

Ixef® 1032

polyarylamide

Ixef® 1032 is a 60% glass-fiber reinforced, general purpose polyarylamide compound which exhibits very high strength and rigidity, outstanding surface gloss, and excellent creep resistance.

- Natural: Ixef® 1032/0008
- Black: Ixef® 1032/9008
- Custom Colorable

General

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass Fiber, 60% Filler by Weight	
Features	• Chemical Resistant • Creep Resistant • Good Dimensional Stability • High Flow	• High Strength • Low Moisture Absorption • Outstanding Surface Finish • Ultra High Stiffness
Uses	• Automotive Applications • Automotive Electronics • Automotive Interior Parts • Furniture	• High Gloss Applications • Metal Replacement • Sporting Goods
RoHS Compliance	• RoHS Compliant	
Automotive Specifications	• ASTM D6779 PA111G60 • BMW GS 93016 • GM GM7001M • GM GM7001M PAMXD6 A4 A22 A64 BA661 DC1770 G30 KS2400 MS1800 NS340 RT7 SS225 Color: 0008 Natural • GM GM7001M PAMXD6 A4 A22 A64 BA661 DC1770 G30 KS2400 MS1800 NS340 RT7 SS225 Color: 9008 Black	
Appearance	• Black • Colors Available	• Natural Color
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Dry	Conditioned Unit	Test method
Density	1.77	-- g/cm ³	ISO 1183
Molding Shrinkage	0.10 to 0.30	-- %	Internal Method
Water Absorption (24 hr, 23°C)	0.13	-- %	ISO 62
Moisture Absorption - Equil, 65% RH	1.3	-- %	Internal Method

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Mechanical	Dry	Conditioned	Unit	Test method
Tensile Modulus	24000	23000	MPa	ISO 527-1
Tensile Stress (Break)	280	250	MPa	ISO 527-2
Tensile Strain (Break)	1.8	2.0	%	ISO 527-2
Flexural Modulus	23500	--	MPa	ISO 178
Flexural Stress	400	--	MPa	ISO 178

Impact	Dry	Conditioned	Unit	Test method
Notched Izod Impact	120	--	J/m	ASTM D256
Unnotched Izod Impact	900	--	J/m	ASTM D4812

Thermal	Dry	Conditioned	Unit	Test method
Deflection Temperature Under Load 1.8 MPa, Unannealed	230	--	°C	ISO 75-2/A
CLTE - Flow	1.4E-5	--	cm/cm/°C	ISO 11359-2

Electrical	Dry	Conditioned	Unit	Test method
Volume Resistivity	1.0E+13	--	ohms-cm	IEC 60093
Electric Strength	24	--	kV/mm	IEC 60243-1
Dielectric Constant (110 Hz)	4.50	--		IEC 60250
Dissipation Factor (110 Hz)	9.0E-3	--		IEC 60250
Comparative Tracking Index	600	--	V	IEC 60112

Flammability	Dry	Conditioned	Unit	Test method
Flame Rating ¹	HB	--		UL 94
Glow Wire Flammability Index				IEC 60695-2-12
0.8 mm	775	--	°C	
1.5 mm	775	--	°C	
3.0 mm	960	--	°C	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.8 mm	800	--	°C	
1.5 mm	800	--	°C	
3.0 mm	825	--	°C	
Oxygen Index	25	--	%	ISO 4589-2

Injection	Dry	Unit
Drying Temperature	80	°C
Drying Time	12	hr
Suggested Max Moisture	0.30	%
Rear Temperature	250 to 260	°C
Middle Temperature	260 to 270	°C
Front Temperature	270 to 280	°C
Nozzle Temperature	260 to 290	°C
Processing (Melt) Temp	280	°C
Mold Temperature	120 to 140	°C
Injection Pressure	50.0 to 150	MPa

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Injection

Dry Unit

Injection Rate	Fast
Holding Pressure	75.0 MPa
Back Pressure	0.00 to 1.00 MPa
Screw L/D Ratio	15.0:1.0 to 20.0:1.0

Injection Notes

Injection time: 0.5 to 2.5 sec

Holding time: 3e sec

Cooling time: $2.5e^2$ sec

(e= wall thickness in mm)

