

Generic PPA - Glass Fiber

Polyphthalamide

Generic

Message:

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General Information			
Filler / Reinforcement	Glass fiber reinforced material		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.32 - 1.72	g/cm ³	ASTM D792
23°C	1.29 - 1.78	g/cm ³	ISO 1183
Molding Shrinkage			
Flow: 23°C	0.19 - 0.51	%	ASTM D955
Transverse flow: 23°C	0.47 - 1.0	%	ASTM D955
23°C	0.14 - 1.0	%	ISO 294-4
Water Absorption			
23°C, 24 hr	0.12 - 0.30	%	ASTM D570
23°C, 24 hr	0.30 - 0.51	%	ISO 62
Equilibrium, 23°C, 50% RH	0.21 - 1.2	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (23°C)	125		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	5140 - 18600	MPa	ASTM D638
23°C	5200 - 18300	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	68.9 - 250	MPa	ASTM D638
Yield, 23°C	12.6 - 270	MPa	ISO 527-2
Fracture, 23°C	163 - 199	MPa	ASTM D638
Fracture, 23°C	109 - 263	MPa	ISO 527-2
23°C	88.5 - 260	MPa	ASTM D638
Tensile Elongation			
Yield, 23°C	1.5 - 2.6	%	ASTM D638
Yield, 23°C	1.4 - 2.5	%	ISO 527-2
Fracture, 23°C	1.0 - 2.5	%	ASTM D638
Fracture, 23°C	1.5 - 3.1	%	ISO 527-2
Flexural Modulus			
23°C	5340 - 17600	MPa	ASTM D790

23°C	8820 - 14500	MPa	ISO 178
Flexural Strength			
23°C	126 - 364	MPa	ASTM D790
23°C	138 - 392	MPa	ISO 178
Yield, 23°C	103 - 363	MPa	ASTM D790
Fracture, 23°C	132 - 400	MPa	ASTM D790
Compressive Strength (23°C)	143 - 196	MPa	ASTM D695
Shear Strength (23°C)	88.4 - 108	MPa	ASTM D732
Poisson's Ratio (23°C)	0.41		ASTM E132
Coefficient of Friction	0.15 - 0.52		ASTM D1894
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	5.8 - 15	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	19 - 90	kJ/m ²	ISO 179
Notched Izod Impact			
23°C	23 - 120	J/m	ASTM D256
23°C	2.5 - 14	kJ/m ²	ISO 180
Unnotched Izod Impact			
23°C	190 - 1000	J/m	ASTM D256
23°C	20 - 71	kJ/m ²	ISO 180
Instrumented Dart Impact			
23°C	1.76 - 10.1	J	ASTM D3763
23°C	1.44 - 3.74	J	ISO 6603-2
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	276 - 308	°C	ASTM D648
0.45 MPa, not annealed	273 - 313	°C	ISO 75-2/B
0.45 MPa, annealed	297 - 320	°C	ASTM D648
1.8 MPa, not annealed	247 - 292	°C	ASTM D648
1.8 MPa, not annealed	250 - 305	°C	ISO 75-2/A
1.8 MPa, annealed	284 - 300	°C	ASTM D648
8.0 MPa, not annealed	165 - 231	°C	ISO 75-2/C
Continuous Use Temperature	140 - 187	°C	ASTM D794
Vicat Softening Temperature	259 - 314	°C	ISO 306
Melting Temperature			
--	300 - 315	°C	ISO 11357-3
--	310 - 313	°C	ASTM D3418
Linear thermal expansion coefficient			
Flow	2.7E-6 - 3.6E-5	cm/cm/°C	ASTM D696
Flow	1.3E-5 - 2.5E-5	cm/cm/°C	ASTM E831
Flow	1.4E-5 - 2.6E-5	cm/cm/°C	ISO 11359-2
Lateral	4.5E-6 - 1.3E-4	cm/cm/°C	ASTM E831
Lateral	4.9E-5 - 1.0E-4	cm/cm/°C	ISO 11359-2

RTI Elec	140 - 150	°C	UL 746
RTI Imp	118 - 150	°C	UL 746
RTI	119 - 150	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
--	1.0E+2 - 2.5E+15	ohms	ASTM D257
--	1.0E+5 - 2.5E+16	ohms	IEC 60093
Volume Resistivity			
23°C	1.0E+3 - 2.5E+15	ohms·cm	ASTM D257
23°C	1.0E+15 - 2.6E+16	ohms·cm	IEC 60093
Dielectric Strength			
23°C	18 - 23	kV/mm	ASTM D149
23°C	17 - 42	kV/mm	IEC 60243-1
Dielectric Constant			
23°C	3.66 - 5.52		ASTM D150
23°C	3.66		IEC 60250
Dissipation Factor			
23°C	4.0E-3 - 0.017		ASTM D150
23°C	4.9E-3 - 0.015		IEC 60250
Comparative Tracking Index (CTI)	548 - 600	V	UL 746
Comparative Tracking Index	593 - 600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Glow Wire Flammability Index	746 - 960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature	720 - 928	°C	IEC 60695-2-13
Oxygen Index	23 - 25	%	ISO 4589-2
Injection	Nominal Value	Unit	
Drying Temperature	98.9 - 135	°C	
Drying Time	3.0 - 7.2	hr	
Dew Point	-31.7 - -28.9	°C	
Suggested Max Moisture	0.045 - 0.15	%	
Hopper Temperature	70.0 - 79.4	°C	
Rear Temperature	310 - 326	°C	
Middle Temperature	321 - 330	°C	
Front Temperature	322 - 333	°C	
Nozzle Temperature	324 - 333	°C	
Processing (Melt) Temp	314 - 338	°C	
Mold Temperature	114 - 160	°C	
Injection Pressure	86.0 - 104	MPa	
Back Pressure	0.243 - 0.314	MPa	
Screw Speed	45 - 50	rpm	
Injection instructions			

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