



M.C. GILL CORP., 4056 EASY ST., EL MONTE, CA 91731 • PHONE (626) 443-4022 • FAX (626) 350-5880 • www.mcgillcorp.com

Gillpills...





Take Two Pills And Don't Call Us In The Morning



Gillpills are always prescribed for your Airbus flooring and cargo compartment lining ailments, e.g., peeling skins and/or *punctured* cargo liner. A complete cure can be expected with only one treatment-and, with no adverse side effects! Generic (or knockoffs) are generally disappointing and ultimately uneconomical. So, don't settle for second best. Use the real thing. Gillpills!

The interior of an A340. M.C. Gill panels for flooring, cargo compartments, sidewalls, ceiling, and decompression panels are identified with part numbers.

THE NEW GILLF FLYING AIRBUS

GILLFAB 4422

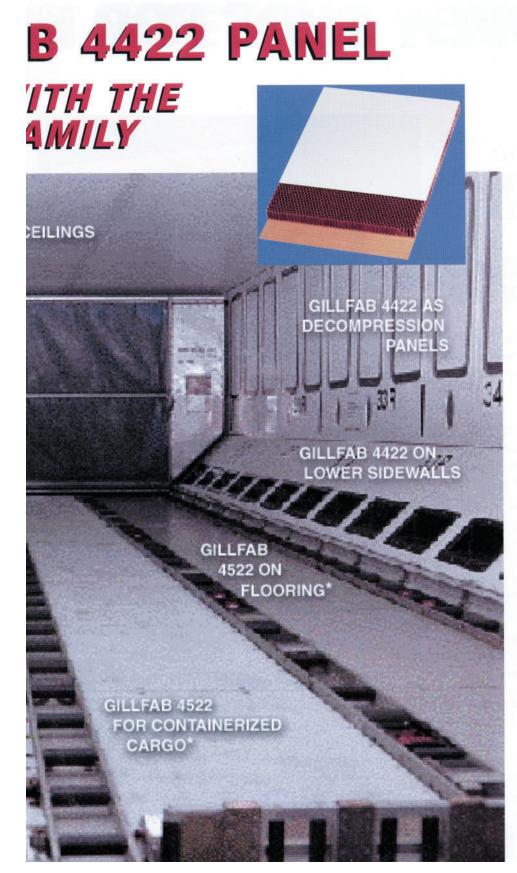
GILLFAB 4422 ON LOWER SIDEWALLS

LFAB 4422

ON UPPER SIDEWALLS

> GILLFAB 4522 ON FLOORING*

GILLFAB 4522 FOR CONTAINERIZED CARGO*





In April 2000, M.C. Gill Corporation successfully completed qualification of Gillfab 4422, to Airbus Industrie Specification 2550 M1M 000800, for use as cargo compartment sidewall liner material in all Airbus aircraft. Now, that may not be in the running for the biggest news story of the year but it is a real milestone for M.C. Gill. It marks yet another OEM specified product that we can offer our valued customers for their one-stop shopping convenience for both cargo liner and floor panel requirements.

Of course, developing high strength products to protect cargo compartment interiors is nothing new to the M.C. Gill Corp–it's what we do best. As the industry leader with a 55 year history of manufacturing and in-service testing the durability of our products, we had the advantage of incorporating proven cargo liner technology with our latest sandwich panel design.

*Use Gillfab 4223 for bulk cargo flooring.

A PROVEN CURE FOR WE

THE DURABILITY OF GILLFAB 4422 HAS NO EQUAL FOR ALL THESE CARGO AREAS: LOWER SIDEWALLS, UPPER SIDEWALLS, CEILINGS AND DECOMPRESSION PANELS.

A product of our design specifically for the multiple uses in Airbus cargo compart-

ments. Gillfab 4422 consists of woven fiberglass reinforced phenolic resin facings bonded to a Nomex[®] honeycomb core. In fact, the construction of 4422 is a first for the M.C. Gill Corp. because the facings are 1367A– a fire resistant/low smoke/low toxic emissions sheet cargo liner *with one of the highest puncture*

resistance of any phenolic resin cargo liner available anywhere, and qualified for Boeing, McDonnell Douglas, and Lockheed. It has a proven history of durability under extreme in-service conditions as evidenced by the fact that it remains the industry standard for all new production. The thickness of the 1367A facings is either .013" or .020" depending on the panel's location in the cargo compartment. Both Gillfab 4422 and Gillfab 1367A are governed by Airbus specification 2550 M1M 000800.

The strength of the facings and overall panel

are apparent. See the impact, or puncture, resistance values that appear in Table 3 — Physical and Mechanical Properties on pages 7 and 8. The minimum value required by the Airbus specification is 1.5 foot-pounds (2 Nm) for every panel thickness and the lowest actual value ascertained by our R&D



Department in El Monte and Airbus' counterpart in Hamburg was 32 foot-pounds (44 Nm)!

In fact, the impacter weight called out in the specification is 2 kilograms. In order for our R&D Department to record meaningful values, they had to ask for permission (readily given by Airbus engineers) to use an impacter weight of ten kilograms—five times heavier—and the values were still as shown in Table 3. Lest some of our readers start thinking "overkill" we quickly point out that many of our Airbus operator customers insisted that we develop a panel whose impact values are as high as we could economically and readily make them. They asked for robust and we gave it to them—a not unusual "something extra" our customers have come to expect from the M.C. Gill Corporation.

