

Generic PPA - Carbon Fiber

Polyphthalamide

Generic

Message:

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This information is provided for comparative purposes only.

General Information			
Filler / Reinforcement	Carbon fiber reinforced material		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.23 - 1.50	g/cm ³	ASTM D792
23°C	1.32 - 1.44	g/cm ³	ISO 1183
Molding Shrinkage			
Flow: 23°C	0.049 - 0.26	%	ASTM D955
23°C	0.050 - 0.80	%	ISO 294-4
Water Absorption			
23°C, 24 hr	0.19 - 0.40	%	ASTM D570
23°C, 24 hr	0.30	%	ISO 62
Equilibrium, 23°C, 50% RH	0.56 - 2.0	%	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	8960 - 34500	MPa	ASTM D638
23°C	11000 - 36200	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	152 - 310	MPa	ASTM D638
Fracture, 23°C	172 - 287	MPa	ASTM D638
Fracture, 23°C	129 - 291	MPa	ISO 527-2
23°C	144 - 292	MPa	ASTM D638
Tensile Elongation			
Yield, 23°C	1.4 - 2.0	%	ASTM D638
Yield, 23°C	1.2 - 2.0	%	ISO 527-2
Fracture, 23°C	1.0 - 1.5	%	ASTM D638
Fracture, 23°C	1.2 - 2.0	%	ISO 527-2
Flexural Modulus			
23°C	7520 - 28000	MPa	ASTM D790
23°C	10000 - 27200	MPa	ISO 178
Flexural Strength			

23°C	196 - 441	MPa	ASTM D790
23°C	187 - 431	MPa	ISO 178
Coefficient of Friction	0.13 - 0.36		ASTM D1894
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	8.0 - 9.0	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	18 - 61	kJ/m ²	ISO 179
Notched Izod Impact			
23°C	42 - 96	J/m	ASTM D256
23°C	5.5 - 8.1	kJ/m ²	ISO 180
Unnotched Izod Impact			
23°C	320 - 860	J/m	ASTM D256
23°C	40 - 80	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, not annealed	248 - 286	°C	ASTM D648
1.8 MPa, not annealed	249 - 285	°C	ISO 75-2/A
Continuous Use Temperature	165	°C	ASTM D794
CLTE - Flow			
--	2.1E-5 - 2.8E-5	cm/cm/°C	ASTM D696
--	2.0E-6 - 2.1E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
--	10 - 1.3E+9	ohms	ASTM D257
--	10 - 1.0E+9	ohms	IEC 60093
Volume Resistivity (23°C)	10 - 2.5E+6	ohms · cm	ASTM D257
Insulation Resistance (23°C)	1.0E+2 - 1.0E+9	ohms	IEC 60167
Injection	Nominal Value	Unit	
Drying Temperature	80.0 - 135	°C	
Drying Time	4.0 - 16	hr	
Dew Point	-31.7 - -28.9	°C	
Suggested Max Moisture	0.15	%	
Rear Temperature	315 - 331	°C	
Middle Temperature	321 - 333	°C	
Front Temperature	323 - 338	°C	
Nozzle Temperature	325	°C	
Processing (Melt) Temp	315 - 337	°C	
Mold Temperature	135 - 150	°C	
Injection Pressure	85.3 - 103	MPa	
Back Pressure	0.250 - 0.517	MPa	
Screw Speed	45 - 55	rpm	
Injection instructions			

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