Gillfab™ 1367 Laminate

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Description

Gillfab 1367 is a very high impact resistant, low smoke and toxicity, fiberglass reinforced phenolic laminate.

Applications

Aircraft cargo compartment liner.

Features

- High mechanical strength, puncture resistance and corrosion resistance.
- Service temperature range: To 220F.
- White Tedlar overlay on face side for surface reflectivity.

Specifications

- Boeing BMS 8-223 Cl 2 Gr B, all types
- McDonnell Douglas specification DMS 2419 Ty 50-90
- LAC-C-22-1249 Cl 3
- FAR Part 25 Appendix F Parts I and III (Burn Through)
- ATS 1000.001.

Availability

Thickness:	.013", .020", .030", .040", .050" and .070"
Length:	Up to 168". Also available in rolls up to 150' (if .040" or thinner and 60" or narrower).
Width:	Up to 72". Also available in rolls up to 150' (if .040" or thinner and 60" or narrower).
Color:	White on face side, amber on back side.

Construction

Resin: Modified phenolic.
Reinforcement: Woven glass cloth.
Surface: 1 mil Tedlar overlay.

Standard Tolerances

Thickness:	+/-.003" (.013" and .020"); all other ± 10%
Length:	+ 0.5", - 0"
Width:	+ 0.5", - 0"
Warp Twist:	3% of dimension measured

Alternative Gill Products

Product Number	Difference
Gilliner 1367B	Equivalent mechanical properties with 20-25% weight savings over 1367/1367A. Qualified to BMS 8-223 Cl 4 Gr A.
Gillfab 1366	High impact resistant cargo liner. Polyester resin system has higher smoke emission; qualified to Boeing Specification BMS 8-2 Cl 2 Gr B.
Gillfab 1367A	Similar to 1367, but lower impact resistance.
Gillfab 1367C	Same as 1367A but manufactured in roll stock in lengths up to 150' and up to .030" thick

Properties of Gillfab 1367

Typical Average Property Values

Property	Test Method	Unit	Type 13	Type 20
Weight	BMS8-223	lb/sq ft (kg/sq m)	0.121 (.59)	0.195 (0.95)
Thickness	BMS8-223	inch (mm)	0.013 (0.33)	0.021 (0.53)
Water Absorption	FTMS 406-7031	%	.8	1.1
Impact	BMS8-223 TESTER #3	ft-lb (N-m)	11 (14.9)	15 (20.4)
Impact	DMS2419	ft-lb (N-m)	>32 (>43.4)	>40 (>54.3)
Drum Peel Note 1 Warp Fill	BMS8-223	 in-lb (N-m)/3 in width in-lb (N-m)/3 in width	 56 (6.3) --	 55 (6.2) 66 (7.5)
Edge Bearing Warp Fill	BMS8-223	 ksi (MPa) ksi (MPa)	 37 (254) 34 (235)	 39 (268) 36 (249)
Tedlar Peel Warp Fill	BMS8-223	 lb/in (kg/m) lb/in (kg/m)	 3.0 (54) 2.6 (46)	 3.7 (66) 2.7 (48)
Flexural Note 2 Strength Modulus	MIL-STD-401B	 ksi (MPa) msi (GPa)	 NR NR	 27 (184) 2.1 (14.2)
Tensile Note 2 Strength Modulus	DMS 2226	 ksi (MPa) msi (GPa)	 54.5 (375.8) 3.16 (21.8)	 60.6 (417.8) 2.5 (17.2)
Bolted Joint Strength	DMS 2226	lb (N)	103.3 (46.9)	193 (87)
Flammability - 60 Second Vertical Self-Extinguishing Time Burn Length Drip Extinguishing Time	BMS 7230	 second inch (mm) second	 0 2.3 (57) None	 0 2.7 (68) None
Flammability - 45 Degree Self-Extinguishing Time Glow Time Penetration	DMS 1508	 second second ---	 0 1.7 None	 0.5 1.8 None
Smoke Density	ASTM 662	D_s	21.7	35.3
Oil Burner Note 3	FAR 25.855	---	Pass	Pass

