

**Gillfab™ 5509 Panel**

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Description

Gillfab™ 5509 panel is a low smoke aircraft sandwich panel with facings made from phenolic resin reinforced with cross-plyed unidirectional carbon and Kevlar® honeycomb core.

Applications

Flooring panel for cockpit and electronics bays in Airbus Industrie A380-800 aircraft.

Features

- Facings include a thin fiberglass layer to protect against galvanic corrosion.
- Good flame, smoke and toxicity properties.
- Light weight and low deflection.

Specifications

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

Construction

Adhesive:	Modified fire retardant phenolic.
Core:	Kevlar® honeycomb.
Facings:	Phenolic resin, unidirectional carbon, fiberglass overlay.

Availability

Thickness:	9.7 mm (0.382") or per customer specification
Length and Width:	Per customer specification, up to 1524 mm X 3660 mm (60"x144").
Facing thickness:	Top: 0.46 mm (0.018"); Bottom: 0.33 mm (0.013")
Core:	72 and 96 Kg/m ³ (4.5 and 6.0 lb/ft ³), density; 4 mm (5/32") cell size

Standard Tolerances

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	Panel designation qualified for replacement flight deck and cabin flooring for Airbus aircraft.
Gillfab 4605	Panel designation qualified for replacement cabin flooring for Airbus aircraft.

Properties of Gillfab™ 5509 Panel – Type I

Based on a panel 9.7 mm (0.382") with 0.46/0.33 mm (0.018/0.013") carbon phenolic facings
 72 Kg/m³ (4.5 pcf) 9.27 mm (0.365") thick HK™ core
 Typical Average Property Values, Metric (English)
 Application: Emergency and Main EE Bays of A380-800

Property	Test Method	Unit	Metric	English
Weight	ASTM C29	kg/m ² (psf)	2.13	0.44
Long Beam Flexural Strength Ultimate Load Ribbon (L) Direction RT HA + 50 °C Transverse (W) Direction RT HA + 50 °C	ASTM C 393	N (lbs)	1583 1199 1712 1722	356 270 385 387
Long Beam Deflection @ 445N (100 lbs) Ribbon (L) Direction RT HA + 50 °C Transverse (W) Direction RT HA + 50 °C	ASTM C 393	mm (in)	7.5 8.3 7.9 8.1	0.295 0.327 0.311 0.319
Food Cart Roller @ 88.2 lbs/wheel (40 KG)	(1)	80,000 cycles	Pass	No Damage
Indentation	(2)	N (lbs)	2613	587
Stabilized Core Compression	ASTM C 365	N/mm ² (psi)	6	870
Flammability 60 Second Vertical Extinguishing Time Burn Length Drip Extinguishing Time 12 Second Vertical Extinguishing Time Burn Length Drip Extinguishing Time	FAR Part 25, Appendix F, Part 1(b)(4)	seconds mm (in) seconds seconds mm (in) seconds	3 40 No Drip 2 43 No Drip	3 1.6 No Drip 2 1.7 No Drip
Meets flammability, smoke and toxicity requirements of ABD 0031.				

(1) Three wheels equally spaced around supporting disc 508 mm diameter; each wheel loaded with 40 kg (88.2 lb) weight, disc rotated at 20 RPM for indicated number of cycles (1 cycle = 1 rotation). Specimen size 1003 mm L X 543 mm W, supported on all four edges.

(2) 12.7 mm diameter steel indenter with 3 mm thick silicone rubber pad impressed into unsupported panel span of 560 mm.



Properties of Gillfab™ 5509 Panel – Type II

Based on a panel 9.7 mm (0.382") with 0.46/0.33 mm (0.018/0.013") carbon phenolic facings
 96 Kg/m³ (6 pcf) 9.27 mm (0.365") thick HK™ core
 Typical Average Property Values, Metric (English)
 Application: Cockpit of A380-800

Property	Test Method	Unit	Metric	English
Weight	ASTM C29	kg/m ² (psf)	2.35	0.48
Long Beam Flexural Strength Ultimate Load Ribbon (L) Direction RT HA + 50 °C Transverse (W) Direction RT HA + 50 °C	ASTM C 393	N (lbs)	1642	369
			1188	267
			2176	489
			1773	399
Long Beam Deflection @ 445N (100 lbs) Ribbon (L) Direction RT HA + 50 °C Transverse (W) Direction RT HA + 50 °C	ASTM C 393	mm (in)	7.4	0.291
			8.0	0.315
			7.2	0.283
			7.6	0.299
Food Cart Roller @ 88.2 lbs/wheel (40 KG)	(1)	80,000 cycles	Pass	No Damage
Indentation	(2)	N (lbs)	2618	588
Stabilized Core Compression	ASTM C 365	N/mm ² (psi)	7.5	1088
Flammability 60 Second Vertical Extinguishing Time Burn Length Drip Extinguishing Time	ABD 0031 AITM 2.0002A	seconds mm (in) seconds	5 44 No Drip	5 1.7 No Drip
12 Second Vertical Extinguishing Time Burn Length Drip Extinguishing Time	AITM 2.0002B	seconds mm (in) seconds	5 24 No Drip	5 1.0 No Drip
Meets flammability, smoke and toxicity requirements of ABD 0031.				

- (1) Three wheels equally spaced around supporting disc 508 mm diameter; each wheel loaded with 40 kg weight, disc rotated at 20 RPM for indicated number of cycles (1 cycle = 1 rotation). Specimen size 1003 mm L X 543 mm W, supported on all four edges.
 (2) 12.7 mm diameter steel indenter with 3 mm thick silicone rubber pad impressed into unsupported panel span of 560 mm.

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