Nylon 6 with 30% Glass-Fiber Filled

Physical Properties	Metric	English	Comments
Density	1.17 - 1.62 g/cc	0.0423 - 0.0585 lb/in³	Average = 1.35 g/cc; Grade Count = 168
Water Absorption	0 - 7.5 %	0 - 7.5 %	Average = 2.9%; Grade Count = 113
Moisture Absorption at Equilibrium	0.9 - 2.5 %	0.9 - 2.5 %	Average = 1.9%; Grade Count = 68
Water Absorption at Saturation	1.8 - 8.2 %	1.8 - 8.2 %	Average = 6.1%; Grade Count = 56
Linear Mold Shrinkage	0.0015 - 0.007 cm/cm	0.0015 - 0.007 in/in	Average = 0.0033 cm/cm; Grade Count = 109
Linear Mold Shrinkage, Transverse	0.007 - 0.017 cm/cm	0.007 - 0.017 in/in	Average = 0.009 cm/cm; Grade Count = 50
Melt Flow	4 - 145 g/10 min	4 - 145 g/10 min	Average = 50.6 g/10 min; Grade Count = 14
Mechanical Properties			
Hardness, Rockwell E	55	55	Grade Count = 1
Hardness, Rockwell M	90 - 100	90 - 100	Average = 95; Grade Count = 2
Hardness, Rockwell R	110 - 121	110 - 121	Average = 120; Grade Count = 28
Tensile Strength, Ultimate	65 - 195 MPa	9430 - 28300 psi	Average = 140 MPa; Grade Count = 130
Tensile Strength, Yield	95 - 195 MPa	13800 - 28300 psi	Average = 140 MPa; Grade Count = 31
Elongation at Break	2 - 10 %	2 - 10 %	Average = 4.5%; Grade Count = 154
Elongation at Yield	2 - 6 %	2 - 6 %	Average = 3.7%; Grade Count = 18
Tensile Modulus	3.2 - 11.17 GPa	464 - 1620 ksi	Average = 7.5 GPa; Grade Count = 105
Flexural Modulus	2.8 - 9.7 GPa	406 - 1410 ksi	Average = 7.2 GPa; Grade Count = 95
Flexural Yield Strength	110 - 310 MPa	16000 - 45000 psi	Average = 220 MPa; Grade Count = 96
Compressive Yield Strength	16 - 152 MPa	2320 - 22000 psi	Average = 100 MPa; Grade Count=6
Poisson's Ratio	0.35	0.35	Grade Count = 15
Shear Strength	59 - 85 MPa	8560 - 12300 psi	Average = 72 MPa; Grade Count = 2
Izod Impact, Notched	0.6 - 2.4 J/cm	1.12 - 4.5 ft-lb/in	Average = 1.3 J/cm; Grade Count = 80
Izod Impact, Unnotched	6.4 - 11.7 J/cm	12 - 21.9 ft-lb/in	Average = 9.4 J/cm; Grade Count = 7
Izod Impact, Notched Low Temp	0.5 - 1.37 J/cm	0.937 - 2.57 ft-lb/in	Average = 0.916 J/cm; Grade Count = 25
Charpy Impact, Unnotched	4 - 11 J/cm²	19 - 52.4 ft-lb/in²	Average = 8.6 J/cm²; Grade Count = 19
Charpy Impact, Notched Low Temp	0.56 - 1.5 J/cm²	2.67 - 7.14 ft-lb/in²	Average = 0.987 J/cm²; Grade Count = 18
Charpy Impact, Unnotched Low Temp	3.5 - 9 J/cm²	16.7 - 42.8 ft-lb/in²	Average = 7 J/cm²; Grade Count = 11
Charpy Impact, Notched	0.55 - 3.5 J/cm²	2.62 - 16.7 ft-lb/in²	Average = 1.6 J/cm²; Grade Count = 28
Coefficient of Friction	0.16	0.16	Grade Count=1
Coefficient of Friction, Static	0.25	0.25	Grade Count=1
Tensile Creep Modulus, 1 hour	2400 - 7000 MPa	348000 - 1.02e+006 psi	Average = 4700 MPa; Grade Count = 16
Tensile Creep Modulus, 1000 hours	2000 - 5000 MPa	290000 - 725000 psi	Average = 3600 MPa; Grade Count = 16
Taber Abrasion, mg/1000 Cycles	15	15	Grade Count = 1

