

# OnForce™ LFT AM-60LGF/001 BLACK

Polyphthalamide

PolyOne Corporation

## Message:

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 Information			
Filler / Reinforcement	Long glass fiber, 60% filler by weight		
Features	Thermal Stability		
Forms	Particle		
Physical	Nominal Value	Unit	Test Method
Density	1.70	g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage <sup>1</sup>	0.30	%	ISO 294-4
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	22000	MPa	ISO 527-2
Tensile Stress (Break)	250	MPa	ISO 527-2
Tensile Strain (Break)	1.4	%	ISO 527-2
Flexural Modulus	17500	MPa	ISO 178
Flexural Stress	400	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	22	kJ/m <sup>2</sup>	ISO 179
Charpy Unnotched Impact Strength	90	kJ/m <sup>2</sup>	ISO 179
Dart Drop Impact	13.1	J	ASTM D5420
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
1.8 MPa, not annealed	280	°C	ISO 75-2/A
8.0 MPa, not annealed	240	°C	ISO 75-2/C
Injection	Nominal Value	Unit	
Drying Temperature	120	°C	
Drying Time	4.0	hr	
Processing (Melt) Temp	290 - 320	°C	
Mold Temperature	140	°C	
Injection Rate	Slow-Moderate		
Back Pressure	1.00	MPa	
Injection instructions			

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.

NOTE

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| 1. | Measured on a tensile specimen.<br>Actual mold shrinkage values are<br>highly dependant on part<br>geometry, mold configuration, and<br>processing conditions. |
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