AZDEL Composite & Material Solutions

Product Datasheet

Product : Aero-Lite® **Grade :** ALSTDA.1501BG

Status[7] **:** Development **Revision :** 1 **Date :** 9-Jan-2008

General Description

AZDEL Aero-Lite ALSTDA.1501BG is a thermoformable, thermoplastic composite sheet comprised of polyetherimide and chopped glass-fiber core, combined with an aramid scrim attached to one surface. This material is typically used as a substrate in semi-structural applications where a very high strength-to-weight ratio is required, such as in airplane interior sidewalls and ceiling tiles.

Construction Code	Surface A	Surface B
BG	Bare surface	Aramid Scrim

Typical Properties[1] - Independent of Molded Thickness

Property	Test Method	Unit	Target Value
Basis Weight (mass-per-unit-area)			
- Low density Core	ASTM D-3776	g/m²	1500
- Total (including film and scrim)	ASTM D-3776	g/m²	1550
Sheet Thickness (as produced)		mm	
Free-Loft ratio[2] (maximum, when heated to 205ºC)	Internal		
Color			
- Low Density Core	Visual		Natural
- PET Scrim	Visual		Yellow
- Adhesive Film	Visual		
Flammability			
- Maximum Burn Rate	FMVSS-302	mm/min.	
- Self-extinguishing?			
Fogging (Haze) - Minimum Fog Number	SAE J1756		
Odor - Maximum Number (using 1-Liter Glass Jars)	SAE J1351		
Maximum in-use operating temperature[3]		ºC	

Typical Properties[1] - Dependent on Molded Thickness

Property	Test Method	Unit	Molded Thickness (mm)		
			1.5		
Specific Gravity	ASTM D-3574				
MD[4] Flex. Slope	ISO 178	N	73.00		
TD[5] Flex. Slope	ISO 178	N	41.00		
MD Flex. Peak Load	ISO 178	N	52.00		
TD Flex. Peak Load	ISO 178	N	30.00		
Average Flex. Peak Load	ISO 178	N			
MD/TD Peak Load Ratio	ISO 178		1.70		
Toughness	ISO 178				

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Typical Properties[1] - Dependent on Molded Thickness (cont'd)

Property	Test Method	Unit	Molded Thickness (mm)		
			1.5		
Dynatup Impact		J			
Air Permeability	ASTM C-522	cfm			
Acoustics (with Fabric[6])					
- Sound Absorption Coef.	SAE J1400	@ 500 Hz			
- Sound Absorption Coef.	SAE J1400	@ 1000 Hz			
- Sound Absorption Coef.	SAE J1400	@ 2000 Hz			
- Sound Absorption Coef.	SAE J1400	@ 4000 Hz			
Peal Test					
- Surface A					
- Surface B					

Notes

1. Measured on flat plaques.
2. The free-loft ratio is the ratio of original, as produced, sheet thickness versus the lofted sheet thickness when heated to 205ºC and not molded.
3. The maximum in-use temperature is typically driven by the adhesion of surface skins to the low density core, or by the de-bonding temperature of the adhesive film.
4. MD = Properties measured in the as manufactured Machine Direction.
5. TD = Properties measured perpendicular to the as manufactured Machine Direction (i.e.; Transverse.)
6. A typical automotive fabric and foam are used for the acoustical evaluation. Please contact your AZDEL representative if you want your own cover-stock tested with this product.
7. The final properties of this Product have not been determined, nor has its suitability for any particular application. Data provided in this datasheet is limited and preliminary and may change with the further development of the Product. AZDEL may not yet have experience in manufacturing commercial amounts of this Product. Therefore, AZDEL cannot guarantee that it will make commercial amounts of this Product to meet any product requirements, such as construction, mechanical properties or any other material property. Furthermore, AZDEL cannot make a commitment to the outcome or timing of any material regulatory compliance or agency listing status relating to this Product. Product nomenclature for this Product can, and probably will, change when it becomes commercially available.

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