



Gillfab™ 1367A Laminate

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Description

Gillfab™ 1367A is a 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 220°F.
- White Tedlar® overlay on face side for surface reflectivity and resistance to cleaning solutions.

Specifications

- Boeing BMS 8-223, Class 2, Grade B, Types 13 through 40
- McDonnell Douglas DMS 2419 Classes 1 and 2, Types 13 through 40
- Airbus 2550 MIM 000800, Airbus Types 1 through 5
- FAR 25.853 and 25.855

Availability

Thickness:	0.013", 0.020", 0.025", 0.030", 0.040", 0.045", 0.060"
Length:	Up to 168". Also available in rolls up to 150' (if .040" or thinner and 60" or narrower).
Width:	Up to 72".
Color:	White Tedlar® on face side, amber on back side; or amber both sides (DMS 2419, Class 2)

Construction

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

Standard Tolerances

Thickness:	+/-0.003" (0.013" and 0.020"); all other \pm 10%
Length:	+ 0.5", - 0"
Width:	+ 0.5", - 0"
Warp Twist:	3% of dimension measured



Alternative M.C. Gill Products

Product Number	Difference
Gillfab 1167 Laminate	Qualified to DMS 2226 Ty 1 Class 1. Similar, but different thickness requirements.
Gillfab 1366 Laminate	High impact resistant cargo liner. Polyester resin system has higher smoke emission; qualified to Boeing Specification BMS 8-2 Cl 2 Gr A.
Gillfab 1367 Laminate	Predecessor to 1367A; similar, qualified to BMS8-223, Types 13 through 70
Gillfab 1367C Laminate	Same as 1367A but manufactured in roll stock in lengths up to 150' and up to .040" thick
Gillfab 1367M	Qualified to BMS8-223, Class 4, Types 13 through 50. Thinner and lower in weight for corresponding types.
Gillfab 1367E	Qualified to BMS8-223, Class 2, Grade A, Types 13 through 70. Tedlar® surface on both sides of laminate. Also available in Types 45, 60, and 90 (these are not specified types in BMS8-223).

Properties of Gillfab™ 1367A Laminate, According to BMS8-223, and DMS 2419 Types 13 and 20 Typical Properties

PROPERTY	UNITS	TEST METHOD	TYPE 13	TYPE 20
Weight	lb/ft ² (kg/m ²)	BMS8-223	0.121 (0.59)	0.195 (0.95)
Thickness	inches (mm)	BMS8-223	0.013 (0.33)	0.021 (0.53)
Water Absorption	%	ASTM D 570	0.8	1.1
Impact Strength	ft-lb (N-m)	BSS7326	11 (14.9)	15 (20.4)
Impact Strength	ft-lb (N-m)	DMS2419	>32 (>43.4)	>40 (>54.3)
Climbing Drum Peel ¹ , Warp Fill	in-lb (N-m)/3 in width	BMS8-223	56 (6.3) ---	55 (6.2) 66 (7.5)
Edge Bearing Strength, Warp Fill	ksi (MPa)	BMS8-223	37 (254) 34 (235)	39 (268) 36 (249)
Tedlar Peel, Warp Fill	lbs./in.	BMS8-223	3.0 (54) 2.6 (46)	3.7 (66) 2.7 (48)
Flexural Strength ² Flexural Modulus	ksi (MPa) msi (GPa)	AMS-STD-401	NR NR	27 (184) 2.1 (14.2)
Tensile Strength ² Tensile Modulus	ksi (MPa) msi (GPa)	DMS 2226	54.5 (375.8) 3.16 (21.8)	60.6 (417.8) 2.5 (17.2)
Bolted Joint Strength	lbs. (N)	DMS 2419	103.3 (46.9)	193 (87)
Flammability -60 Second Vertical Self-Extinguishing Time Burn Length Drip Extinguishing Time	seconds inches (mm) seconds	FAR Part 25, Appendix F, Part I	0 2.3 (57) None	0 2.7 (68) None
Flammability - 45 Degree Self-Extinguishing Time Glow Time Penetration	seconds seconds ---	FAR Part 25, Appendix F, Part I	0 1.7 None	0.5 1.8 None
Smoke Density	D _s	ASTM F 814-83	21.7	35.3
Burn Through Resistance	FAR Part 25, Appendix F, Part III		Pass	Pass

1. On Type 13, drum peel in the fill direction resulted in fabric tearing and no data could be obtained.
2. Reported only in the warp direction.
NR = No Requirement



