Ixef® BM-1524

polyarylamide

Ixef® BM-1524 is a 50% glass-fiber reinforced, halogen-free flame retardant polyarylamide developed for aircraft cabin interior applications that require high strength and stiffness, good surface finish, low moisture absorption, and excellent chemical and creep resistance.

This product is qualified under Boeing BMS8-270 Rev. L, Type I, Class 6, Form B, Grade 50 and meets the FAA 60-second vertical burn requirements per 14 CFR 25.853 Appendix F and toxic gas emission requirements per BSS7239 and ABD0031.

- Natural: Ixef® BM-1524 NT 000

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	• Colors Available	• Natural Color
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Typical Value	Unit	Test method
Density	1.69	g/cm³	ISO 1183
Water Absorption (Equilibrium)	0.28	%	ISO 62
Mold Shrinkage - Flow	0.10 to 0.30	%	Internal Method

Mechanical	Typical Value	Unit	Test method
Tensile Modulus	20000	MPa	ISO 527-2
Tensile Strength (Yield)	248	MPa	ASTM D638
Tensile Elongation (Break)	2.3	%	ASTM D638
Flexural Modulus	19300	MPa	ASTM D790
Flexural Strength (Yield)	376	MPa	ASTM D790
Compressive Modulus	16500	MPa	ASTM D695
Compressive Strength	328	MPa	ASTM D695

Impact	Typical Value	Unit	Test method
Notched Izod Impact	120	J/m	ASTM D256

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

Electrical	Typical Value	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	> 600	V	IEC 60112
Comparative Tracking Index	PLC 0		UL 746
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
0.40 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 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
0.40 mm	PLC 1		
0.75 mm	PLC 0		
1.5 mm	PLC 0		
3.0 mm	PLC 0		

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

Flammability	Typical Value	Unit	Test method
Toxic Gas Emissions			BSS 7239/ATS 1000/ABD 0031
CO	100	ppm	
HCL	< 1	ppm	
HCN	15	ppm	
HF	< 1	ppm	
NO + NO2	< 1	ppm	
SO2	< 1	ppm	
Vertical Burn - 60 second [3] (8.89 cm)	5.0	sec	DMS 1510

Injection	Typical Value	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

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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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.

[3] DMS 1510/14 CFR 25.853 Appendix F Part 1, (a), 1, (i)

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