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

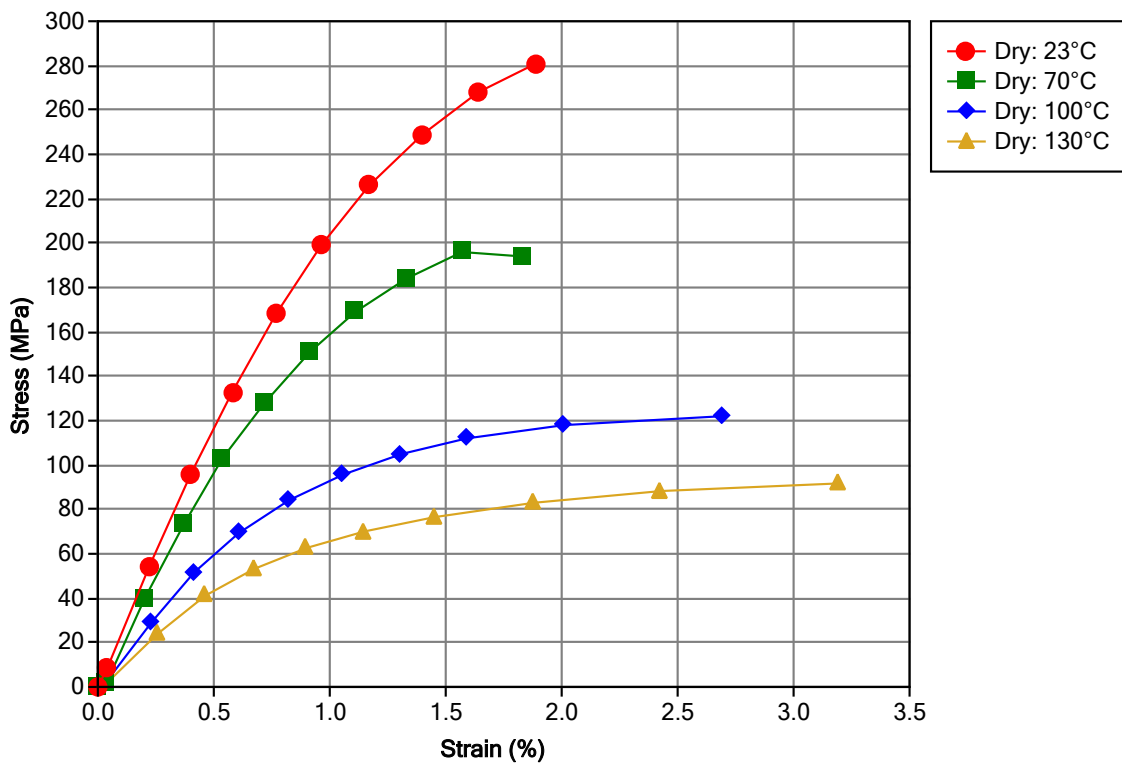
Ixef 1032 compound can be readily injection molded in most screw injection molding machines. A general purpose screw is recommended, with minimum back pressure.

The measured melt temperature should be about 280°C (536°F), and the barrel temperatures should be around 250 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).

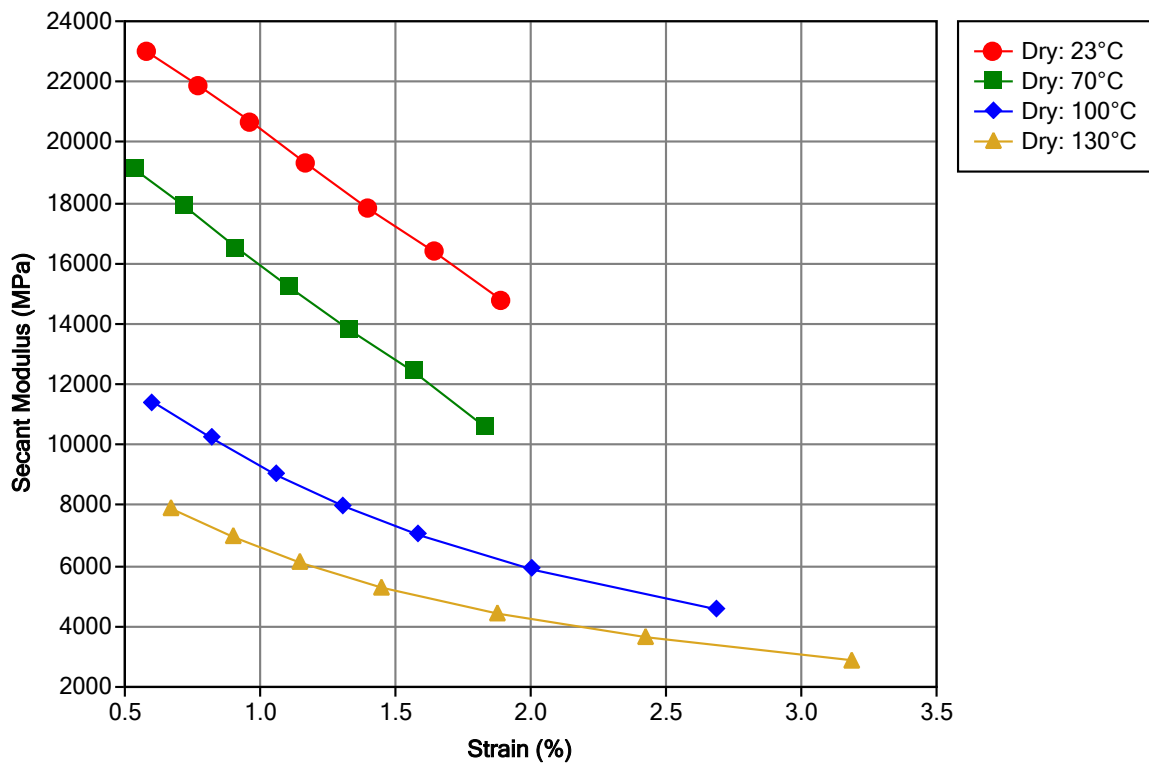
To maximize crystallinity, the temperature of the mold cavity surface must be held between 120°C and 140°C (248°F and 284°F). Molding at lower temperatures will produce articles that may warp, have poor surface appearance, and have a greater tendency to creep.

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%).

Isothermal Stress vs. Strain (ISO 11403)



Secant Modulus vs. Strain (ISO 11403)



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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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