Electrical Properties

Electrical Resistivity	430000 - 1e+015 ohm-cm	430000 - 1e+015 ohm-cm	Average = 5E+14 ohm-cm; Grade Count = 89
Surface Resistance	55000 - 1e+016 ohm	55000 - 1e+016 ohm	Average = 2E+14 ohm; Grade Count = 72
Dielectric Constant	3.2 - 10	3.2 - 10	Average = 4.6; Grade Count = 73
Dielectric Constant, Low Frequency	2.6 - 15	2.6 - 15	Average = 7.4; Grade Count = 52
Dielectric Strength	16 - 41 kV/mm	406 - 1040 kV/in	Average = 34.6 kV/mm; Grade Count = 69
Dissipation Factor	0.005 - 0.36	0.005 - 0.36	Average = 0.065; Grade Count = 68
Dissipation Factor, Low Frequency	0.0035 - 3.4	0.0035 - 3.4	Average = 0.16; Grade Count = 59
Arc Resistance	60 - 136 sec	60 - 136 sec	Average = 96.3 sec; Grade Count=26
Comparative Tracking Index	400 - 600 V	400 - 600 V	Average = 540 V; Grade Count=44
Hot Wire Ignition, HWI	7 - 120 sec	7 - 120 sec	Average = 55.4 sec; Grade Count = 14
High Amp Arc Ignition, HAI	60 - 120 arcs	60 - 120 arcs	Average = 110 arcs; Grade Count = 14
High Voltage Arc-Tracking Rate, HVTR	0 - 10 mm/min	0 - 0.394 in/min	Average = 8.6 mm/min; Grade Count = 14

Thermal Properties

CTE, linear 20°C	19 - 100 µm/m-°C	10.6 - 55.6 µin/in-°F	Average = 29.9 µm/m-°C; Grade Count=42
CTE, linear 20°C Transverse to Flow	65 - 150 µm/m-°C	36.1 - 83.3 µin/in-°F	Average = 90.7 µm/m-°C; Grade Count=22
Heat Capacity	1.5 - 2.43 J/g-°C	0.359 - 0.581 BTU/lb-°F	Average = 1.9 J/g-K; Grade Count = 3
Thermal Conductivity	0.17 - 0.5 W/m-K	1.18 - 3.47 BTU-in/hr-ft²-°F	Average = 0.38 W/m-K; Grade Count = 7
Melting Point	210 - 255 °C	410 - 491 °F	Average = 220°C; Grade Count = 118
Maximum Service Temperature, Air	110 - 232 °C	230 - 450 °F	Average = 200°C; Grade Count = 99
Deflection Temperature at 0.46 MPa (66 psi)	174 - 221 °C	345 - 430 °F	Average = 210°C; Grade Count=84
Deflection Temperature at 1.8 MPa (264 psi)	155 - 232 °C	311 - 450 °F	Average = 200°C; Grade Count=124
Vicat Softening Point	183 - 220 °C	361 - 428 °F	Average = 200°C; Grade Count = 33
UL RTI, Electrical	65 - 140 °C	149 - 284 °F	Average = 110°C; Grade Count = 33
UL RTI, Mechanical with Impact	65 - 105 °C	149 - 221 °F	Average = 86.8°C; Grade Count = 33
UL RTI, Mechanical without Impact	65 - 140 °C	149 - 284 °F	Average = 110°C; Grade Count = 33
Flammability, UL94	HB	HB	Grade Count = 102
Oxygen Index	21 - 23 %	21 - 23 %	Average = 22.4%; Grade Count = 8

Processing Properties

Processing Temperature	235 - 282 °C	455 - 540 °F	Average = 270°C; Grade Count = 59
Rear Barrel Temperature	227 - 260 °C	441 - 500 °F	Average = 240°C; Grade Count = 8
Middle Barrel Temperature	235 - 260 °C	455 - 500 °F	Average = 250°C; Grade Count = 8
Front Barrel Temperature	235 - 271 °C	455 - 520 °F	Average = 260°C; Grade Count = 8
Nozzle Temperature	235 - 271 °C	455 - 520 °F	Average = 260°C; Grade Count = 6
Mold Temperature	52 - 115 °C	126 - 239 °F	Average = 91°C; Grade Count = 35
Drying Temperature	77 - 85 °C	171 - 185 °F	Average = 84°C; Grade Count = 44