

Ixef® 5002

polyarylamide

Ixef® 5002 is a 20% glass-fiber reinforced, PTFE modified polyarylamide which exhibits very good mechanical performance, very good surface gloss, and superior wear properties.

- Natural: Ixef® 5002/0085
- Custom Colorable

General

Material Status	• Limited Distribution		
Availability	• Africa & Middle East • Asia Pacific	• Europe • North America	• South America
Filler / Reinforcement	• Glass\PTFE, 20% Filler by Weight		
Features	• Good Chemical Resistance • Good Creep Resistance • Good Dimensional Stability • Good Wear Resistance	• High Flow • High Stiffness • High Strength • Low Friction	• Low Moisture Absorption • Outstanding Surface Finish
Uses	• Appliance Components • Appliances • Automotive Applications • Automotive Electronics • Bushings • Business Equipment	• Cams • Cell Phones • Electrical Housing • Electrical/Electronic Applications • Furniture • Gears	• Industrial Applications • Lawn and Garden Equipment • Machine/Mechanical Parts • Metal Replacement • Power/Other Tools
RoHS Compliance	• RoHS Compliant		
Appearance	• Colors Available	• Natural Color	
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical

	Typical Value	Unit	Test method
Density	1.51	g/cm ³	ISO 1183
Molding Shrinkage	0.20 to 0.40	%	Internal Method
Water Absorption (23°C, 24 hr)	0.22	%	ISO 62
Moisture Absorption - Equil, 65% RH	1.8	%	Internal Method

Mechanical

	Typical Value	Unit	Test method
Tensile Modulus	10000	MPa	ISO 527-2
Tensile Stress (Break)	135	MPa	ISO 527-2
Tensile Strain (Break)	2.2	%	ISO 527-2
Flexural Modulus	8000	MPa	ISO 178
Flexural Strength	215	MPa	ISO 178

Impact

	Typical Value	Unit	Test method
Notched Izod Impact	60	J/m	ASTM D256
Unnotched Izod Impact	370	J/m	ASTM D256

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Thermal	Typical Value	Unit	Test method
Heat Deflection Temperature 1.8 MPa, Unannealed	220	°C	ISO 75-2/A
CLTE - Flow	0.000029	cm/cm/°C	ISO 11359-2

Electrical	Typical Value	Unit	Test method
Volume Resistivity	1.0E+15	ohm-cm	IEC 60093
Electric Strength	28	kV/mm	IEC 60243-1
Dielectric Constant (110 Hz)	3.90		IEC 60250
Dissipation Factor (110 Hz)	0.015		IEC 60250
Comparative Tracking Index	600	V	IEC 60112

Flammability	Typical Value	Unit	Test method
Oxygen Index	23	%	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 Notes

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

Injection Pressure: rapid

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 5002 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%).

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Notes

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

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