

General			
Material Status	<ul style="list-style-type: none"> <li>Commercial: Active</li> </ul>		
Availability	<ul style="list-style-type: none"> <li>Africa &amp; Middle East</li> <li>Asia Pacific</li> </ul>	<ul style="list-style-type: none"> <li>Europe</li> <li>Latin America</li> </ul>	<ul style="list-style-type: none"> <li>North America</li> <li>South America</li> </ul>
Features	<ul style="list-style-type: none"> <li>Fatigue Resistant</li> <li>Fungus Resistant</li> <li>Good Chemical Resistance</li> <li>Good Creep Resistance</li> </ul>	<ul style="list-style-type: none"> <li>Good Processability</li> <li>Good Strength</li> <li>Good Thermal Stability</li> <li>Good Toughness</li> </ul>	<ul style="list-style-type: none"> <li>Good Weather Resistance</li> <li>Kosher Approved</li> <li>Low to No Outgassing</li> <li>Ozone Resistant</li> </ul>
Agency Ratings	<ul style="list-style-type: none"> <li>FDA 21 CFR 177.1520</li> <li>FDA 21 CFR 177.2510</li> <li>FDA 21 CFR 177.2600</li> </ul>	<ul style="list-style-type: none"> <li>NSF 51</li> <li>NSF 61</li> <li>USDA Food Contact, Unspecified Rating</li> </ul>	<ul style="list-style-type: none"> <li>USP Class VI</li> </ul>
Appearance	<ul style="list-style-type: none"> <li>Natural Color</li> </ul>		
Forms	<ul style="list-style-type: none"> <li>Pellets</li> </ul>		
Processing Method	<ul style="list-style-type: none"> <li>Extrusion</li> </ul>	<ul style="list-style-type: none"> <li>Injection Molding</li> </ul>	
Multi-Point Data	<ul style="list-style-type: none"> <li>Isothermal Stress vs. Strain (ISO 11403-1)</li> <li>Secant Modulus vs. Strain (ISO 11403-1)</li> </ul>	<ul style="list-style-type: none"> <li>Specific Volume vs Temperature (ISO 11403-2)</li> <li>Viscosity vs. Shear Rate (ISO 11403-2)</li> </ul>	

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Specific Gravity			
--	1.77 to 1.79	1.77 to 1.79 g/cm <sup>3</sup>	ASTM D792
--	0.0643 lb/in <sup>3</sup>	1780 kg/m <sup>3</sup>	ISO 1183 <sup>2</sup>
Melt Mass-Flow Rate (MFR) (450°C/3.8 kg)	5.0 to 29 g/10 min	5.0 to 29 g/10 min	ASTM D1238
Melt volume-flow rate (230°C/5.0 kg)	0.610 in <sup>3</sup> /10min	10.0 cm <sup>3</sup> /10min	ISO 1133 <sup>2</sup>
Water Absorption			
73°F (23°C), 24 hr	0.10 to 0.30 %	0.10 to 0.30 %	ASTM D570
Saturation	0.030 %	0.030 %	ISO 62 <sup>2</sup>
Equilibrium	0.015 %	0.015 %	ISO 62 <sup>2</sup>

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			
73°F (23°C)	2000 to 335000 psi	13.8 to 2310 MPa	ASTM D638
--	319000 psi	2200 MPa	ISO 527-2 <sup>2</sup>
Tensile Strength			
Yield, 73°F (23°C)	6500 to 8000 psi	44.8 to 55.2 MPa	ASTM D638
Yield	7830 psi	54.0 MPa	ISO 527-2 <sup>2</sup>
Break, 73°F (23°C)	5000 to 8000 psi	34.5 to 55.2 MPa	ASTM D638
Tensile Elongation			
Yield, 73°F (23°C)	5.0 to 10 %	5.0 to 10 %	ASTM D638
Yield	8.0 %	8.0 %	ISO 527-2 <sup>2</sup>
Break, 73°F (23°C)	20 to 100 %	20 to 100 %	ASTM D638
Nominal strain at break	> 50 %	> 50 %	ISO 527-2 <sup>2</sup>
Flexural Modulus (73°F (23°C))	200000 to 335000 psi	1380 to 2310 MPa	ASTM D790
Flexural Strength			ASTM D790
5.0% Strain, 73°F (23°C)	8500 to 11000 psi	58.6 to 75.8 MPa	
Compressive Strength (73°F (23°C))	1000 to 15000 psi	6.89 to 103 MPa	ASTM D695
Coefficient of Friction			ASTM D1894
vs. Steel - Dynamic	0.14	0.14	
vs. Steel - Static	0.20	0.20	
Taber Abrasion Resistance			
1000 Cycles, 1000 g, CS-17 Wheel	5.00 to 9.00 mg	5.00 to 9.00 mg	

