

Ixef® GS-1022

Polyarylamide
Solvay Specialty Polymers

Message:

Ixef® GS-1022 is a 50% glass-fiber reinforced grade of polyarylamide (PARA) available in several colors. Parts molded from these colored resins can withstand high-energy gamma radiation without significant change in appearance and physical properties. Ixef® GS-1022 resins demonstrate no evidence of cytotoxicity, sensitization, intracutaneous reactivity or acute systemic toxicity, based on biocompatibility testing as defined by ISO 10993-1. This resin offers superior strength and stiffness combined with outstanding surface gloss and exceptional flow and is well suited for medical applications, such as single use surgical instruments and structural device housings, and applications in food service equipment.

- Colors available:
- Brown: GS-1022 BN01
 - Blue: GS-1022 BU01
 - Green: GS-1022 GN01
 - Grey: GS-1022 GY01
 - Grey: GS-1022 GY02
 - Grey: GS-1022 GY51
 - White: GS-1022 WH01

General Information	
Filler / Reinforcement	Glass fiber reinforced material, 50% filler by weight
Additive	Gamma stabilizer
Features	Super rigidity
	Good dimensional stability
	Excellent appearance
	Low hygroscopicity
	Electron beam disinfection
	Radioactive permeable
	Radiation disinfection
	High strength
	Good disinfection
	Ethylene oxide disinfection
	Anti-gamma radiation
	Good creep resistance
	High liquidity
	Good chemical resistance
	Biocompatibility
Uses	Surgical instruments
	Dental application field
	Medical/nursing supplies
	Medical equipment
	Medical devices
Agency Ratings	ISO 10993

RoHS Compliance	Contact manufacturer		
Appearance	Available colors		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.78	g/cm ³	ISO 1183
Molding Shrinkage	0.10 - 0.30	%	ISO 294-4
Water Absorption (23°C, 24 hr)	0.16	%	ISO 62
Water absorption-Equil, 65% RH	1.5	%	Internal method
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	22000	MPa	ISO 527-2
Tensile Stress (Break)	265	MPa	ISO 527-2
Tensile Strain (Break)	1.8	%	ISO 527-2
Flexural Modulus	22000	MPa	ISO 178
Flexural Stress	380	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Unnotched Izod Impact Strength	50	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	230	°C	ISO 75-2/A
CLTE - Flow	1.5E-5	cm/cm/°C	ISO 11359-2
Additional Information			
Property values for individual batches will vary within specification limits. Values shown are typical of Ixef GS-1022/WH01 resin; other colorants may alter values. There will be a shift in color when comparing pre-gamma sterilization and postgamma sterilization colors. It is also expected that the colors will revert to some degree, back toward the as-molded color. Lighter colors may display the greatest variation.			
Injection	Nominal Value	Unit	
Drying Temperature	120	°C	
Drying Time	0.50 - 1.5	hr	
Rear Temperature	250 - 260	°C	
Front Temperature	260 - 290	°C	
Nozzle Temperature	260 - 290	°C	
Processing (Melt) Temp	280	°C	
Mold Temperature	120 - 140	°C	
Injection Rate	Fast		
Injection instructions			

Hot runners: 250° to 260°C (482° 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.

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