OnForce™ LFT NN-40LGF/000 HS UV Black

Polyamide 66

PolyOne Corporation

Message:

Polyvan's long fiber thermoplastic polymers are used in situations where high hardness and good impact resistance are required, such as metal substitution or other structural applications. These products exhibit enhanced physical and mechanical properties compared to staple fiber products. Its advantages include improved impact strength, elasticity and material strength in different temperature ranges. In addition, compared with traditional high-filled short fiber products, long fiber thermoplastic polymers show improved properties in terms of creep and fatigue resistance, improved dimensional stability and unique surface finish.

General Information			
Filler / Reinforcement	Long glass fiber, 40% filler by weight		
Features	Good UV resistance Thermal Stability		
Forms	Particle		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.45	g/cm³	ISO 1183
Molding Shrinkage			
--	0.23	%	ASTM D955
-- [1]	0.30	%	ISO 294-4
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			
--	12500	MPa	ASTM D638
--	13000	MPa	ISO 527-2
Tensile Stress			
Fracture	187	MPa	ASTM D638
Fracture	210	MPa	ISO 527-2
Fracture, -40°C	217	MPa	ISO 527-2
Fracture, 100°C	123	MPa	ISO 527-2
Tensile Strain			
Fracture	2.0	%	ASTM D638, ISO 527-2
Fracture, -40°C	1.9	%	ISO 527-2
Fracture, 100°C	2.7	%	ISO 527-2
Flexural Modulus			
--	10900	MPa	ASTM D790
--	10500	MPa	ISO 178
Flexural Stress			
--	296	MPa	ASTM D790
--	250	MPa	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**

Charpy Notched Impact Strength	15	kJ/m²	ISO 179
Charpy Unnotched Impact Strength	70	kJ/m²	ISO 179
Notched Izod Impact	170	J/m	ASTM D256
Dart Drop Impact	8.13	J	ASTM D5420
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
1.8 MPa, not annealed	254	°C	ASTM D648
1.8 MPa, not annealed	252	°C	ISO 75-2/A
8.0 MPa, not annealed	235	°C	ISO 75-2/C
Injection	Nominal Value	Unit	
Drying Temperature	80.0	°C	
Drying Time	4.0	hr	
Processing (Melt) Temp	290 - 320	°C	
Mold Temperature	90.0	°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

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

Recommended distributors for this material

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