Xencor™ PA66 LGF-1030 HI

polyamide 66

Xencor™ PA66 LGF-1030 HI is a high impact, 30 % long glass fiber reinforced, easy-flowing PA66 with a pellet length of 7 mm which can be processed on most injection molding machines.

This material achieves extremely high mechanical and thermal properties, in combination with ease of processing and fast cycle times. It exhibits high strength, stiffness and impact strength at high temperatures; excellent creep and fatigue resistance; isotropic mechanical properties and reduced isotropic shrinkage; high shear strength and high burst pressure; and an excellent surface finish.

Natural: Xencor™ PA66 LGF-1030 HI NT-7
Black: Xencor™ PA66 LGF-1030 BK 010-7

General

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Long Glass Fiber, 30% Filler by Weight	
Features	• Creep Resistant • Electrically Insulating • Fatigue Resistant • High Impact Resistance • High Rigidity	• High Stiffness • High Tensile Strength • Hot Water Moldability • Low CLTE • Low Warpage
Uses	• Aircraft Applications • Automotive Applications	• Automotive Instrument Panel • Gears
RoHS Compliance	• RoHS Compliant	
Appearance	• Black	• Natural Color
Forms	• Pellets	
Processing Method	• Compression Molding • Injection Molding	• Overmolding

Physical	Typical Value	Unit	Test method
Density	1.33	g/cm³	ISO 1183
Molding Shrinkage - Flow [1]	0.40	%	Internal Method
Water Absorption (Equilibrium, 23°C, 50% RH)	1.7	%	ISO 62

Mechanical	Typical Value	Unit	Test method
Tensile Modulus (23°C)	10000	MPa	ISO 527-1
Tensile Stress (Break, 23°C)	190	MPa	ISO 527-2
Tensile Strain (Break)	2.9	%	ISO 527-2
Flexural Modulus (23°C)	9500	MPa	ISO 178
Flexural Stress (23°C)	230	MPa	ISO 178

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Impact	Typical Value	Unit	Test method
Charpy Notched Impact Strength (23°C)	45	kJ/m²	ISO 179
Charpy Unnotched Impact Strength (23°C)	100	kJ/m²	ISO 179

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			
0.45 MPa, Unannealed	255	°C	ISO 75-2/B
1.8 MPa, Unannealed	250	°C	ISO 75-2/A

Electrical	Typical Value	Unit	Test method
Surface Resistivity	1.0E+12	ohms	ASTM D257
Electric Strength (2.00 mm)	35	kV/mm	IEC 60243-1
Comparative Tracking Index	500	V	IEC 60112

Injection	Typical Value	Unit
Drying Temperature	80 to 90	°C
Drying Time	4.0 to 8.0	hr
Suggested Max Moisture	0.10	%
Rear Temperature	290 to 300	°C
Middle Temperature	290 to 300	°C
Front Temperature	290 to 300	°C
Nozzle Temperature	295 to 305	°C
Processing (Melt) Temp	< 310	°C
Mold Temperature	80 to 110	°C

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Injection Notes

Pre-Drying

Since polyamides are hygroscopic materials as well as sensitive to moisture during processing, this product should always be pre-dried. At a humidity content above 0.1%, the material will begin to degrade. Recommended drying time is 4 to 8 hours at 80-90°C in dry-air dryer.

Processing temperatures

Melt temperature should be kept below 310°C in order to prevent degradation. The exact setting depends from machine and mold design, but is usually within the following range:

Area | Recommendation:
Zone 1 (feed) 290-300°C | 295-300°C
Zone 2 290-300°C | 300°C
Zone 3 290-300°C | 300°C
Zone 4 (Nozzle) 295-305°C | 300°C

Mold temperature

The mold temperature is a compromise between the optimum properties that can be obtained from high crystallization, and cycle time. Xencor™ PA66 LGF-1030 HI can be processed at mold temperatures between 80°C and 110°C. Optimum surface quality requires a mold temperature above 100°C.

Regrind

Regrind of highly filled thermoplastic materials, such as Xencor™ PA66 LGF-1030 HI, should only be recycled with special care. The regrind content must never exceed 15% and only regrind of optimum quality should be used. In any case, part properties should be checked.

Notes

Typical properties: these are not to be construed as specifications.
[1] Tested in accordance with S.O.P. methods

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