

Generic PPS - Glass Fiber

Polyphenylene Sulfide

Generic

Message:

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General Information			
Filler / Reinforcement	Glass fiber reinforced material		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.57 - 1.68	g/cm ³	ASTM D792
23°C	1.51 - 1.72	g/cm ³	ISO 1183
--	1.50 - 1.78	g/cm ³	ASTM D1505
Molding Shrinkage			
Flow: 23°C	0.10 - 0.40	%	ASTM D955
Transverse flow: 23°C	0.30 - 1.2	%	ASTM D955
23°C	0.18 - 0.81	%	ISO 294-4
Water Absorption			
23°C, 24 hr	0.010 - 0.025	%	ASTM D570
23°C, 24 hr	0.020 - 0.041	%	ISO 62
Saturated, 23°C	0.020	%	ISO 62
Equilibrium, 23°C	0.020 - 0.040	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			
23°C	100 - 124		ASTM D785
23°C	100 - 122		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	8780 - 18100	MPa	ASTM D638
23°C	11900 - 15300	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	91.5 - 200	MPa	ASTM D638
Yield, 23°C	107 - 202	MPa	ISO 527-2
Fracture, 23°C	85.2 - 200	MPa	ASTM D638
Fracture, 23°C	117 - 195	MPa	ISO 527-2
23°C	83.9 - 192	MPa	ASTM D638
23°C	144 - 201	MPa	ISO 527-2
Tensile Elongation			
Yield, 23°C	0.95 - 1.6	%	ASTM D638

Fracture, 23°C	0.98 - 2.0	%	ASTM D638
Fracture, 23°C	0.94 - 2.1	%	ISO 527-2
Flexural Modulus			
23°C	6090 - 18000	MPa	ASTM D790
23°C	12000 - 14800	MPa	ISO 178
Flexural Strength			
23°C	85.2 - 280	MPa	ASTM D790
23°C	187 - 292	MPa	ISO 178
Yield, 23°C	149 - 160	MPa	ASTM D790
Compressive Strength (23°C)	128 - 278	MPa	ASTM D695
Shear Strength (23°C)	74.5 - 80.0	MPa	ASTM D732
Poisson's Ratio (23°C)	0.36 - 0.40		ASTM E132
Coefficient of Friction	0.33 - 0.35		ASTM D1894
Taber Abrasion Resistance (23°C)	49.9 - 50.0	mg	ASTM D1044
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	5.0 - 13	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	8.7 - 56	kJ/m ²	ISO 179
Notched Izod Impact			
23°C	51 - 100	J/m	ASTM D256
23°C	4.5 - 14	kJ/m ²	ISO 180
Unnotched Izod Impact			
23°C	91 - 690	J/m	ASTM D256
23°C	15 - 45	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	259 - 266	°C	ASTM D648
0.45 MPa, not annealed	275 - 280	°C	ISO 75-2/B
1.8 MPa, not annealed	259 - 268	°C	ASTM D648
1.8 MPa, not annealed	260 - 273	°C	ISO 75-2/A
8.0 MPa, not annealed	115 - 215	°C	ISO 75-2/C
Melting Temperature			
--	280 - 285	°C	
--	278 - 280	°C	ISO 11357-3
Linear thermal expansion coefficient			
Flow	6.0E-6 - 2.7E-5	cm/cm/°C	ASTM D696
Flow	1.4E-5 - 2.1E-5	cm/cm/°C	ASTM E831
Flow	6.0E-6 - 3.0E-5	cm/cm/°C	ISO 11359-2
Lateral	2.1E-5 - 2.4E-5	cm/cm/°C	ASTM D696
Lateral	4.0E-5 - 9.0E-5	cm/cm/°C	ASTM E831
Lateral	4.0E-5 - 5.1E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity (23°C)	0.25 - 0.39	W/m/K	ASTM C177
UL Temperature Rating	209 - 210	°C	

Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
--	55 - 1.3E+16	ohms	ASTM D257
--	1.0E+4 - 1.0E+15	ohms	IEC 60093
Volume Resistivity			
23°C	10 - 1.1E+16	ohms·cm	ASTM D257
23°C	1.0E+15 - 2.6E+16	ohms·cm	IEC 60093
Dielectric Strength			
23°C	14 - 22	kV/mm	ASTM D149
23°C	13 - 28	kV/mm	IEC 60243-1
Dielectric Constant			
23°C	3.50 - 5.00		ASTM D150
23°C	3.90 - 4.60		IEC 60250
23°C	3.91		IEC 60250
Dissipation Factor			
23°C	9.9E-4 - 2.1E-3		ASTM D150
23°C	1.0E-3 - 2.4E-3		IEC 60250
Arc Resistance	117 - 127	sec	ASTM D495
Comparative Tracking Index (CTI)	130 - 190	V	UL 746
Comparative Tracking Index			
--	121 - 225	V	IEC 60112
--	168 - 170	V	ASTM D3638
Flammability	Nominal Value	Unit	Test Method
Oxygen Index	44 - 57	%	ASTM D2863
Injection	Nominal Value	Unit	
Drying Temperature	120 - 150	°C	
Drying Time	3.0 - 6.0	hr	
Suggested Max Moisture	0.020 - 0.10	%	
Suggested Max Regrind	20	%	
Rear Temperature	280 - 323	°C	
Middle Temperature	304 - 330	°C	
Front Temperature	305 - 336	°C	
Nozzle Temperature	295 - 330	°C	
Processing (Melt) Temp	317 - 335	°C	
Mold Temperature	135 - 158	°C	
Injection Pressure	73.5 - 87.4	MPa	
Holding Pressure	45.0 - 50.5	MPa	
Back Pressure	0.258 - 1.54	MPa	
Screw Speed	45 - 101	rpm	
Clamp Tonnage	4.5 - 9.0	kN/cm ²	
Cushion	4.50 - 9.53	mm	
Injection instructions			

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