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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.

- 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 • Flame Retardant • Good Chemical Resistance • Good Creep Resistance	• 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/cm³	ISO 1183
Molding Shrinkage - Flow	0.10 to 0.30	--	%	Internal Method
Water Absorption				
23°C, 24 hr	0.30	--	%	ISO 62
Equilibrium, 50% RH	1.0	--	%	Internal Method
Equilibrium, 65% RH	1.3	--	%	Internal Method

Mechanical	Dry	Conditioned	Unit	Test method
Tensile Modulus	20000	--	MPa	ISO 527-2
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/m²	ISO 179/1eA
Charpy Unnotched Impact Strength	48	--	kJ/m²	ISO 179/1eU

Thermal	Dry	Conditioned	Unit	Test method
Heat Deflection Temperature				ISO 75-2/A
1.8 MPa, Unannealed	227	--	°C	

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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 746
Comparative Tracking Index (CTI) (3.00 mm)	PLC 0	--		UL 746
Comparative Tracking Index	> 600	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746
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 746
0.400 mm	PLC 2	--		
0.750 mm	PLC 2	--		
1.50 mm	PLC 1	--		
3.00 mm	PLC 1	--		
High Voltage Arc Resistance to Ignition (HVAR)				UL 746
3.00 mm	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR)				UL 746
3.00 mm	PLC 0	--		
Hot-wire Ignition (HWI)				UL 746
0.400 mm	95	--	sec	
0.750 mm	> 120	--	sec	
1.50 mm	> 120	--	sec	
3.00 mm	> 120	--	sec	
Hot-wire Ignition (HWI)				UL 746
0.400 mm	PLC 1	--		
0.750 mm	PLC 0	--		
1.50 mm	PLC 0	--		
3.00 mm	PLC 0	--		

Flammability	Dry	Conditioned	Unit	Test method
Flame Rating [2] (0.400 mm, ALL)	V-0	--		UL 94
Glow Wire Ignition Temperature				IEC 60695-2-13
0.400 mm	775	--	°C	
0.750 mm	800	--	°C	
1.50 mm	825	--	°C	
3.00 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

Injection	Dry	Unit
Mold Temperature	120 to 140	°C

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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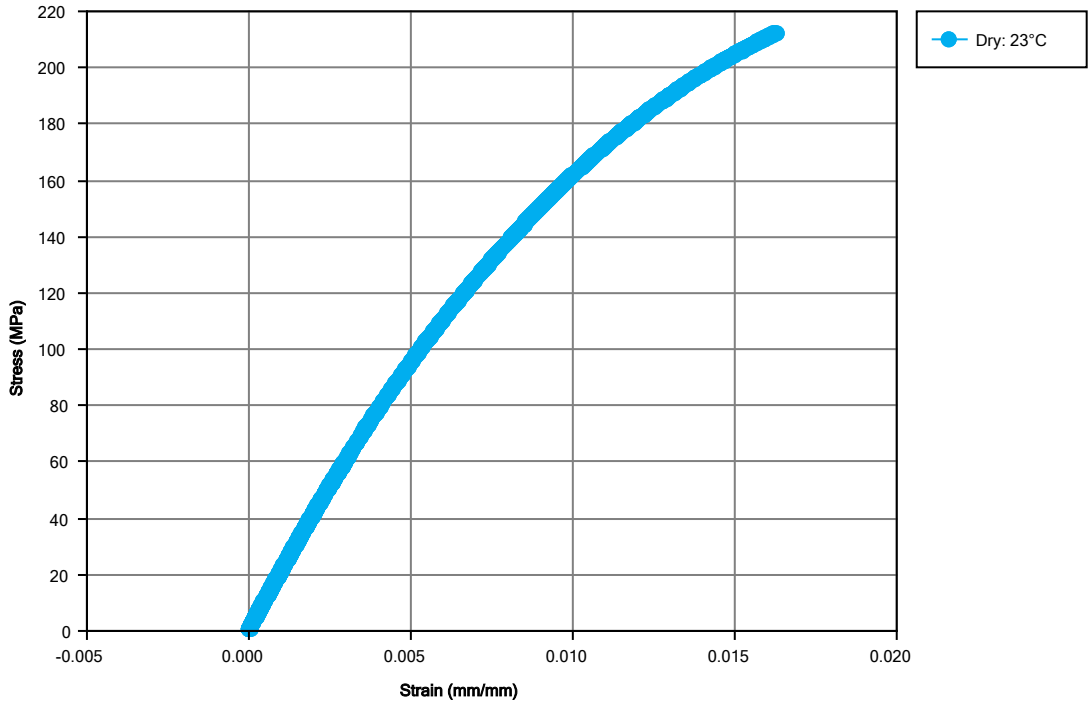
Isothermal Stress vs. Strain (ISO 11403-1)



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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