Note 1 - On Type 13, drum peel in the fill direction resulted in fabric tearing and no data could be obtained.
Note 2 - Reported only in warp direction.
Note 3 - Test performed by U. S. Testing in accordance with the procedure outlined in Appendix F, Part III of FAR 25.855, "Oil Burner - Burn through Resistance".
NR = No Requirement

Property	Test Method	Unit	Type 30	Type 40
Weight	BMS8-223	lb/sq ft (kg/sq m)	0.293 (1.43)	0.375 (1.83)
Thickness	BMS8-223	inch (mm)	0.031 (0.79)	0.040 (1.02)
Water Absorption	FTMS 406-7031	%	0.9	1.1
Impact	BMS8-223 TESTER #3	ft-lb (N-m)	19 (25.8)	25 (33.9)
Impact	DMS2419	ft-lb (N-m)	>50 (>67.8)	>50 (>67.8)
Drum Peel Warp Fill	BMS8-223	 in-lb (N-m)/3 in width in-lb (N-m)/3 in width	 16 (21.7) 24 (32.6)	 15.7 (21.3) 15.7 (21.3)
Edge Bearing Warp Fill	BMS8-223	 ksi (MPa) ksi (MPa)	 40 (275) 38 (262)	 42 (290) 40 (275)
Flexural Note 1 Strength Modulus	MI-STD-401B	 ksi (MPa) msi (GPa)	 39.1 (267) 2.57 (17.7)	 NR NR
Tedlar Peel Warp Fill	BMS8-223	 lb/in (kg/m) lb/in (kg/m)	 3.2 (57.1) 2.8 (50)	 3.9 (69.6) 4.2 (75.0)
Tensile Note 1 Strength Modulus	DMS 2226	 ksi (MPa) msi (GPa)	 57.9 (399.2) 2.50 (17.2)	 NR NR
Bolted Joint Strength	DMS 2226	lb (N)	286.9 (130.3)	NR
Flammability -60 Second Vertical Self-Extinguishing Time Burn Length Drip Extinguishing Time	BMS 7230	 second inch (mm) second	 0 2.6 (65) None	 0 1.7 (44) None
Flammability - 45 Degree Self-Extinguishing Time Glow Time Penetration	DMS 1508	 second second ---	 0 1.7 None	 0 0 None
Smoke Density	ASTM 662	D_s	31.6	42.8
Oil Burner - Note 2	FAR 25.855	---	Pass	Pass

Note 1 - Reported only in warp direction.
Note 2 - Test performed by U. S. Testing in accordance to the procedure outlined in Appendix F, Part III of FAR 25.855, "Oil Burner - Burn through Resistance".
NR = No Requirement

Property	Test Method	Unit	Type 50	Type 70
Weight, psf	BMS8-223	lb/sq ft (kg/sq m)	0.465 (2.27)	0.658 (3.21)
Thickness, in.	BMS8-223	inch (mm)	0.050 (1.27)	0.065 (1.65)
Water Absorption	FTMS 406-7031	%	1.25	1.0
Impact	BMS8-223 TESTER #3 DMS2419	ft-lb (N-m)	37 (50.165)	47 (63.723)
Edge Bearing Warp Fill	BMS8-223	 ksi (MPa) ksi (MPa)	 42,000 (290) 40,000 (275)	 47,000 (324) 45,000 (310)
Tedlar Peel Warp Fill	BMS8-223	 lb/in (kg/m) lb/in (kg/m)	 0 (0) 0 (0)	 0 (0) 0 (0)
Flammability -60 Second Vertical Self-Extinguishing Time Burn Length Drip Extinguishing Time	BMS 7230	 second inch (mm) second	 3.0 1.6 No Drips	 3.0 1.3 No Drips
Smoke Density	ASTM 662	D_s	45	47
Oil Burner - Note 1	FAR 25.855	---	Pass	Pass

Note 1 - Test performed by SGS/US. Testing in accordance with the procedure outlined in Appendix F, Part III of FAR 25.855, "Oil Burner - Burn through Resistance".

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