OnForce™ LFT PP-40LGF/001 Natural

Polypropylene Homopolymer

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	Thermal Stability		
Forms	Particle		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.20	g/cm³	ISO 1183
Molding Shrinkage			
--	0.26	%	ASTM D955
-- [1]	0.30	%	ISO 294-4
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			
--	8560	MPa	ASTM D638
--	9000	MPa	ISO 527-2
Tensile Stress			
Fracture	109	MPa	ASTM D638
Fracture	130	MPa	ISO 527-2
Tensile Strain (Break)	2.0	%	ASTM D638, ISO 527-2
Flexural Modulus			
--	6970	MPa	ASTM D790
--	7000	MPa	ISO 178
Flexural Stress			
--	171	MPa	ASTM D790
--	180	MPa	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength	30	kJ/m²	ISO 179
Charpy Unnotched Impact Strength	60	kJ/m²	ISO 179
Notched Izod Impact	190	J/m	ASTM D256
Dart Drop Impact	11.8	J	ASTM D5420
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
1.8 MPa, not annealed	157	°C	ASTM D648, ISO 75-2/A

8.0 MPa, not annealed	139	°C	ISO 75-2/C

Injection	Nominal Value	Unit
Drying Temperature	80.0	°C
Drying Time	2.0	hr
Processing (Melt) Temp	210 - 230	°C
Mold Temperature	60.0	°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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