OnForce™ LFT PP-50LGF/001 UV Black

Polypropylene Homopolymer

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, 50% Filler by Weight		
Features	• Heat Stabilized	• UV Resistant	
Forms	• Pellets		

Technical Properties [1]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density	1.30 g/cm³	1.30 g/cm³	ISO 1183
Molding Shrinkage [2]	0.30 %	0.30 %	ISO 294-4
Mechanical	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Modulus	1.96E+6 psi	13500 MPa	ISO 527-2
Tensile Stress (Break)	18900 psi	130 MPa	ISO 527-2
Tensile Strain (Break)	2.0 %	2.0 %	ISO 527-2
Flexural Modulus	1.31E+6 psi	9000 MPa	ISO 178
Flexural Stress	27600 psi	190 MPa	ISO 178
Impact	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Charpy Notched Impact Strength	7.1 ft·lb/in²	15 kJ/m²	ISO 179
Charpy Unnotched Impact Strength	29 ft·lb/in²	60 kJ/m²	ISO 179
Gardner Impact	85.0 in·lb	9.60 J	ASTM D5420
Thermal	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Heat Deflection Temperature			ISO 75-2/A
264 psi (1.8 MPa), Unannealed	309 °F	154 °C	
Heat Deflection Temperature			ISO 75-2/C
1160 psi (8.0 MPa), Unannealed	282 °F	139 °C	

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	176 °F	80.0 °C
Drying Time	2.0 hr	2.0 hr
Processing (Melt) Temp	410 to 446 °F	210 to 230 °C
Mold Temperature	140 °F	60.0 °C
Injection Rate	Slow-Moderate	Slow-Moderate
Back Pressure	145 psi	1.00 MPa

Injection Notes

LFT compounds can be processed using equipments similar to those used for short fiber products. The mechanical properties depend greatly on the length of the fibers in the moulded 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.

CONTACT INFORMATION

Americas

United States - Avon Lake
+1 440 930 1000

United States - McHenry
+1 815 385 8500

Asia

China - Guangzhou
+86 20 8732 7260

China - Shenzhen
+86 755 2969 2888

China - Suzhou
+86 512 6823 24 38

China - Suzhou
+86 512 6265 2600

Hong Kong -
+852 2690 5332

Taiwan - Yonghe City,
+886 9396 99740, +886 2929 1849

Europe

Germany - Gaggenau
+49 7225 6802 0

Spain - Barbastro (Huesca)
+34 974 310 314

PolyOne™

Beyond Polymers.

Better Business Solutions. SM

www.polyone.com

PolyOne Americas
33587 Walker Road
Avon Lake, Ohio 44012
United States
+1 440 930 1000
+1 866 POLYONE

PolyOne Asia
No. 88 Guoshoujing Road
Z.J Hi-tech Park, Pudong
Shanghai, 201203, China
+86 21 5080 1188

PolyOne Europe
6 Giällewee
+352 269 050 35