# OnForce™ LFT LF5200-5003 NATURAL

**Polypropylene**

## 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<br>• Asia Pacific | • Europe<br>• Latin America | • North America |
| Filler / Reinforcement | • Long Glass Fiber | | |
| Forms | • Pellets | | |

## Technical Properties [1]

| Physical | Typical Value (English) | Typical Value (SI) | Test Method |
|---|---|---|---|
| Density | 1.28 g/cm³ | 1.28 g/cm³ | ISO 1183 |
| **Mechanical** | **Typical Value (English)** | **Typical Value (SI)** | **Test Method** |
| Tensile Modulus | 1.60E+6 psi | 11000 MPa | ISO 527-2 |
| Tensile Stress (Break) | 18900 psi | 130 MPa | ISO 527-2 |
| Tensile Strain (Break) | 1.7 % | 1.7 % | ISO 527-2 |
| Flexural Modulus | 1.29E+6 psi | 8900 MPa | ISO 178 |
| Flexural Stress | 27600 psi | 190 MPa | ISO 178 |
| **Impact** | **Typical Value (English)** | **Typical Value (SI)** | **Test Method** |
| Charpy Notched Impact Strength | 12 ft·lb/in² | 26 kJ/m² | ISO 179 |
| Charpy Unnotched Impact Strength | 37 ft·lb/in² | 78 kJ/m² | ISO 179 |
| Gardner Impact | 1090 in·lb | 123 J | ASTM D5420 |

## 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 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.

## 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

*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