

# OnForce™ LFT LF6600-5018 X2 NHFR BLACK

Polyamide 66

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		
Additive	Flame retardancy		
Features	Thermal Stability		
	Halogen-free		
Forms	Particle		
Physical	Nominal Value	Unit	Test Method
Density	1.60	g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage <sup>1</sup>	0.20	%	ISO 294-4
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	15500	MPa	ISO 527-2
Tensile Stress (Break)	205	MPa	ISO 527-2
Tensile Strain (Break)	1.8	%	ISO 527-2
Flexural Modulus	11200	MPa	ISO 178
Flexural Stress	309	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	25	kJ/m <sup>2</sup>	ISO 179
Charpy Unnotched Impact Strength	80	kJ/m <sup>2</sup>	ISO 179
Dart Drop Impact	15.6	J	ASTM D5420
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
1.8 MPa, not annealed	240	°C	ISO 75-2/A
8.0 MPa, not annealed	210	°C	ISO 75-2/C
Electrical	Nominal Value	Unit	Test Method
Comparative Tracking Index	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.6 mm)	V-0		UL 94
Glow Wire Flammability Index (1.6 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (1.6 mm)	825	°C	IEC 60695-2-13
Oxygen Index	35	%	ISO 4589-2

Additional Information		
Railway Applications-Fire Protection: Requirement/Hazard Level (EN 45545-2: 2013)Nominal Value: R22/HL2		
Injection	Nominal Value	Unit
Drying Temperature	80	°C
Drying Time	4.0	hr
Processing (Melt) Temp	250 - 280	°C
Mold Temperature	90 - 120	°C
Injection Rate	Slow-Moderate	
Back Pressure	2.50	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.It is recommended to purge the barrel as soon as the machine is standing still for a prolonged period of time to avoid the degradation of flame retardant fillers.		
NOTE		

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