

**Gillfab™ 5040 Panel**

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Description

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

Applications

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

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

Specifications

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

Construction

Adhesive: Heat setting elastomer.
Core: 9 lbs./ft³ end grain balsa wood.
Facings: 2024-T3, 7075-T6 or 6061-T6 aluminum.

Availability

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

Thickness: $\pm .010$ " (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® film overlay bonded to one side for decorative appearance. Tedlar has canvas texture.
Gillfab 5041	6 lbs./ft. ³ 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.³ 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 ¹ Ultimate Load, lb. (N) Facing Stress, ksi (MPa) Deflection at 100 lb, in. (mm.)	ASTM C 393	295 (1,312) 32 (221) 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 ³ , 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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M.C. Gill Corp.
4056 Easy Street
El Monte, CA 91731-1087 USA
626-443-4022 info@mcgillcorp.com

M.C. Gill Europe Ltd. - Insoleq
23 Enterprise Road, Balloo Industrial Estate South
Bangor Co-Down BT19 7TA, Northern Ireland
+44 (0) 2891 470073 sales@mcgillcorp.com

www.mcgillcorp.com

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