



Gillfab™ 5020 Panel

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Description

Gillfab 5020 is a thin sandwich panel made from 2024-T3 alloy aluminum bonded to crushed aluminum honeycomb core. It is as rigid as sheet aluminum, but weighs half as much.

Applications

A general use panel that can be formed using conventional metal working techniques. It is used to replace thick aluminum sheeting or sheet metal in electrical housings, low traffic flooring, bulkheads, shelving, equipment cases, straight or curved external parts and access doors and covers.

Features

- Can be machined with normal metal working tools. (Some surface dimpling may occur on one side.)
- Crushed aluminum honeycomb core makes 5020 roll formable.
- Very high bonding strengths.
- Very thin for sandwich panel.
- Service temperature range: -90°F to 200°F (300°F short term).

Specifications

- Lockheed LCM 28-1033
- Learjet LES 1070

Construction

	Grade 1	Grade 2	Grade 3
Adhesive:	.06" epoxy film	.06" epoxy film	.06" epoxy film
Core:	alum.hc crushed	alum.hc crushed	alum.hc crushed
Facings:	.012"/.012"	.020"/.012"	.025"/.016"
Thickness:	.062"	.091"	.125"

Availability

Size:	Standard size is 48" x 144", smaller sizes are available on special order.
Facings:	2024-T3 aluminum.
Core:	1/4" cell, 4.3 pcf 5052 alloy aluminum honeycomb, crushed 3:1.



Standard Tolerances

Thickness:	$\pm .010''$
Length:	$+ .25''$, $- .125''$
Width:	$+ .25''$, $- .125''$
Warpage:	$<.005 L^2/t$ where L = length (ft.) and t = thickness (in.)

Alternative Gill Products

Product Number	Difference
Gillfab 5120	Aluminum honeycomb is not crushed making it flatter and lower cost but not roll formable.



Properties of Gillfloor 5020

Based on 2024-T3

Aluminum Skins and Crushed Aluminum Honeycomb Core

Property	Typical Values					
	English	(Metric)	English	(Metric)	English	(Metric)
	Grade 1		Grade 2		Grade 3	
Mechanical						
Long beam flexural strength						
Ultimate load, lbs (kg)	60	(27.2)	126	(57)	NA	
Facing stress, ksi (MPa)		42	(289)	42	(289)	NA
8" Span Flexural Load, lbs.	45	(20.4)	85	(38.5)	105	(47.6)
Sandwich peel, in-lbs (N-m)3" width						
At room temperature	70	(7.9)	70	(7.9)	75	(7.3)
After 30 day water soak	63	(7.1)	63	(7.2)	60	(6.8)
Flatwise compressive strength, psi (kPa)	1,500	(10,344)	1,500	(10,344)	1,500	(10,344)
Flatwise tensile strength, psi (kPa)	1,200	(8,275)	1,200	(8,275)	1,200	(8,275)
Panel insert shear, lbs (kg)					1,250	(576)
Shear buckling, 16"x16" panel bolted into picture frame, lb. (kg)	14,000	(6,352)	22,000	(9,982)	22,500	(10,208)
Physical						
Weight, psf (kg/m ²)	.46	(2.25)	.64	(3.12)	.82	(4.00)
Thickness, in. (mm)	.062	(1.57)	.091	(2.13)	.125	(3.17)
Flammability, FAR 25.853						
60 second vertical exposure self-extinguishing time, sec	Pass		Pass		Pass	
Thermal Conductivity,						
BTU-Ft/Ft ² .hr. °F(W/cm. °C)	5	(0.721)	5	(0.721)	5	(0.721)
Forming radius, in.	2		4		20	
Riveting - Insert Shear Universal Hd Rivet, MS20470						
3/32" dia.	300 lb.		300 lb.		NA	
1/8" dia.			480 lb.		NA	
5/32" dia.			590 lb.		NA	
Counter Sunk Hd., MS20426						
1/8" dia.	NA		465 lb.		NA	
5/32" dia.	NA		650 lb.		NA	

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