



OnForce™ LFT LF0100-5002 NATURAL

Polyurethane

Key Characteristics

Product Description

PolyOne's Long Fiber Thermoplastic (LFT) compounds are formulated for demanding applications which require high stiffness and good impact such as metal replacement or other structural applications. These products exhibit enhanced physical and mechanical properties versus standard short fiber products. Benefits of LFT compounds include improved impact strength, elastic modulus, and material strength across wide temperature ranges from subambient to highly elevated. Furthermore, LFT compounds have been shown to offer improved performance in the areas of creep and fatigue performance, improved dimensional stability, and exhibit an exceptional surface finish when compared to traditional highly filled short fiber products.

General

Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East	• Europe	• North America
	• Asia Pacific	• Latin America	
Filler / Reinforcement	• Long Glass Fiber, 60% Filler by Weight		
Forms	• Pellets		

Technical Properties ¹

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density	1.71 g/cm ³	1.71 g/cm ³	ISO 1183
Molding Shrinkage	0.050 to 0.15 %	0.050 to 0.15 %	ISO 294-4
Mechanical	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Modulus ²	2.30E+6 psi	15900 MPa	ISO 527-1
Tensile Strength (Yield)	37000 psi	255 MPa	ISO 527-2
Tensile Elongation ² (Break)	2.0 to 3.0 %	2.0 to 3.0 %	ISO 527-2
Flexural Modulus	2.80E+6 psi	19300 MPa	ISO 178
Flexural Strength (Yield)	52500 psi	362 MPa	ISO 178
Impact	Typical Value (English)	Typical Value (SI)	Test Method
Notched Izod Impact			ISO 180
73°F (23°C), 0.125 in (3.18 mm), Injection Molded	9.0 ft-lb/in	480 J/m	
Unnotched Izod Impact	31 ft-lb/in	1700 J/m	ISO 180
Thermal	Typical Value (English)	Typical Value (SI)	Test Method
Heat Deflection Temperature			ISO 75-2/A
264 psi (1.8 MPa), Unannealed	237 °F	114 °C	

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	194 °F	90.0 °C
Drying Time	8.0 to 12 hr	8.0 to 12 hr
Processing (Melt) Temp	446 to 482 °F	230 to 250 °C
Mold Temperature	176 °F	80.0 °C

Injection Notes

LFT compounds can be processed using equipment similar to that used for short fiber products. The mechanical properties of finished parts depend greatly on the length of the fibers in the molded part; therefore processing conditions must be set carefully in order to minimize fiber breakage. A "low shear process" is advised, with low back pressure, low screw speed and low-to-medium injection speed.

This grade must be dried in a dessicant dryer with a dew point set at -40°C.

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Notes¹ Typical values are not to be construed as specifications.² Type I, 0.20 in/min (5.1 mm/min)**CONTACT INFORMATION****Americas**United States - Avon Lake
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