Generic Nylon 66 - Glass Fiber

Polyamide 66

Generic

Message:

This data represents typical values that have been calculated from all products classified as: Generic Nylon 66 - Glass Fiber
This information is provided for comparative purposes only.

General Information			
Filler / Reinforcement	Glass fiber reinforced material		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity			
--	1.17 - 1.62	g/cm³	ASTM D792
23°C	1.23 - 1.58	g/cm³	ISO 1183
--	1360	kg/m³	ISO 1183 [1]
--	1.20 - 1.73	g/cm³	ASTM D1505
Apparent Density	0.70	g/cm³	ISO 60
Melt Mass-Flow Rate (MFR)			
275°C/2.16 kg	4.0 - 25	g/10 min	ASTM D1238
275°C/0.325 kg	1.0 - 3.1	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (275°C/5.0 kg)	18.8 - 51.2	cm³/10min	ISO 1133
Spiral Flow	53.0 - 99.6	cm	
Molding Shrinkage			
Flow: 23°C	0.19 - 0.75	%	ASTM D955
Transverse flow: 23°C	0.40 - 2.0	%	ASTM D955
23°C	0.19 - 1.2	%	ISO 294-4
Water Absorption			
23°C, 24 hr	0.43 - 1.0	%	ASTM D570
23°C, 24 hr	0.43 - 1.3	%	ISO 62
Saturated, 23°C	0.10 - 7.2	%	ASTM D570
Saturated, 23°C	3.9 - 7.0	%	ISO 62
Saturation	5.5	%	ISO 62 [2]
Equilibrium, 23°C	0.30 - 2.3	%	ASTM D570
Equilibrium, 23°C, 50% RH	1.1 - 2.3	%	ISO 62
Balance	1.6	%	ISO 62 [3]
Viscosity Number			
--	129 - 151	cm³/g	ISO 307
--	143	cm³/g	ISO 307, 1157, 1628 [4]
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness			
23°C	114 - 124		ASTM D785

23°C	95 - 122		ISO 2039-2
Durometer Hardness			
23°C	73 - 122		ASTM D2240
23°C	78 - 90		ISO 868
Ball Indentation Hardness	188 - 262	MPa	ISO 2039-1
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			
23°C	3850 - 13400	MPa	ASTM D638
23°C	4510 - 13500	MPa	ISO 527-2
--	8160	MPa	ISO 527-2 [5]
Tensile Strength			
Yield, 23°C	58.8 - 253	MPa	ASTM D638
Yield, 23°C	78.9 - 232	MPa	ISO 527-2
Fracture, 23°C	74.4 - 222	MPa	ASTM D638
Fracture, 23°C	87.7 - 253	MPa	ISO 527-2
Fracture	160	MPa	ISO 527-2 [6]
Limit, 23°C	75.8 - 200	MPa	ASTM D638
23°C	80.8 - 214	MPa	ASTM D638
23°C	70.8 - 192	MPa	ISO 527-2
Tensile Elongation			
Yield, 23°C	2.4 - 3.7	%	ASTM D638
Yield, 23°C	1.9 - 3.6	%	ISO 527-2
Fracture, 23°C	1.0 - 700	%	ASTM D638
Fracture, 23°C	1.7 - 4.2	%	ISO 527-2
Fracture	2.5 - 3.1	%	ISO 527-2 [7]
Flexural Modulus			
23°C	2240 - 11200	MPa	ASTM D790
23°C	3500 - 12600	MPa	ISO 178
Flexural Strength			
23°C	108 - 334	MPa	ASTM D790
23°C	144 - 323	MPa	ISO 178
Yield, 23°C	138 - 294	MPa	ASTM D790
Fracture, 23°C	126 - 338	MPa	ASTM D790
Compressive Strength			
23°C	94.0 - 251	MPa	ASTM D695
23°C	28.0 - 195	MPa	ISO 604
Shear Strength (23°C)	68.5 - 105	MPa	ASTM D732
Coefficient of Friction	0.16 - 0.67		ASTM D1894
Wear Factor	33 - 160	10^-8 $mm^3/N \cdot m$	ASTM D3702
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			
23°C	57.0 - 118	J/m	ASTM D256

23°C	5.0 - 18	kJ/m²	ISO 179
-30°C	6.60	kJ/m²	ISO 179/1eA [8]
23°C	7.89	kJ/m²	ISO 179/1eA [9]
Charpy Unnotched Impact Strength			
23°C	27 - 100	kJ/m²	ISO 179
-30°C	60.0	kJ/m²	ISO 179/1eU [10]
23°C	65.5	kJ/m²	ISO 179/1eU [11]
Notched Izod Impact			
23°C	32 - 170	J/m	ASTM D256
23°C	3.0 - 17	kJ/m²	ISO 180
Notched Izod Impact (23°C)	4.42 - 11.2	kJ/m²	ASTM D256
Unnotched Izod Impact			
23°C	310 - 1400	J/m	ASTM D256
23°C	28 - 92	kJ/m²	ISO 180
Instrumented Dart Impact			
23°C	5.36 - 18.2	J	ASTM D3763
23°C	1.64 - 4.06	J	ISO 6603-2
Multi-Axial Instrumented Impact Peak Force (23°C)	610 - 1160	N	ISO 6603-2
Tensile Impact Strength (23°C)	11.3 - 430	kJ/m²	ASTM D1822

