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Ixef® 1027

polyarylamide

Ixef® 1027 is a 50% glass-fiber reinforced, heat stabilized polyarylamide, which exhibits very high strength and rigidity, outstanding surface gloss, and excellent creep resistance.

- Black: Ixef® 1027/9000
- natural: Ixef® 1027/0008

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 50% Filler by Weight		
Additive	• Heat Stabilizer		
Features	• Good Chemical Resistance • Good Creep Resistance • Good Dimensional Stability	• Heat Stabilized • High Flow • High Strength	• Low Moisture Absorption • Outstanding Surface Finish • Ultra High Stiffness
Uses	• Appliance Components • Appliances • Automotive Applications • Business Equipment	• Furniture • Gears • Industrial Applications • Lawn and Garden Equipment	• Machine/Mechanical Parts • Metal Replacement • Power/Other Tools
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• GM GM7001M PAMXD6(A4,A22,A42,A64,BA651,G30,MS1650,NS335) Color: 9000 Black		
Appearance	• Black		
Forms	• Pellets		
Processing Technologies	• Injection Molding		

Physical	Typical Value	Unit	Test method
Density	1.64	g/cm³	ISO 1183
Molding Shrinkage	0.10 to 0.30	%	Internal Method
Water Absorption (73°F, 24 hr)	0.16	%	ISO 62
Moisture Absorption - Equil, 65% RH	1.5	%	Internal Method

Mechanical	Typical Value	Unit	Test method
Tensile Modulus	2.90E+6	psi	ISO 527-2
Tensile Stress (Break, 73°F)	34100	psi	ISO 527-2
Tensile Strain (Break)	1.8	%	ISO 527-2
Flexural Modulus	2.68E+6	psi	ISO 178
Flexural Stress (73°F)	52200	psi	ISO 178

Impact	Typical Value	Unit	Test method
Notched Izod Impact	1.7	ft·lb/in	ASTM D256
Unnotched Izod Impact	13	ft·lb/in	ASTM D256

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Thermal	Typical Value	Unit	Test method
Heat Deflection Temperature			ISO 75-2/A
264 psi, Annealed	428	°F	
CLTE - Flow	9.4E-6	in/in/°F	ISO 11359-2

Electrical	Typical Value	Unit	Test method
Volume Resistivity	1.0E+13	ohm·cm	IEC 60093
Electric Strength	710	V/mil	IEC 60243-1
Dielectric Constant (110 Hz)	4.60		IEC 60250
Comparative Tracking Index	600	V	IEC 60112

Flammability	Typical Value	Unit	Test method
Flame Rating [1]	HB		UL 94
Oxygen Index	25	%	ISO 4589-2

Injection	Typical Value	Unit
Drying Temperature	248	°F
Drying Time	0.50 to 1.5	hr
Rear Temperature	482 to 500	°F
Front Temperature	500 to 554	°F
Processing (Melt) Temp	536	°F
Mold Temperature	248 to 284	°F
Injection Rate	Fast	

Injection Notes

Hot Runners: 250°C to 260°C (482°F to 500°F)

Storage
Ixef® compounds are shipped in moisture-resistant packages at moisture levels according to specifications. Sealed, undamaged bags should be preferably stored in a dry room at a maximum temperature of 50°C (122°F) and should be protected from possible damage. If only a portion of a package is used, the remaining material should be transferred into a sealable container. It is recommended that Ixef® resins be dried prior to molding following the recommendations found in this datasheet and/or in the Ixef® processing guide.

Drying
The material as supplied is ready for molding without drying. However, If the bags have been open for longer than 24 hours, the material needs to be dried. When using a desiccant air dryer with dew point of -28°C (-18°F) or lower, these guidelines can be followed: 0.5-1.5 hour at 120°C (248°F), 1-3 hours at 100°C (212°F), or 1-7 hours at 80°C (176°F).

Injection Molding
IXEF 1027 compound can be readily injection molded in most screw injection molding machines. A general purpose screw is recommended, with minimum back pressure.

The measured melt temperature should be about 280°C (536°F), and the barrel temperatures should be around 250°C to 260°C (482°F to 500°F) in the rear zone, gradually increasing to 260°C to 290°C (500°F to 554°F) in the front zone. If hot runners are used, they should be set to 250°C to 260°C (482°F to 500°F).

To maximize crystallinity, the temperature of the mold cavity surface must be held between 120°C and 140°C (248°F and 284°F). Molding at lower temperatures will produce articles that may warp, have poor surface appearance, and have a greater tendency to creep. Set injection pressure to give rapid injection. Adjust holding pressure and hold time to maximize part weight. Transfer from injection to hold pressure at the screw position just before the part is completely filled (95%-99%).

Notes

Typical properties: these are not to be construed as specifications.

[1] These flammability ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions.

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