**Properties of Gillfab™ 1367A Laminates, According to BMS8-223, and DMS 2419
Types 30 and 40
Typical Properties**

PROPERTY	UNITS	TEST METHOD	TYPE 30	TYPE 40
Weight	lb/ft ² (kg/m ²)	BMS8-223	0.293 (1.43)	0.375 (1.83)
Thickness	inches (mm)	BMS8-223	0.031 (0.79)	0.040 (1.02)
Water Absorption	%	ASTM D 570	0.9	1.1
Impact Strength	ft-lb (N-m)	BSS7326	19 (25.8)	25 (33.9)
Impact Strength	ft-lb (N-m)	DMS2419	>50 (>67.8)	>50 (>67.8)
Climbing Drum Peel, Warp Fill	in-lb (N-m)/3 in width	BMS8-223	16 (21.7) 24 (32.6)	15.7 (21.3) 15.7 (21.3)
Edge Bearing, Warp Fill	ksi (MPa) ksi (MPa)	BMS8-223	40 (275) 38 (262)	42 (290) 40 (275)
Flexural Strength ¹ Flexural Modulus ¹	ksi (MPa) msi (GPa)	AMS-STD-401	39.1 (267) 2.57 (17.7)	NR NR
Tedlar Peel, Warp Fill	lb/in (kg/m)	BMS8-223	3.2 (57.1) 2.8 (50)	3.9 (69.6) 4.2 (75.0)
Tensile Strength ¹ Tensile Modulus ¹	ksi (Mpa) msi (GPa)	BMS8-223	57.9 (399.2) 2.50 (17.2)	NR NR
Bolted Joint Strength	lb (N)	DMS 2419	286.9 (130.3)	NR
Flammability -60 Second Vertical Self-Extinguishing Time Burn Length Drip Extinguishing Time	seconds inches (mm) seconds	FAR Part 25, Appendix F, Part I	0 2.6 (65) None	0 1.7 (44) None
Flammability - 45 Degree Self-Extinguishing Time Glow Time Penetration	seconds seconds ---	FAR Part 25, Appendix F, Part I	0 1.7 None	0 0 None
Smoke Density	D _s	ASTM F814-83	31.6	42.8
Burn Through Resistance	---FAR Part 25, Appendix F, Part III		Pass	Pass

1. Reported only in the warp direction.
NR = No Requirement



**Properties of Gillfab™ 1367A Laminate According to Airbus Specification 2550 M1M 00800
Types 1, 2, 3, 4 and 5
Typical Properties**

PROPERTY	UNITS	TEST METHOD	Airbus Ty 1	Airbus Ty 2	Airbus Ty 3	Airbus Ty 4	Airbus Ty 5
Weight	kg/m ² (psf)	----	0.61 (0.125)	1.17 (0.240)	1.87 (0.383)	2.1 (0.430)	2.7 (0.546)
Thickness	mm (in)		0.33 (0.013)	0.61 (0.024)	0.99 (0.039)	1.14 (0.045)	1.47 (0.058)
Tensile Strength Warp Fill	KN/cm ² (ksi)	ASTM D638	37.3 (54.1) 36.7 (53.3)	47.9 (69.5) 42.0 (60.9)	32.8 (47.6) 31.9 (46.2)	38.9 (56.4) 31.1 (45.1)	36.1 (52.4) 32.9 (47.7)
Impact Strength	N-m (ft-lbs)	ASTM D5420	17 (12)	24 (18)	34 (25)	34 (25)	44 (32)
Water Absorption	%	ISO 62, Method 1	0.7	0.5	0.7	0.6	0.5
Flexural Strength Warp Fill	KN/cm ² (ksi)	ASTM D790	NR	29.3 (42.5) 25.2 (36.6)	29.0 (42.1) 26.3 (38.1)	27.7 (40.1) 22.4 (32.5)	26.9 (39.0) 23.6 (34.3)
Flexural Modulus Warp Fill	KN/cm ² (msi)	ASTM D790	NR	929 (1.35) 921 (1.34)	1933 (2.80) 1627 (2.36)	1598 (2.32) 1558 (2.26)	1611 (2.34) 1551 (2.26)
Flammability – 60 Second Vertical Extinguishing Time Burn Length Drip Ext. Time	seconds mm (inches) seconds	FAR Part 25, Appendix F, Part I	0 4.8 (0.2) 0	0 4.8 (0.2) 0	0 4.6 (0.2) 0	0 4.8 (0.2) 0	0 4.3 (0.17) 0
Flammability – 45 Degree Extinguishing Time Flame Penetration After Glow	seconds seconds	FAR Part 25, Appendix F, Part I	0 None 0	0 None 0	0 None 0	0 None 0	0 None 0
Burn Through Resistance	FAR Part 25, Appendix F, Part III		Pass	Pass	Pass	Pass	Pass

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