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy notched impact strength			ISO 179/1eA <sup>2</sup>
-22°F (-30°C)	2.38 ft-lb/in <sup>2</sup>	5.00 kJ/m <sup>2</sup>	
73°F (23°C)	3.81 ft-lb/in <sup>2</sup>	8.00 kJ/m <sup>2</sup>	
Charpy impact strength			ISO 179/1eU <sup>2</sup>
-22°F (-30°C)	89.9 ft-lb/in <sup>2</sup>	189 kJ/m <sup>2</sup>	
73°F (23°C)	99.0 ft-lb/in <sup>2</sup>	208 kJ/m <sup>2</sup>	
Notched Izod Impact (73°F (23°C))	8.0 to 25 ft-lb/in	430 to 1300 J/m	ASTM D256
Unnotched Izod Impact (73°F (23°C))	20 to 80 ft-lb/in	1100 to 4300 J/m	ASTM D256
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Durometer Hardness (Shore D, 73°F (23°C))	76 to 80	76 to 80	ASTM D2240
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Unannealed	257 to 284 °F	125 to 140 °C	ASTM D648
66 psi (0.45 MPa)	270 °F	132 °C	ISO 75-2 <sup>2</sup>
264 psi (1.8 MPa), Unannealed	221 to 239 °F	105 to 115 °C	ASTM D648
264 psi (1.8 MPa)	230 °F	110 °C	ISO 75-2 <sup>2</sup>
Glass Transition Temperature			
-- <sup>3</sup>	-40 °F	-40 °C	ISO 11357-2 <sup>2</sup>
-- <sup>4</sup>	-41.0 to -37.0 °F	-40.6 to -38.3 °C	DMA
Vicat Softening Temperature			ISO 306 <sup>2</sup>
50°C/h, B (50N)	282 °F	139 °C	
Peak Melting Temperature			
--	329 to 342 °F	165 to 172 °C	ASTM D3418
-- <sup>3</sup>	334 °F	168 °C	ISO 11357-3 <sup>2</sup>
CLTE - Flow			
--	0.000066 to 0.000080 in/in/°F	0.00012 to 0.00014 cm/cm/°C	ASTM D696
--	0.000083 in/in/°F	0.00015 cm/cm/°C	ISO 11359-2 <sup>2</sup>
Specific Heat	0.280 to 0.360 Btu/lb/°F	1170 to 1510 J/kg/°C	DSC
Thermal Conductivity	1.2 to 1.3 Btu-in/hr/ft <sup>2</sup> /°F	0.17 to 0.19 W/m/K	ASTM C177
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Surface resistivity	> 1.0E+15 ohm	> 1.0E+15 ohm	IEC 60093 <sup>2</sup>
Volume Resistivity			
68°F (20°C) <sup>5</sup>	2.0E+14 ohm-cm	2.0E+14 ohm-cm	ASTM D257
--	7.9E+13 ohm-in	2.0E+12 ohm-m	IEC 60093 <sup>2</sup>
Dielectric Strength			
73°F (23°C)	1700 V/mil	67 kV/mm	ASTM D149
--	530 V/mil	21 kV/mm	IEC 60243-1 <sup>2</sup>
Dielectric Constant			
73°F (23°C) <sup>6</sup>	4.50 to 9.50	4.50 to 9.50	ASTM D150
100 Hz	9.00	9.00	IEC 60250 <sup>2</sup>
1 MHz	7.00	7.00	IEC 60250 <sup>2</sup>
Dissipation Factor			
73°F (23°C), 100 Hz	0.010 to 0.21	0.010 to 0.21	ASTM D150
100 Hz	0.032	0.032	IEC 60250 <sup>2</sup>
1 MHz	0.21	0.21	IEC 60250 <sup>2</sup>
Comparative tracking index	600	600	IEC 60112 <sup>2</sup>
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating - UL	V-0	V-0	UL 94

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Burning Behav. at 1.6mm nom. thickn. 0.06 in (1.60 mm), UL	V-0	V-0	ISO 1210 <sup>2</sup>
Burning Behav. at thickness h 0.0315 in (0.800 mm)	V-0	V-0	ISO 1210 <sup>2</sup>
Oxygen Index			
--	75 %	75 %	ASTM D2863
--	43 %	43 %	ISO 4589-2 <sup>2</sup>
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Refractive Index <sup>7</sup>	1.420	1.420	ASTM D542
Fill Analysis	Nominal Value (English)	Nominal Value (SI)	Test Method
Melt Viscosity (842°F (450°C), 100 sec <sup>-1</sup> )	1500 to 2300 Pa·s	1500 to 2300 Pa·s	ASTM D3835
Additional Information	Nominal Value (English)	Nominal Value (SI)	Test Method
Thermal Decomposition Temperature			TGA
-- <sup>8</sup>	770 °F	410 °C	
-- <sup>9</sup>	707 °F	375 °C	

**Notes**

- <sup>1</sup> Typical properties: these are not to be construed as specifications.
- <sup>2</sup> Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
- <sup>3</sup> 18 °F/min (10 °C/min)
- <sup>4</sup> 1 Hz
- <sup>5</sup> 65%RH
- <sup>6</sup> 100MHz to 100Hz
- <sup>7</sup> Sodium D line, 77°F
- <sup>8</sup> 1% wt. loss / in nitrogen
- <sup>9</sup> 1% wt. loss / in air