

Solvay Specialty Polymers Ixef® 1521 Polyarylamide (PARA) (Unverified Data**)

Category : Polymer , Thermoplastic , Polyarylamide (PAA) , Polyarylamide, Glass Fiber Filled

Material Notes:

Ixef 1521 is a 50% glass-fiber reinforced, flame retardant polyarylamide which exhibits high strength and stiffness, outstanding surface gloss, and excellent creep resistance. - Natural: Ixef 1521/0008 - Black: Ixef 1521/9008 - Custom Colorable
Injection Notes: Hot Runners: 250°C to 260°C (482°F to 500°F) 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 1521 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 270°C (518°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 280°C (500°F to 536°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%). Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Ixef-1521-Polyarylamide-PARA-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.75 g/cc	0.0632 lb/in ³	ISO 1183
Filler Content	50 %	50 %	Glass Fiber Reinforcement
Water Absorption	0.15 % @Temperature 23.0 °C, Time 86400 sec	0.15 % @Temperature 73.4 °F, Time 24.0 hour	ISO 62
Moisture Absorption at Equilibrium	1.3 %	1.3 %	65% RH; Internal Method
Linear Mold Shrinkage	0.0010 - 0.0030 cm/cm	0.0010 - 0.0030 in/in	Internal Method

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	230 MPa	33400 psi	ISO 527-2
Elongation at Break	1.9 %	1.9 %	ISO 527-2
Tensile Modulus	20.0 GPa	2900 ksi	ISO 527-2
Flexural Strength	340 MPa @Temperature 23.0 °C	49300 psi @Temperature 73.4 °F	ISO 178

Flexural Modulus Mechanical Properties	20.0 GPa Metric	2900 ksi English	ISO 178 Comments
Izod Impact, Notched	0.950 J/cm	1.78 ft-lb/in	ASTM D256
	7.00 J/cm	13.1 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	17.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	9.44 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359-2
Deflection Temperature at 1.8 MPa (264 psi)	230 $^\circ\text{C}$	446 $^\circ\text{F}$	Unannealed; ISO 75-2/A
Flammability, UL94	V-0	V-0	Black; UL 94
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	V-0	V-0	All Colors; UL 94
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	5VA	5VA	Black; UL 94
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Oxygen Index	32 %	32 %	ISO 4589-2
Glow Wire Test	900 $^\circ\text{C}$	1650 $^\circ\text{F}$	Glow Wire Ignition Temperature; IEC 60695-2-13
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	900 $^\circ\text{C}$	1650 $^\circ\text{F}$	Glow Wire Ignition Temperature; IEC 60695-2-13
	@Thickness 3.00 mm	@Thickness 0.118 in	
	930 $^\circ\text{C}$	1710 $^\circ\text{F}$	Glow Wire Ignition Temperature; IEC 60695-2-13
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	960 $^\circ\text{C}$	1760 $^\circ\text{F}$	Glow Wire Flammability Index; IEC 60695-2-12
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	960 $^\circ\text{C}$	1760 $^\circ\text{F}$	Glow Wire Flammability Index; IEC 60695-2-12
	@Thickness 3.00 mm	@Thickness 0.118 in	
	960 $^\circ\text{C}$	1760 $^\circ\text{F}$	Glow Wire Flammability Index; IEC 60695-2-12
	@Thickness 0.800 mm	@Thickness 0.0315 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00\text{e}+13$ ohm-cm	$\geq 1.00\text{e}+13$ ohm-cm	IEC 60093
Dielectric Constant	4.1	4.1	IEC 60250
	@Frequency 110 Hz	@Frequency 110 Hz	

Electrical Properties	Metric ¹ /mm	English ⁱⁿ	Comments
Dissipation Factor	0.012 @Frequency 110 Hz	0.012 @Frequency 110 Hz	IEC 60250
Comparative Tracking Index	400 V	400 V	IEC 60112

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	250 - 260 °C	482 - 500 °F	
Front Barrel Temperature	260 - 290 °C	500 - 554 °F	
Melt Temperature	270 °C	518 °F	
Mold Temperature	120 - 140 °C	248 - 284 °F	
Drying Temperature	120 °C	248 °F	
Dry Time	0.500 - 1.50 hour	0.500 - 1.50 hour	

Descriptive Properties	Value	Comments
Additive	Flame Retardant	
Agency Ratings	FAA FAR 25.853a	
Appearance	Black	
	Colors Available	
	Natural Color	
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
Features	Flame Retardant	
	Good Chemical Resistance	
	Good Creep Resistance	
	Good Dimensional Stability	
	High Flow	

Descriptive Properties	High Strength Value	Comments
	Low Moisture Absorption	
	Outstanding Surface Finish	
	Ultra High Stiffness	
Forms	Pellets	
Generic	PARA	
Injection Rate	Fast	
Processing Method	Injection Molding	
RoHS Compliance	RoHS Compliant	
Uses	Aircraft Applications	
	Appliance Components	
	Appliances	
	Automotive Applications	
	Automotive Electronics	
	Automotive Under the Hood	
	Bushings	
	Business Equipment	
	Camera Applications	
	Furniture	
	Gears	
	Industrial Applications	
	Lawn and Garden Equipment	
	Machine/Mechanical Parts	
	Metal Replacement	
	Power/Other Tools	

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