

Ixef® 1002

polyarylamide

Ixef® 1002 is a 30% glass-fiber reinforced, general purpose polyarylamide compound which exhibits high strength and rigidity, outstanding surface finish, and excellent creep resistance.

- Black: Ixef® 1002/9008
- Natural: Ixef® 1002/0008
- Custom colorable

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight		
Features	• Good Chemical Resistance • Good Creep Resistance • Good Dimensional Stability	• High Flow • High Stiffness • High Strength	• Low Moisture Absorption • Outstanding Surface Finish
Uses	• Appliance Components • Appliances • Automotive Applications • Automotive Electronics • Automotive Exterior Parts • Automotive Interior Parts	• Automotive Under the Hood • Bushings • Camera Applications • Cell Phones • Electrical Housing • Electrical/Electronic Applications	• Furniture • Gears • Industrial Applications • Machine/Mechanical Parts • Metal Replacement • Power/Other Tools
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• ASTM D6779 PA111G30 • BMW GS 93016		
Appearance	• Black	• Colors Available	• Natural Color
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical

	Typical Value	Unit	Test method
Density	1.43	g/cm ³	ISO 1183
Molding Shrinkage - Flow	0.10 to 0.40	%	Internal Method
Water Absorption (23°C, 24 hr)	0.20	%	ISO 62
Moisture Absorption - Equil, 65% RH	1.9	%	Internal Method

Mechanical

	Typical Value	Unit	Test method
Tensile Modulus	11500	MPa	ISO 527-2
Tensile Stress (Break)	190	MPa	ISO 527-2
Tensile Strain (Break)	2.0	%	ISO 527-2
Flexural Modulus	11500	MPa	ISO 178
Flexural Stress	285	MPa	ISO 178

Impact

	Typical Value	Unit	Test method
Notched Izod Impact	70	J/m	ASTM D256
Unnotched Izod Impact	460	J/m	ASTM D256

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Thermal	Typical Value	Unit	Test method
Heat Deflection Temperature 1.8 MPa, Unannealed	230	°C	ISO 75-2/A
CLTE - Flow	1.8E-5	cm/cm/°C	ISO 11359-2

Electrical	Typical Value	Unit	Test method
Volume Resistivity	1.0E+13	ohms·cm	IEC 60093
Electric Strength	30	kV/mm	IEC 60243-1
Dielectric Constant (110 Hz)	3.90		IEC 60250
Dissipation Factor (110 Hz)	0.010		IEC 60250
Comparative Tracking Index	400	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	120	°C
Drying Time	0.50 to 1.5	hr
Rear Temperature	250 to 260	°C
Front Temperature	260 to 290	°C
Processing (Melt) Temp	280	°C
Mold Temperature	120 to 140	°C
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.

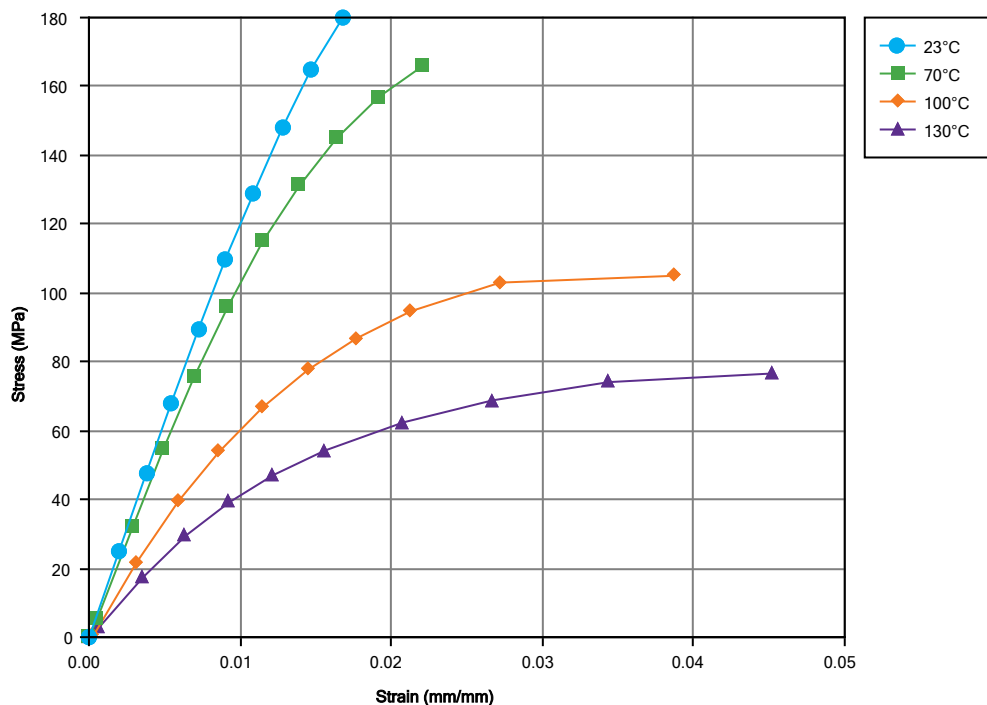
Drying

- 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 1002 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 to 500°F) in the rear zone, gradually increasing to 260 to 290°C (500 to 554°F) in the front zone. If hot runners are used, they should be set to 250 to 260°C (482 to 500°F). To maximize crystallinity, the temperature of the mold cavity surface must be held between 120 and 140°C (248 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%).

Isothermal Stress vs. Strain (ISO 11403-1)



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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