

OnForce™ LFT UR-40 LGF/000 Natural

Polyurethane

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		
Forms	Particle		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.51	g/cm ³	ASTM D792
Molding Shrinkage - Flow	0.10 - 0.20	%	ASTM D955
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ¹	11000	MPa	ASTM D638
Tensile Strength (Yield)	221	MPa	ASTM D638
Tensile Elongation ² (Break)	2.0 - 3.0	%	ASTM D638
Flexural Modulus	11000	MPa	ASTM D790
Flexural Strength (Yield)	307	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C, 3.18 mm, Injection Molded)	370	J/m	ASTM D256
Unnotched Izod Impact	1400	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	113	°C	ASTM D648
Injection	Nominal Value	Unit	
Drying Temperature - Desiccant Dryer	90.0	°C	
Drying Time	8.0 - 12	hr	
Processing (Melt) Temp	220 - 250	°C	
Mold Temperature	80.0	°C	
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. This grade must be dried in a dessicant dryer with a dew point set at -40°C.

NOTE	
1.	Type 1, 5.1 mm/min
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