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	240 - 264	°C	ASTM D648
0.45 MPa, not annealed	240 - 261	°C	ISO 75-2/B
0.45 MPa	250	°C	ISO 75-2 [12]
1.8 MPa, not annealed	231 - 255	°C	ASTM D648
1.8 MPa, not annealed	226 - 260	°C	ISO 75-2/A
1.8 MPa	250	°C	ISO 75-2 [13]
8.0 MPa, not annealed	70.0 - 235	°C	ISO 75-2/C
Continuous Use Temperature	85.2 - 181	°C	ASTM D794
Glass Transition Temperature	79.9 - 80.0	°C	ISO 11357-2
Vicat Softening Temperature			
--	239 - 256	°C	ASTM D1525
--	200 - 256	°C	ISO 306
Melting Temperature			
--	248 - 266	°C	
--	259 - 260	°C	DSC
--	255 - 263	°C	ISO 11357-3
--	254 - 261	°C	ASTM D3418
--	260	°C	ISO 3146
Linear thermal expansion coefficient			
Flow	2.0E-6 - 6.2E-5	cm/cm/°C	ASTM D696

Flow	8.9E-6 - 3.9E-5	cm/cm/°C	ASTM E831
Flow	1.1E-5 - 4.1E-5	cm/cm/°C	ISO 11359-2
Lateral	1.0E-6 - 8.6E-5	cm/cm/°C	ASTM D696
Lateral	1.6E-5 - 1.3E-4	cm/cm/°C	ASTM E831
Lateral	6.0E-5 - 1.0E-4	cm/cm/°C	ISO 11359-2
Specific Heat (23°C)	1490 - 1510	J/kg/°C	ASTM C351
Thermal Conductivity			
23°C	0.29 - 0.52	W/m/K	ASTM C177
23°C	0.20 - 0.44	W/m/K	ISO 8302
RTI Elec	65.0 - 140	°C	UL 746
RTI Imp	65.0 - 140	°C	UL 746
RTI	65.0 - 142	°C	UL 746
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity			
--	2.0 - 2.5E+15	ohms	ASTM D257
--	0.10 - 2.5E+15	ohms	IEC 60093
Volume Resistivity			
23°C	10 - 2.5E+16	ohms·cm	ASTM D257
23°C	10 - 5.0E+16	ohms·cm	IEC 60093
Dielectric Strength			
23°C	17 - 26	kV/mm	ASTM D149
23°C	18 - 90	kV/mm	IEC 60243-1
Dielectric Constant			
23°C	3.49 - 4.05		ASTM D150
23°C	3.48 - 4.04		IEC 60250
23°C	7.26		IEC 60250
Dissipation Factor			
23°C	0.012 - 0.021		ASTM D150
23°C	4.0E-3 - 0.098		IEC 60250
1 MHz	0.018		IEC 60250 [14]
Arc Resistance	109 - 137	sec	ASTM D495
Comparative Tracking Index (CTI)	590 - 600	V	UL 746
Comparative Tracking Index			
--	389 - 603	V	IEC 60112
--	443 - 451	V	ASTM D3638
--	500		IEC 60112 [15]
Insulation Resistance (23°C)	9.8E+11 - 1.0E+12	ohms	IEC 60167
Flammability	**Nominal Value**	**Unit**	**Test Method**
Burning Rate	0.0 - 100	mm/min	ISO 3795
Glow Wire Flammability Index	645 - 960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature	650 - 961	°C	IEC 60695-2-13
Oxygen Index			

--	23 - 34	%	ASTM D2863
--	23 - 27	%	ISO 4589-2

Injection	Nominal Value	Unit
Drying Temperature	78.3 - 90.6	°C
Drying Time	2.8 - 5.3	hr
Drying Time, Maximum	6.0	hr
Dew Point	-18.1 - -17.8	°C
Suggested Max Moisture	0.20	%
Suggested Shot Size	55 - 60	%
Suggested Max Regrind	22	%
Hopper Temperature	70.0 - 285	°C
Rear Temperature	265 - 289	°C
Middle Temperature	270 - 294	°C
Front Temperature	268 - 300	°C
Nozzle Temperature	272 - 291	°C
Processing (Melt) Temp	274 - 297	°C
Mold Temperature	68.4 - 102	°C
Injection Pressure	7.02 - 112	MPa
Holding Pressure	59.1 - 77.2	MPa
Back Pressure	0.0490 - 1.15	MPa
Screw Speed	45 - 75	rpm
Clamp Tonnage	4.0 - 9.0	kN/cm^2
Cushion	4.66 - 5.08	mm
Vent Depth	0.019 - 0.024	mm

Injection instructions
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NOTE	
1.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
2.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
3.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
4.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
5.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
6.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
7.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
8.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???

9.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
10.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
11.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
12.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
13.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
14.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
15.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???

Recommended distributors for this material

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