



## Gillfab™ 5040 Panel

November 2006

### Description

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Gillfab 5040 is an aircraft grade sandwich panel made from aluminum alloy facings bonded to end grain balsa wood core.

### Applications

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Normally used in commercial aircraft for flooring, galley panels, cargo containers and bulkheads. (Note: Unprotected aluminum is subject to corrosion in wet applications).  
Due to low cost and ready availability, 5040 has been used in many miscellaneous applications.

### Features

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- Proven durability since 1962.
- Low cost, high performance aircraft flooring.
- Service temperature range: -50F to 160F.

### Specifications

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- FAR 25.853 - fire resistance.
- Embraer MEP-02-011

### Construction

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Adhesive: Heat setting elastomer.  
Core: 9 lbs./ft<sup>3</sup> end grain balsa wood.  
Facings: 2024-T3, 7075-T6 or 6061-T6 aluminum.

### Availability

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Thickness: Per customer specification, from .25" and thicker.  
Size: Standard size is 48" x 144". Up to 72" x 168" on request.  
Facings: Available in any standard aluminum thickness required by customer specification; common thicknesses are 0.011", 0.016", 0.020", 0.025", 0.032", 0.040". Thicker faces are available to suit customer requirements. Facing thicknesses are subject to tolerances specified by The Aluminum Association standards.

### Standard Tolerances

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Thickness: ± .010" (0.25 mm)  
Length: + .25", - .125" (+8.4, -3.2 mm.)  
Width: + .25", - .125" (+8.4, -3.2 mm.)  
Warpage: 0.025 in./ft. (2.1 mm./m)



## Alternative Gill Products

Product Number	Difference
Gillfab 5007A & B	FRP facings in place of aluminum.
Gillfab 5140	Tedlar <sup>®</sup> film overlay bonded to one side for decorative appearance. Tedlar has canvas texture.
Gillfab 5041	6 lbs./ft. <sup>3</sup> end grain balsa for non-structural panels for less demanding applications; lower density core has lower core shear strength.
Gillfab 5042	Same as 5040, but uses an epoxy film adhesive for bonding the faces to the core.

### Properties of Gillfloor 5040

Based on 0.40" Nominal Thickness with 0.020"/0.012"  
2024-T3 Aluminum Facings and 9 lbs./ft.<sup>3</sup> Balsa Core  
Typical Properties

Property	Test Method	Property Measurement
Weight, lb./ ft.2 (kg/m2)	ASTM C 29	0.79 (3.86)
Thickness, in. (mm.)	ASTM C 366	.405 (10.3)
Sandwich Peel At Room Temperature, in-lb (N-m)/3 inch width After 30 day water soak, in-lb(N-m)/3 inch width	ASTM D 1781	45 (5.1) 35 (4.0)
Long Beam Flexural Strength <sup>1</sup> Ultimate Load, lb. (N) Facing Stress, psi (MPa) Deflection at 100 lb, in. (mm.)	ASTM C 393	295 (1,312) 40 (276) 0.31 (7.87)
Panel Core Shear, lb/sq in (kPa)	ASTM C 393	170 (1,172)
Flatwise Compression, lb/sq in (MPa)	ASTM C 364	1,500 (10.3)
Flatwise Tensile, lb/sq in (MPa)	ASTM C 297	300 (2.1)
Insert Shear 2, lb. (N)	BMS 4-17	1,200 (5,338)
Impact Strength <sup>3</sup> , in.-lb. (N-m)	ASTM D3029	40 (4.5)
Flammability – 60 and 12 Second Vertical Self-Extinguishing Time, secs. Burn Length, in. (mm) Drip Extinguishing Time, secs.	FAR Part 25, Appendix F, Part I (b)(4)	0 .2 (5) 0
Flammability - 45 Degree Self-Extinguishing Time, secs. Afterglow Time, secs. Flame Penetration	FAR Part 25, Appendix F, Part I (b)(6)	0 0 None
1 - 20" Span, 4 Point Loading. 2 - Shurlock Insert Model No. 5107-A3. 3 - Gardner Model 11K3, 2 lb Dart		

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