



Gillfab™ 4014 Panel

February 2004

Description

Gillfab 4014 is a sandwich panel made from aluminum facings bonded to an aluminum honeycomb core.

Applications

Used as medium duty structural panels in aircraft, where light weight and rigidity are primary considerations, such as bulkheads, shelving, and galley panels

Features

- High strength-to-weight ratio.
- Very rigid and flat.
- Service temperature range: -65°F to 300°F.

Specifications

- FAR 25.853 and 25.855 - fire resistance.

Construction

Adhesive:	300°F service temperature epoxy.
Core:	5052 alloy aluminum honeycomb.
Facings:	Aluminum sheet.

Availability

Thickness:	Per customer specifications, from .25" and up.
Size:	Standard sizes are 48" x 96" or 48" x 144". Other sizes are available on special order.
Facings:	Alloy: 6061-T6, 2024-T3 or 7075-T3. Standard aluminum thicknesses: (.01", .016", .02", 0.25", .03" and up).
Core:	1/8" to 3/8" cell size; 2.1 to 8.1 pcf density.



Standard Tolerances

Thickness:	± .010"
Length:	+.25", -.125"
Width:	+.25", -.125"
Warpage:	<.004 L ² /t where L = length (ft.) and t = thickness (in.)

Alternative Gill Products

Product Number	Difference
Gillfab 4030	Lower cost with a service temperature up to 180°F.
Gillfab 4037	FRP facings and fiberglass honeycomb with the same service temperature.
Gillfab 5021	Epoxy-fiberglass facings for lower cost tooling panels.



Properties of Gillfab 4014
Based on 0.5" thick panel with .020"/.020"
facings and .46" thick core at 4.3 pcf

Property	Test Method	Typical Values	
		English	(Metric)
Mechanical			
Long beam flexural strength, 20" span	MILSTD 401B		
Ultimate load, lbs (kg)		484	(220)
Facing stress, ksi (MPa)		42	(290)
Deflection at 100 lb, in (mm)		.15	(3.8)
Sandwich peel, in-lbs (N-m)/3" width	MILSTD 401B		
At room temperature		55	(6.21)
After 30 day water soak		50	(5.65)
At 180°F		51	(5.76)
Panel core shear, psi (kPa)	MILSTD 401B		
Ribbon (L) direction		265	(1827)
Transverse (W) direction		155	(1069)
Flatwise compressive strength, psi (kPa)	MILSTD 401B	410	(2827)
Flatwise tensile strength, psi (kPa)	MILSTD 401B	600	(4137)
Flatwise tensile strength, psi (kPa) at 300°F		270	(1862)
Physical			
Weight, psf (kg/m ²)		.89	(4.35)
Impact strength, Gardner Model 11K3	ASTM D3029		
2 lb. dart, in-lbs (N-m)		40	(4.52)
Max. Service Temperature, °F(°C)		300	(149)
Thermal Conductivity,	ASTM C177		
BTU-Ft/Ft ² .hr. °F(W/cm. °C)		1.4	(.024)
Flammability			
60 second vertical exposure	FAR 25.853a		
self-extinguishing time, sec		0	
burn length, inches (mm)		0	
45 degree test	FAR 25.855		
self-extinguishing time, sec		Pass	
penetration		None	

M.C. Gill Corporation gives no warranties, expressed, implied or statutory, or otherwise, as to the description, quality, fitness, capacity, or any other matter, of the properties described. The data given represents minimum values to be expected. Through additional testing of each lot it is possible to verify that the product exceeds the tabulated values. It is recommended, however, that prospective users evaluate the materials to determine their suitability for the users' specific requirements. Values are given on the condition that the user assumes all risk and that responsibility for any loss or damage caused by or resulting from the use of such information is disclaimed by M.C. Gill Corporation.

M.C. Gill Corporation
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@insoleq.co.uk

www.mcgillcorp.com

© M.C. Gill Corporation. All rights reserved.

