

Generic Nylon 12 - Glass Fiber

Polyamide 12

Generic

Message:

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General Information			
Filler / Reinforcement	Glass fiber reinforced material		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.15 - 1.38	g/cm ³	ASTM D792
23°C	1.11 - 1.70	g/cm ³	ISO 1183
Molding Shrinkage			
Flow: 23°C	0.10 - 0.41	%	ASTM D955
23°C	0.10 - 0.71	%	ISO 294-4
Water Absorption			
23°C, 24 hr	0.091 - 0.60	%	ASTM D570
23°C, 24 hr	0.10 - 0.41	%	ISO 62
Saturated, 23°C	0.40 - 1.2	%	ASTM D570
Saturated, 23°C	0.80 - 1.2	%	ISO 62
Equilibrium, 23°C, 50% RH	0.39 - 0.60	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	5880 - 16100	MPa	ASTM D638
23°C	3910 - 19200	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	85.4 - 130	MPa	ASTM D638
Yield, 23°C	99.1 - 130	MPa	ISO 527-2
Fracture, 23°C	106 - 151	MPa	ASTM D638
Fracture, 23°C	63.8 - 191	MPa	ISO 527-2
23°C	92.9 - 108	MPa	ASTM D638
Tensile Elongation			
Yield, 23°C	1.8 - 10	%	ASTM D638
Yield, 23°C	1.5 - 7.0	%	ISO 527-2
Fracture, 23°C	1.8 - 11	%	ASTM D638
Fracture, 23°C	1.5 - 7.6	%	ISO 527-2
Flexural Modulus			
23°C	3720 - 9050	MPa	ASTM D790
23°C	11.0 - 9000	MPa	ISO 178

Flexural Strength			
23°C	93.6 - 244	MPa	ASTM D790
23°C	96.0 - 213	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	10 - 26	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	47 - 100	kJ/m ²	ISO 179
Notched Izod Impact			
23°C	85 - 260	J/m	ASTM D256
23°C	1.8 - 18	kJ/m ²	ISO 180
Unnotched Izod Impact (23°C)	570 - 1400	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	176 - 178	°C	ASTM D648
0.45 MPa, not annealed	169 - 178	°C	ISO 75-2/B
1.8 MPa, not annealed	160 - 174	°C	ASTM D648
1.8 MPa, not annealed	150 - 176	°C	ISO 75-2/A
8.0 MPa, not annealed	80.0 - 160	°C	ISO 75-2/C
Continuous Use Temperature	104 - 151	°C	ASTM D794
Vicat Softening Temperature	170 - 175	°C	ISO 306
Melting Temperature			
--	174 - 185	°C	
--	178	°C	ISO 11357-3, ISO 3146
Linear thermal expansion coefficient			
Flow	8.0E-6 - 4.9E-5	cm/cm/°C	ASTM D696
Flow	1.0E-5 - 4.2E-5	cm/cm/°C	ISO 11359-2
Lateral	6.9E-5 - 1.5E-4	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity (23°C)	1.0E+2 - 1.0E+15	ohms · cm	IEC 60093
Dielectric Strength (23°C)	18 - 44	kV/mm	IEC 60243-1
Relative Permittivity (23°C)	3.75		IEC 60250
Comparative Tracking Index	595 - 600	V	IEC 60112
Injection	Nominal Value	Unit	
Drying Temperature	74.9 - 105	°C	
Drying Time	3.0 - 4.0	hr	
Suggested Max Moisture	0.030 - 0.50	%	
Rear Temperature	220 - 258	°C	
Middle Temperature	226 - 268	°C	
Front Temperature	231 - 266	°C	
Processing (Melt) Temp	232 - 266	°C	
Mold Temperature	51.6 - 90.0	°C	
Injection Pressure	64.2 - 87.5	MPa	
Holding Pressure	39.0 - 52.5	MPa	

Back Pressure	0.252 - 0.525	MPa
Screw Speed	45 - 75	rpm
Injection instructions		

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