



# 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

### General

Material Status	<ul style="list-style-type: none"> <li>• Commercial: Active</li> </ul>	
Availability	<ul style="list-style-type: none"> <li>• Africa &amp; Middle East</li> <li>• Asia Pacific</li> <li>• Europe</li> </ul>	<ul style="list-style-type: none"> <li>• Latin America</li> <li>• North America</li> </ul>
Filler / Reinforcement	<ul style="list-style-type: none"> <li>• Glass Fiber, 50% Filler by Weight</li> </ul>	
Additive	<ul style="list-style-type: none"> <li>• Heat Stabilizer</li> </ul>	
Features	<ul style="list-style-type: none"> <li>• Chemical Resistant</li> <li>• Creep Resistant</li> <li>• Good Dimensional Stability</li> <li>• Heat Stabilized</li> <li>• High Flow</li> </ul>	<ul style="list-style-type: none"> <li>• High Strength</li> <li>• Low Moisture Absorption</li> <li>• Outstanding Surface Finish</li> <li>• Ultra High Stiffness</li> </ul>
Uses	<ul style="list-style-type: none"> <li>• Appliance Components</li> <li>• Appliances</li> <li>• Automotive Applications</li> <li>• Business Equipment</li> <li>• Furniture</li> <li>• Gears</li> </ul>	<ul style="list-style-type: none"> <li>• Industrial Applications</li> <li>• Lawn and Garden Equipment</li> <li>• Machine/Mechanical Parts</li> <li>• Metal Replacement</li> <li>• Power/Other Tools</li> </ul>
RoHS Compliance	<ul style="list-style-type: none"> <li>• RoHS Compliant</li> </ul>	
Automotive Specifications	<ul style="list-style-type: none"> <li>• GM GM7001M PAMXD6(A4,A22,A42,A64,BA651,G30,MS1650,NS335) Color: 9000 Black</li> </ul>	
Appearance	<ul style="list-style-type: none"> <li>• Black</li> </ul>	
Forms	<ul style="list-style-type: none"> <li>• Pellets</li> </ul>	
Processing Method	<ul style="list-style-type: none"> <li>• Injection Molding</li> </ul>	

Physical	Typical Value	Unit	Test method
Density	1.64	g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage	0.10 to 0.30	%	Internal Method
Water Absorption (24 hr, 23°C)	0.16	%	ISO 62
Moisture Absorption - Equil, 65% RH	1.5	%	Internal Method

Mechanical	Typical Value	Unit	Test method
Tensile Modulus	20000	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	235	MPa	ISO 527-2
Tensile Strain (Break)	1.8	%	ISO 527-2
Flexural Modulus	18500	MPa	ISO 178
Flexural Stress (23°C)	360	MPa	ISO 178

# Ixef® 1027

polyarylamide

---

Impact	Typical Value	Unit	Test method
Notched Izod Impact	90	J/m	ASTM D256
Unnotched Izod Impact	720	J/m	ASTM D4812

Thermal	Typical Value	Unit	Test method
Heat Deflection Temperature 1.8 MPa, Annealed	220	°C	ISO 75-2/A
CLTE - Flow	1.7E-5	cm/cm/°C	ISO 11359-2

Electrical	Typical Value	Unit	Test method
Volume Resistivity	1.0E+13	ohms·cm	IEC 60093
Electric Strength	28	kV/mm	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 <sup>1</sup>	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

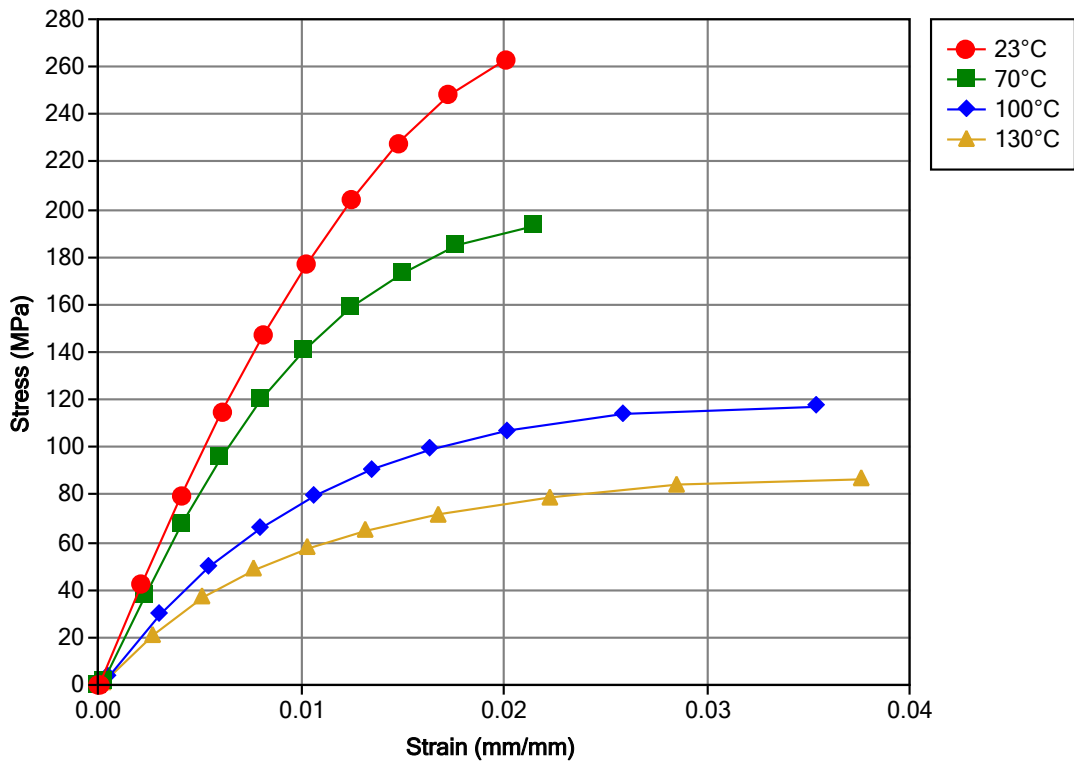
IXEF 1027 compound can be readily injection molded in most screw injection molding machines. A general purpose screw is recommended, with minimum back pressure.

