Omnix® LF-4050 BK 000-9

high performance polyamide

Omnix® LF-4050 BK 000-9 is a 50% Long Glass Fiber reinforced, easy-flowing, heat stabilized HPPA with a very high flexural modulus. It exhibits unique stiffness/toughness combination, an excellent retention of properties in a wide temperature range as well as outstanding creep and fatigue resistance.

Omnix® LF-4050 BK 000-9 has a pellet length of 9mm and can be processed on most injection-molding machines.

General

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Long Glass Fiber, 50% Filler by Weight	
Features	• Creep Resistant • Electrically Insulating • Fatigue Resistant • High Impact Resistance • High Temperature Stiffness	• Hot Water Moldability • Low CLTE • Low Shrinkage • Low Warpage
Uses	• Aircraft Applications • Automotive Applications	• Consumer Applications • Industrial Applications
Appearance	• Black	
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Dry	Conditioned	Unit	Test method
Density	1.59	--	g/cm³	ISO 1183
Molding Shrinkage - Flow [1]	0.10	--	%	Internal Method
Water Absorption (Equilibrium, 23°C, 50% RH)	1.4	--	%	ISO 62

Mechanical	Dry	Conditioned	Unit	Test method
Tensile Modulus (23°C)	17500	17500	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	270	235	MPa	ISO 527-2
Tensile Strain (Break)	2.1	2.0	%	ISO 527-2
Flexural Modulus (23°C)	16000	--	MPa	ISO 178
Flexural Stress (23°C)	360	--	MPa	ISO 178

Impact	Dry	Conditioned	Unit	Test method
Charpy Notched Impact Strength (23°C)	35	35	kJ/m²	ISO 179
Charpy Unnotched Impact Strength (23°C)	95	95	kJ/m²	ISO 179

Thermal	Dry	Conditioned	Unit	Test method
Heat Deflection Temperature				
0.45 MPa, Unannealed	260	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	255	--	°C	ISO 75-2/A

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Thermal	Dry	Conditioned	Unit	Test method
CLTE - Flow	2.0E-5	--	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.32	--	W/m/K	ISO 22007

Electrical	Dry	Conditioned	Unit	Test method
Electric Strength (2.00 mm)	35	--	kV/mm	IEC 60243-1
Comparative Tracking Index	600	--	V	IEC 60112
Surface Resistivity	1.0E+13	--	ohms/sq	ASTM D257

Additional Information

Conditioned	• Conditioned data generated according to test method ISO 1110

Injection	Dry	Unit
Drying Temperature	80	°C
Drying Time	4.0 to 12	hr
Suggested Max Moisture	0.10	%
Suggested Max Regrind	20	%
Rear Temperature	280 to 300	°C
Middle Temperature	285 to 300	°C
Front Temperature	285 to 300	°C
Nozzle Temperature	285 to 300	°C
Processing (Melt) Temp	< 320	°C
Mold Temperature	80 to 140	°C

Injection Notes

Pre-Drying -- Since polyamides are hygroscopic materials as well as sensitive to moisture during processing, this product should always be pre-dried. Recommended drying time is 4 hours at 120°C in dry-air dryer.

Regrind -- Regrind of highly filled thermoplastic materials, such as this material, should only be recycled with special care. The regrind content must never exceed 20% 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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