM D1894
Taber Abrasion Resistance (23°C)	44.8 - 70.0	mg	ASTM D1044
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	5.9 - 10	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	25 - 35	kJ/m ²	ISO 179
Notched Izod Impact			
23°C	57 - 120	J/m	ASTM D256
23°C	5.8 - 12	kJ/m ²	ISO 180
Notched Izod Impact (23°C)	8.00 - 14.1	kJ/m ²	ASTM D256
Unnotched Izod Impact			
23°C	260 - 650	J/m	ASTM D256
23°C	19 - 31	kJ/m ²	ISO 180
Instrumented Dart Impact (23°C)	13.6 - 22.6	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	103 - 161	°C	ASTM D648
0.45 MPa, not annealed	126 - 170	°C	ISO 75-2/B
1.8 MPa, not annealed	119 - 151	°C	ASTM D648
1.8 MPa, not annealed	112 - 149	°C	ISO 75-2/A
Vicat Softening Temperature			
--	135 - 181	°C	ASTM D1525
--	129 - 180	°C	ISO 306
Linear thermal expansion coefficient			
Flow	2.0E-6 - 2.5E-5	cm/cm/°C	ASTM D696
Flow	2.0E-5 - 6.0E-5	cm/cm/°C	ASTM E831
Flow	1.7E-5 - 5.8E-5	cm/cm/°C	ISO 11359-2
Lateral	4.9E-5 - 8.3E-5	cm/cm/°C	ASTM E831
Lateral	6.7E-5 - 7.2E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity (23°C)	0.21 - 0.28	W/m/K	ISO 8302
RTI Elec	50.0 - 110	°C	UL 746
RTI Imp	50.0 - 106	°C	UL 746
RTI	50.0 - 110	°C	UL 746

Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
--	40 - 4.0E+17	ohms	ASTM D257
--	5.1E+5 - 1.3E+16	ohms	IEC 60093
Volume Resistivity			
23°C	50 - 1.3E+16	ohms·cm	ASTM D257
23°C	15 - 3.3E+16	ohms·cm	IEC 60093
Dielectric Strength			
23°C	17 - 71	kV/mm	ASTM D149
23°C	16 - 31	kV/mm	IEC 60243-1
Dielectric Constant			
23°C	2.73 - 3.17		ASTM D150
23°C	2.90 - 3.40		IEC 60250
23°C	2.90		IEC 60250
Dissipation Factor			
23°C	8.0E-4 - 4.2E-3		ASTM D150
23°C	4.0E-4 - 6.1E-3		IEC 60250
Comparative Tracking Index	172 - 252	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Glow Wire Flammability Index	750 - 960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature	750 - 960	°C	IEC 60695-2-13
Oxygen Index			
--	26 - 36	%	ASTM D2863
--	23 - 30	%	ISO 4589-2
Injection	Nominal Value	Unit	
Drying Temperature	89.3 - 121	°C	
Drying Time	2.4 - 4.5	hr	
Drying Time, Maximum	8.0	hr	
Suggested Max Moisture	0.020 - 0.021	%	
Suggested Shot Size	50	%	
Hopper Temperature	70.0 - 70.5	°C	
Rear Temperature	250 - 291	°C	
Middle Temperature	270 - 299	°C	
Front Temperature	290 - 308	°C	
Nozzle Temperature	270 - 313	°C	
Processing (Melt) Temp	279 - 313	°C	
Mold Temperature	70.0 - 108	°C	
Injection Pressure	84.5 - 86.2	MPa	
Back Pressure	0.255 - 0.517	MPa	
Screw Speed	44 - 105	rpm	
Injection instructions			

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