OnForce™ LFT LF5400-5001 BLACK

Polyethylene

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 • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Basalt Fiber, 33% Filler by Weight		
Forms	• Pellets		

Technical Properties [1]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density	1.17 to 1.21 g/cm³	1.17 to 1.21 g/cm³	ISO 1183
Mechanical	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Modulus	841000 psi	5800 MPa	ISO 527-2
Tensile Stress (Break)	12200 psi	84.0 MPa	ISO 527-2
Tensile Strain (Break)	2.0 to 4.0 %	2.0 to 4.0 %	ISO 527-2
Flexural Modulus	667000 psi	4600 MPa	ISO 178
Flexural Stress	16700 psi	115 MPa	ISO 178
Impact	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Charpy Notched Impact Strength	9.5 ft·lb/in²	20 kJ/m²	ISO 179

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	176 °F	80 °C
Drying Time	2.0 hr	2.0 hr
Processing (Melt) Temp	410 to 446 °F	210 to 230 °C
Mold Temperature	86 to 140 °F	30 to 60 °C
Injection Rate	Slow-Moderate	Slow-Moderate
Back Pressure	145 psi	1.00 MPa

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.

Notes

[1] Typical values are not to be construed as specifications.