OnForce™ LFT LF5200-5001 FR Black

Polyolefin

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	Typical Value (English)	Typical Value (SI)	Test Method
Density	1.50 g/cm³	1.50 g/cm³	ISO 1183
Molding Shrinkage [2]	0.25 %	0.25 %	ISO 294-4
Mechanical	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Modulus	1.74E+6 psi	12000 MPa	ISO 527-2
Tensile Stress (Break)	12300 psi	85.0 MPa	ISO 527-2
Tensile Strain (Break)	1.0 %	1.0 %	ISO 527-2
Flexural Modulus	1.57E+6 psi	10800 MPa	ISO 178
Flexural Stress	19600 psi	135 MPa	ISO 178
Impact	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Charpy Notched Impact Strength	6.7 ft·lb/in²	14 kJ/m²	ISO 179
Charpy Unnotched Impact Strength	14 ft·lb/in²	30 kJ/m²	ISO 179
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	284 °F	140 °C	
Flammability	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Flammability Classification			IEC 60695-11-10, -20
0.06 to 0.13 in (1.6 to 3.2 mm)	V-0	V-0	
Glow Wire Flammability Index			IEC 60695-2-12
0.06 to 0.13 in (1.6 to 3.2 mm)	1760 °F	960 °C	

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	140 °F	60 °C
Injection Rate	Slow-Moderate	Slow-Moderate

Injection	Typical Value (English)	Typical Value (SI)
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.

PolyOne

Beyond Polymers.

Better Business Solutions. SM