



Gillfab™ 4909 Panel

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Description

Gillfab™ 4909 is a family of low smoke aircraft sandwich panels with facings made from epoxy resin reinforced with cross-plyed unidirectional carbon and woven fiberglass fabric bonded to Kevlar® honeycomb core.

Applications

Flooring panels designed for the main and upper decks of A380-800 freighter aircraft:

- Type 1 (Airbus Type CCCT1): courier compartment
- Type 2 (Airbus Type CCCT2): courier compartment
- Type 3 (Airbus Type FCCT1): freighter cargo compartment
- Type 4 (Airbus Type FCCT2): freighter cargo compartment

Features

- Facings contain fiberglass layers to protect against galvanic corrosion and improve impact strength.
- Good flame, smoke and toxicity properties.
- Light weight and low deflection.

Specifications

- FAR 25.853 and 25.855 – fire resistance.
- ABD 0031 – Smoke density, toxicity and flammability.

Construction

Adhesive: Modified fire retardant epoxy.

Core: Kevlar® honeycomb.

Facings: Epoxy resin, unidirectional carbon, woven fiberglass overlay.



Availability

Panel Thickness:	Types 1 and 3: 9 mm (0.354 ins) Types 2 and 4: 5 mm (0.197 ins)
Length and Width:	Per customer specification, up to 1524 mm X 3660 mm (60"x144").
Facing thickness:	Types 1 and 2: 0.64/0.43 mm (0.025/0.017 in), top/bottom Types 3 and 4: 0.74/0.43 mm (0.029/0.017 in), top/bottom
Core:	Types 1 and 2: 96 Kg/m ³ (6.0 lb/ft ³) density; 4 mm (5/32") cell size Types 3 and 4: 112 kg/m ³ (7.0 lb/ft ³) density; 4 mm (5/32") cell size

Standard Tolerance

Thickness:	± 0.25 mm (± 0.010)
Length and Width:	- 0 / +12.7 mm (-0, +0.5")
Warpage:	1 mm (0.03937"), maximum

Alternative Gill Products

Product Number	Difference
Gillfab 4505 and 4605	Panel designation qualified for replacement flight deck and cabin flooring for Airbus aircraft.
Gillfab 4223 and 4522	Panel designation qualified for replacement cargo compartment flooring for Airbus aircraft.



Properties of Gillfab™ 4909 Panel

Typical Average Properties, SI (English)

Application: Courier and Cargo Compartment Floors in A380-800 Freighter Aircraft

Property	Test Method	Panel Type – M. C. Gill Corp. Type (Airbus Type)				
		1 (CCT1)	2 (CCT2)	3 (FCCT1)	4 (FCCT2)	
Panel Thickness, mm (in)	GTP 086 ⁽³⁾	9.2	5.2	9.2	5.2	
Areal Weight, kg/m² (lb/ft²)	GTP 085 ⁽³⁾	2.478 (0.508)	2.069 (0.424)	2.700 (0.553)	2.255 (0.462)	
Long Beam Flexural Strength						
Ultimate Load and Deflection						
Load, Core Ribbon (L) Direction, N (lb)	ASTM C 393	1800 (405)	770 (173)	1739 (391)	840 (189)	
Deflection at 445 N (100 lb), mm (in)						8.4 (0.330)
Load, Core Transverse (W) Direction, N (lb)						
Deflection at 445 N (100 lb), mm (in)						
Panel Shear, N (lb)	ASTM C 393	3000 (674)	N/A	3750 (843)	N/A	
Compressive Strength, MPa (psi)	ASTM C 365	9.65 (1400)	9.71 (1408)	12.48 (1810)	14.87 (2157)	
Indentation, N (lb)	(1)					
Climbing Drum Peel, N/76 mm (lb/3 in)	ASTM D 1781	250 (56)	275 (62)	246 (55)	273 (61)	
Flammability⁽²⁾						
60 second vertical	FAR Part 25, Appendix F, Part 1(b)(4)					
Extinguishing time, secs		0.9	1.8	0.8	1.8	
Burn length, mm (in)		14.6 (0.575)	11.5 (0.453)	17.1 (0.673)	13.2 (0.520)	
Drip time, secs		0.0	0.0	0.0	0.0	
12 second vertical						
Extinguishing time, secs		0.0	0.0	0.0	0.0	
Burn length, mm (in)		2.9 (0.114)	2.9 (0.114)	2.9 (0.114)	2.4 (0.094)	
Drip time, secs		0.0	0.0	0.0	0.0	
45 Degree Test						
Extinguishing time, secs		FAR Part 25, Appendix F, Part 1(b)(6)	0.3	3.7	0.8	1.1
Flame penetration			0.0	0.0	0.0	0.0
Afterglow time, secs			0.0	0.0	0.0	0.0
Smoke emission, 4 mins, D _s	FAR Part 25, Appendix F, Part V	142	164	172	160	

(1) 12.7 mm diameter steel indenter with 3 mm thick silicone rubber pad impressed into unsupported panel span of 560 mm.

(2) Meets Airbus ABD0031 requirements for toxic gas emission under flaming conditions.

(3) M. C. Gill Corp. Test Procedure.

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