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).

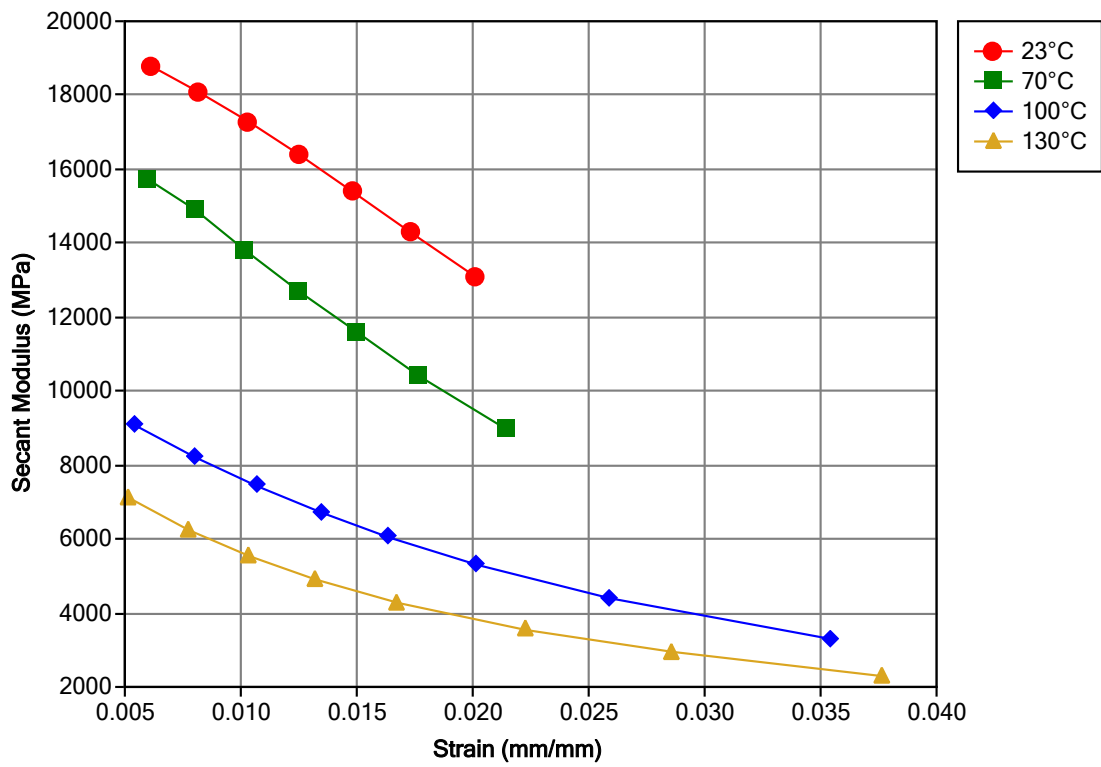
To maximize crystallinity, the temperature of the mold cavity surface must be held between 120°C and 140°C (248°F and 284°F). Molding at lower temperatures will produce articles that may warp, have poor surface appearance, and have a greater tendency to creep. Set injection pressure to give rapid injection.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

---

Isothermal Stress vs. Strain (ISO 11403-1)



Secant Modulus vs. Strain (ISO 11403-1)



## Notes

---

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

<sup>1</sup> These flammability ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions.



Progress beyond

**[www.solvay.com](http://www.solvay.com)**

[SpecialtyPolymers.EMEA@solvay.com](mailto:SpecialtyPolymers.EMEA@solvay.com) | Europe, Middle East and Africa

[SpecialtyPolymers.Americas@solvay.com](mailto:SpecialtyPolymers.Americas@solvay.com) | Americas

[SpecialtyPolymers.Asia@solvay.com](mailto:SpecialtyPolymers.Asia@solvay.com) | Asia and Australia

Safety Data Sheets (SDS) are available by emailing us or contacting your sales representative. Always consult the appropriate SDS before using any of our products.

Neither Solvay Specialty Polymers nor any of its affiliates makes any warranty, express or implied, including merchantability or fitness for use, or accepts any liability in connection with this product, related information or its use. Some applications of which Solvay's products may be proposed to be used are regulated or restricted by applicable laws and regulations or by national or international standards and in some cases by Solvay's recommendation, including applications of food/feed, water treatment, medical, pharmaceuticals, and personal care. Only products designated as part of the Solviva® family of biomaterials may be considered as candidates for use in implantable medical devices. The user alone must finally determine suitability of any information or products for any contemplated use in compliance with applicable law, the manner of use and whether any patents are infringed. The information and the products are for use by technically skilled persons at their own discretion and risk and does not relate to the use of this product in combination with any other substance or any other process. This is not a license under any patent or other proprietary right.

All trademarks and registered trademarks are property of the companies that comprise the Solvay Group or their respective owners.

© 2021 Solvay Specialty Polymers. All rights reserved.