

Ixef® 1524

polyarylamide

Ixef® 1524 is a 50% glass-fiber reinforced, halogen-free flame retardant polyarylamide which exhibits high strength and stiffness, good surface gloss, and excellent creep resistance.

- Natural: Ixef® 1524/0008
- Black: Ixef® 1524/9008
- Custom Colorable

General

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass Fiber, 50% Filler by Weight	
Additive	• Flame Retardant	
Features	• Bromine Free • Chemical Resistant • Creep Resistant • Flame Retardant • Good Dimensional Stability • Halogen Free	• High Flow • High Strength • Low Moisture Absorption • Outstanding Surface Finish • Ultra High Stiffness
Uses	• Cell Phones • Electrical/Electronic Applications	• Housings
RoHS Compliance	• RoHS Compliant	
Appearance	• Black	• Colors Available
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Dry	Conditioned Unit	Test method
Density	1.68	-- g/cm ³	ISO 1183
Molding Shrinkage - Flow	0.10 to 0.30	-- %	Internal Method
Water Absorption			
24 hr, 23°C	0.30	-- %	ISO 62
Equilibrium, 50% RH	1.0	-- %	Internal Method
Equilibrium, 65% RH	1.3	-- %	Internal Method

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Mechanical	Dry	Conditioned	Unit	Test method
Tensile Modulus	20000	--	MPa	ISO 527-1
Tensile Stress (Yield)	230	--	MPa	ISO 527-2
Tensile Strain (Break)	1.9	--	%	ISO 527-2
Flexural Modulus	18500	15500	MPa	ISO 178
Flexural Stress	330	240	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test method
Charpy Notched Impact Strength	9.3	--	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength	48	--	kJ/m ²	ISO 179/1eU
Thermal	Dry	Conditioned	Unit	Test method
Deflection Temperature Under Load 1.8 MPa, Unannealed	227	--	°C	ISO 75-2/A
Electrical	Dry	Conditioned	Unit	Test method
Dielectric Constant ¹ (2.40 GHz)	4.44	--		ASTM D2520
Dissipation Factor ¹ (2.40 GHz)	0.012	--		ASTM D2520
Comparative Tracking Index (CTI) (3.00 mm)	> 600	--	V	UL 746A
Comparative Tracking Index (CTI) (3.00 mm)	PLC 0	--		UL 746A
Comparative Tracking Index	> 600	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746A
0.400 mm	37.6	--		
0.750 mm	53.6	--		
1.50 mm	70.2	--		
3.00 mm	95.4	--		
High Amp Arc Ignition (HAI)				UL 746A
0.40 mm	PLC 2	--		
0.75 mm	PLC 2	--		
1.5 mm	PLC 1	--		
3.0 mm	PLC 1	--		
High Voltage Arc Resistance to Ignition (HVAR)				UL 746A
3.00 mm	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR)				UL 746A
3.00 mm	PLC 0	--		
Hot-wire Ignition (HWI)				UL 746A
0.400 mm	95	--	sec	
0.750 mm	> 120	--	sec	
1.50 mm	> 120	--	sec	
3.00 mm	> 120	--	sec	

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Electrical	Dry	Conditioned	Unit	Test method
Hot-wire Ignition (HWI)				UL 746A
0.40 mm	PLC 1	--		
0.75 mm	PLC 0	--		
1.5 mm	PLC 0	--		
3.0 mm	PLC 0	--		

Flammability	Dry	Conditioned	Unit	Test method
Flame Rating ² (0.40 mm, ALL)	V-0	--		UL 94
Glow Wire Ignition Temperature				IEC
0.40 mm	775	--	°C	60695-2-13
0.75 mm	800	--	°C	
1.5 mm	825	--	°C	
3.0 mm	850	--	°C	
Oxygen Index	37	--	%	ISO 4589-2

Injection	Dry	Unit
Drying Temperature	100	°C
Drying Time	1.0 to 3.0	hr
Rear Temperature	250 to 260	°C
Front Temperature	260 to 290	°C
Processing (Melt) Temp	280	°C
Mold Temperature	120 to 140	°C

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Injection Notes

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

Injection Pressure: rapid

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

This resin should be dried to a target moisture content of less than 0.10%. When using a desiccant air dryer with dew point of -28°C (-18°F) or lower, these guidelines can be followed: 1-2 hours at 120°C (248°F), 2-4 hours at 100°C (212°F), or 2-8 hours at 80°C (176°F).

Injection Molding

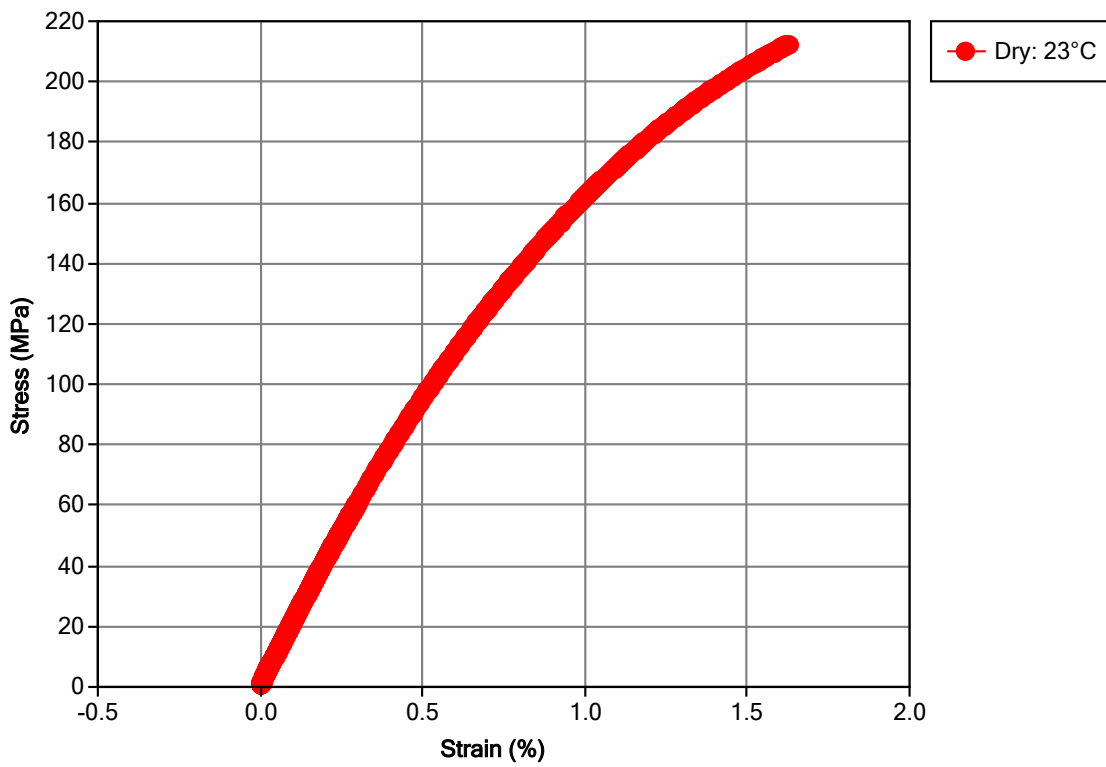
IXEF 1524 compound can be readily injection molded in most screw injection molding machines. A general purpose screw is recommended, with minimum back pressure.

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 275°C (500°F to 527°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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Isothermal Stress vs. Strain (ISO 11403)



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Notes

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

¹ Method B

² These flammability ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions.



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