BA 8983

ULA #0-06095-3

VDA / 50 GA POLYIMIDE / FIBERGLASS 116



Description:

BA 8983 is a 50-gauge polyimide film aluminized on one side and reinforced on the other side with 116 glass fabric, provided to ULA Spec 0-06095-3. It is used as an inner layer on MLI blankets to resist tearing from handling or contact with the spacecraft bus, complies with ASTM D-5213 and comes in a standard 48 in (1.22 m) width. It has more than 45 lb/in warp tensile strength and an emittance of 0.04 or less on the VDA side.

Features & Benefits:

- Excellent physical, thermal, electrical and optical properties: emittance ≤ 0.04 (VDA side), ≥ 0.80 (fiberglass side)
- Outgassing TML < 1.0%, CVCM < 0.1% (ASTM E595)
- Continuous -300 to 400 °F, intermittent -420 to 600 °F
- Shelf life 12 months from manufacture (65 °F ±15 °F, 50% RH ±10%)

Applications:

Inner layer on MLI blankets

Tear resistance against handling and contact with the spacecraft bus

Construction/ Typical Properties	Value		Test Method
Metallization Type:	99.99% Pure Aluminum		
Metallization Deposition:	300 Å Minimum		
Electrical Resistance:	≤ 1.0 Ohms/square		ASTM D257
Optical Emittance:	VDA Side: ≤ 0.04 Fiberglass Side: ≥ 0.80		ASTM E408
Optical Absorptance:	VDA Side: ≤ 0.14 Fiberglass Side: ≤ 0.35		ASTM E903/ASTM E490
Outgassing:	TML - WVR < 1.0%; CVCM < 0.1%.		ASTM E595
Shelf Life:	This product shall meet the above specified values for no less than 12 months from the date of manufacture, provided the material is sealed/stored in the original packaging materials @ 19°C +/- 9°C (65°F +/- 15°F) in 50% RH +/- 10%.		
	Imperial	Metric	
116 Glass Thickness:	3 mil	76.2 µm	
Film Thickness:	0.5 mil	12.7 µm	ASTM D1000
Total Thickness:	<5.8 mil	<147.3 µm	FROM SPEC 3.1.3.2
Tensile Strength:	Warp: >45 lb/in Fill: >35 lb/in	Warp: >78.8 N/cm Fill: >61.2 N/cm	ASTM D882A
Interply Adhesion:	>1.0 lb/in	> 1.75 N/cm	ASTM D903
Weight:	4.5 oz/sy	<153 g/m2	FROM SPEC 3.1.3.3
Thermal Intermittent:	-420°F to 600°F	-250°C to 315°C	
Thermal Continuous:	-300°F to 400°F	-150°C to 200°C	

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Last Updated: 10/4/2026