

PolyOne OnForce™ LFT NN-40LGF/000 HS UV Black Polyamide 66 (Nylon 66)

Category : Polymer , Thermoplastic , Nylon , Nylon 66

Material Notes:

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. 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. Information provided by PolyOne

Order this product through the following link:

http://www.lookpolymers.com/polymer_PolyOne-OnForce-LFT-NN-40LGF000-HS-UV-Black-Polyamide-66-Nylon-66.php

| Physical Properties | Metric | English | Comments |
|-----------------------|--------------|---------------------------|--------------------------------------------|
| Density | 1.45 g/cc | 0.0524 lb/in ³ | ISO 1183 |
| Linear Mold Shrinkage | 0.0030 cm/cm | 0.0030 in/in | Measured on a tensile specimen.; ISO 294-4 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|-----------------------|-----------------------|-----------|
| Tensile Strength at Break | 210 MPa | 30500 psi | ISO 527-2 |
| | 123 MPa | 17800 psi | ISO 527-2 |
| | @Temperature 100 °C | @Temperature 212 °F | |
| Elongation at Break | 2.0 % | 2.0 % | ISO 527-2 |
| | 1.9 % | 1.9 % | ISO 527-2 |
| | @Temperature -40.0 °C | @Temperature -40.0 °F | |
| Tensile Modulus | 2.7 % | 2.7 % | ISO 527-2 |
| | @Temperature 100 °C | @Temperature 212 °F | |
| | 13.0 GPa | 1890 ksi | ISO 527-2 |
| Flexural Strength | 250 MPa | 36300 psi | ISO 178 |
| Flexural Modulus | 10.5 GPa | 1520 ksi | ISO 178 |

| Charpy Impact Unnotched Mechanical Properties | 7.00 J/cm ² Metric | 33.3 ft-lb/in ² English | ISO 179 Comments |
|--------------------------------------------------|----------------------------------|---------------------------------------|---------------------|
| Charpy Impact, Notched | 1.50 J/cm ² | 7.14 ft-lb/in ² | ISO 179 |
| Gardner Impact | 8.13 J | 6.00 ft-lb | ASTM D5420 |

| Thermal Properties | Metric | English | Comments |
|------------------------------------------------|--------|---------|------------------------|
| Deflection Temperature at 1.8 MPa (264 psi) | 252 °C | 486 °F | Unannealed; ISO 75-2/A |
| Deflection Temperature at 8.0 MPa | 235 °C | 455 °F | Unannealed; ISO 75-2/C |

| Processing Properties | Metric | English | Comments |
|-----------------------|--------------|--------------|----------|
| Melt Temperature | 290 - 320 °C | 554 - 608 °F | |
| Mold Temperature | 90.0 °C | 194 °F | |
| Drying Temperature | 80.0 °C | 176 °F | |
| Dry Time | 4.00 hour | 4.00 hour | |
| Back Pressure | 1.00 MPa | 145 psi | |

| Descriptive Properties | Value | Comments |
|------------------------|----------------------------------------|----------|
| Features | Good UV Resistance | |
| | Heat Stabilized | |
| Filler / Reinforcement | Long Glass Fiber, 40% Filler by Weight | |
| Forms | Pellets | |
| Generic Material | Nylon 66 | |
| Generic Name | Polyamide 66 (Nylon 66) | |
| Injection Rate | Slow-Moderate | |
| Regional Availability | Africa & Middle East | |
| | Asia Pacific | |
| | Europe | |
| | North America | |
| | South America | |

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