OnForce™ LFT LF6600-5002 HI BLACK

Polyamide

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	• Long Glass Fiber		
Forms	• Pellets		

Technical Properties [1]

Physical	Dry	Conditioned	Unit	Test Method
Density	1.46	1.46	g/cm³	ISO 1183
Molding Shrinkage [2]	0.30	0.30	%	ISO 294-4
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus	1.45E+6 (10000)	1.45E+6 (10000)	psi (MPa)	ISO 527-2
Tensile Stress (Break)	23200 (160)	23200 (160)	psi (MPa)	ISO 527-2
Tensile Strain (Break)	3.5	3.5	%	ISO 527-2
Flexural Modulus	1.33E+6 (9200)	1.33E+6 (9200)	psi (MPa)	ISO 178
Flexural Stress	31200 (215)	31200 (215)	psi (MPa)	ISO 178
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength	17 (35)	17 (35)	ft·lb/in² (kJ/m²)	ISO 179
Charpy Unnotched Impact Strength	36 (75)	36 (75)	ft·lb/in² (kJ/m²)	ISO 179

Processing Information

Injection	Dry (English)	Dry (SI)
Drying Temperature	176 °F	80.0 °C
Drying Time	4.0 hr	4.0 hr
Processing (Melt) Temp	518 to 572 °F	270 to 300 °C
Mold Temperature	176 °F	80.0 °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.

[2] Measured on a tensile specimen. Actual mold shrinkage values are highly dependant on part geometry, mold configuration, and processing
conditions.

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