

Generic Nylon 6 - Carbon Fiber

Polyamide 6

Generic

Message:

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General Information			
Filler / Reinforcement	Carbon fiber reinforced material		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.17 - 1.43	g/cm ³	ASTM D792
23°C	1.16 - 1.31	g/cm ³	ISO 1183
Molding Shrinkage			
Flow: 23°C	0.055 - 0.30	%	ASTM D955
23°C	0.18 - 0.81	%	ISO 294-4
Water Absorption			
23°C, 24 hr	0.40 - 1.3	%	ASTM D570
23°C, 24 hr	0.99 - 1.3	%	ISO 62
Equilibrium, 23°C, 50% RH	2.0 - 2.4	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (23°C)	88 - 123		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	6890 - 26500	MPa	ASTM D638
23°C	6950 - 20000	MPa	ISO 527-2
Tensile Stress			
Yield, 23°C	90.0 - 230	MPa	ISO 527-2
Fracture, 23°C	90.0 - 233	MPa	ASTM D638
Fracture, 23°C	129 - 201	MPa	ISO 527-2
23°C	117 - 234	MPa	ASTM D638
Tensile Elongation			
Yield, 23°C	1.5 - 3.5	%	ASTM D638
Yield, 23°C	2.5 - 3.0	%	ISO 527-2
Fracture, 23°C	1.5 - 3.1	%	ASTM D638
Fracture, 23°C	1.5 - 3.6	%	ISO 527-2
Flexural Modulus			
23°C	6830 - 20900	MPa	ASTM D790
23°C	5500 - 19000	MPa	ISO 178
Flexural Strength			

23°C	213 - 331	MPa	ASTM D790
23°C	191 - 315	MPa	ISO 178
Coefficient of Friction	0.090 - 0.24		ASTM D1894
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	6.0 - 10	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	30 - 81	kJ/m ²	ISO 179
Notched Izod Impact			
23°C	43 - 110	J/m	ASTM D256
23°C	0.80 - 15	kJ/m ²	ISO 180
Unnotched Izod Impact (23°C)	320 - 810	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	215 - 216	°C	ASTM D648
0.45 MPa, not annealed	200 - 220	°C	ISO 75-2/B
1.8 MPa, not annealed	204 - 218	°C	ASTM D648
1.8 MPa, not annealed	190 - 211	°C	ISO 75-2/A
Continuous Use Temperature	90.0 - 91.0	°C	ASTM D794
Vicat Softening Temperature	200 - 220	°C	ISO 306
CLTE - Flow			
--	1.8E-5 - 2.0E-5	cm/cm/°C	ASTM D696
--	2.0E-5 - 4.2E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
--	55 - 2.5E+7	ohms	ASTM D257
--	10 - 2.5E+13	ohms	IEC 60093
Volume Resistivity			
23°C	5.5 - 2.5E+13	ohms · cm	ASTM D257
23°C	5.0 - 2.5E+15	ohms · cm	IEC 60093
Injection	Nominal Value	Unit	
Drying Temperature	75.0 - 105	°C	
Drying Time	2.0 - 13	hr	
Suggested Max Moisture	0.10 - 0.20	%	
Rear Temperature	254 - 282	°C	
Middle Temperature	259 - 282	°C	
Front Temperature	259 - 290	°C	
Nozzle Temperature	275 - 277	°C	
Processing (Melt) Temp	250 - 283	°C	
Mold Temperature	69.9 - 100	°C	
Injection Pressure	86.0 - 95.8	MPa	
Back Pressure	0.172 - 0.517	MPa	
Screw Speed	45 - 56	rpm	
Injection instructions			

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