AK SIDEWALL PANELS

According to the Airbus Industrie specification for Gillfab 4422, cargo sidewall panels serve, among others, the following functions:

• to seal the cargo bold with respect to the surrounding structure and to obtain an enclosed area in the event of fire in order to ensure the maintenance of the extinguisbant concentration required (JAR/FAR 25.857 'C');

• to ensure the pressure compensation between the cabin and the cargo holds as well as between the other surrounding areas in the event of an (sic) rapid decompression by means of decompression panels (JAR change 12/FAR 25.365e amdt.54);

• to ensure the pressure compensation between the pressure cabin and the cargo holds during ascent or descent by the installation of pressure compensation valves in the FWD and AFT Lower Hold partitions.

to resist fire in the cargo compartment.¹
1. Airbus Industrie Technical Specification 2550 M1M 000400, Issue 02, page 2-1.

h-Profile Parts ... Gillfab 4422 is also used as decompression, or "blow out", panels. Their purpose is to ensure air pressure in the cargo compartment remains equal with that in the passenger compartment. If the pressure in the former drops, the decompression panels pull away from the sidewalls and ceiling to equalize the pressure with the latter. All Airbus aircraft (except the A330 and A340) also have these panels in the ceiling and the sidewalls. They are held in place with "hprofile" panels - several plies of phenolic reinforced fiberglass cloth (Gillfab 3072 Types A, B, C, and D) – and shaped like a lower case "h" (thus the term "h-profile"). The data in Table 5, page 9 show the type of h-profile part and the corresponding 4422 panel. M.C. Gill also manufactures the hprofiles and they are qualified to Airbus specification 2550 M1M 000400.

Setting the Record Straight

In every previous article on Airbus panels appearing in the Doorway, we have made mention of the fact that Airbus uses sandwich panels instead of cargo liner. That statement is true for the lower sidewalls in the baggage/cargo compartments of Airbus aircraft. Aside from the floors, it's the area of heaviest use and where most wear and tear occurs. However, cargo liner is used in some areas including the upper sidewalls and ceilings of the baggage/cargo compartments (see Table 1 on page 6).

Despite the fact that 4422, unlike all previous products we have qualified, is not a primary structural part, it is just as strong, relatively speaking, as all other panels. And the qualification process, including the documentation, is no less exacting and exhaustive. Not unlike flooring panels, the location of Gillfab 4422 determines its construction, particularly its thickness. 4422 is available in nine different thicknesses ranging from 0.295" to 0.630". The data in Table 2 on page 6 identify thickness by aircraft and location within the aircraft.



TABLE 1-CARGO LINER LAMINATE APPLICATION AND IDENTIFICATION

Airbus Type	M.C. Gill Designation	Panel Thickness, Nominal, inch (mm)	Laminate Area Weight, maximum, psf (kg/m²)	Aircraft Application
1	Gillfab 1367A-013	0.013 (0.33)	0.13 (0.635)	A300 B2/B4: Ceiling FWD
2	Gillfab 1367A-025	0.025 (0.63)	0.25 (1.1221)	A300 B2/B4: Door Panel C67; Door Panel C69
3	Gillfab 1367A-040	0.040 (1.02)	0.42 (2.051)	A330/A340: Covering above bulk door
4	Gillfab 1367A-045	0.045 (1.14)	0.050 (2.441)	A300B2/B4: Sidewall bulk
5	Gillfab 1367A-060	0.060 (1.52)	0.60 (2.930)	A320/A321 Container: Covering above bulk door A319/A320/A321 Bulk: Covering above bulk door

TABLE 2–LOCATION OF USAGE GILLFAB 4422

Airbus Type	M.C. Gill Designation	Panel Thickness, Nominal, inch (mm)	Sandwich Panel Area Weight, psf (kg/m²)	Aircraft Application
A	Gillfab 4422-295	0.295 (7.5)	0.403–0.445 (1.97–2.17)	A300 B2/B4: Sidewall AFT; Ceiling AFT; Partition Wall C54; Decompression Panel AFT A310/A300-600: Sidewall AFT; Ceiling FWD; Ceiling AFT; Partition Wall C54; Decompression Panel AFT A320/A321 Container: Ceiling FWD; Ceiling AFT; Decompression Panel Ceiling A319/A320/A321 Bulk: Decompression Panel Ceiling; Ceiling FWD; Ceiling AFT A330/A340: Ceiling FWD; Ceiling AFT
В	Gillfab 4422-307	0.307 (7.8)	0.529–0.579 (2.58–2.83)	A320/A321 Container: Ceiling Bulk A319/A320/A321 Bulk: Ceiling FWD; Ceiling AFT; Ceiling Bulk A330/A340: Ceiling Bulk
С	Gillfab 4422-315	0.315 (8.0)	0.531–0.582 (2.5 9– 2.84)	A300 B2/B4: Ceiling Bulk; Partition Wall C64; Decompression Panel Wall C64 A310/A300-600: Sidewall Bulk; Ceiling Bulk; Partition Wall C70; Decompression Panel Wall C70
D	Gillfab 4422-366	0.366 (9.3)	0.424–0.472 (2.07–2.31)	A300 B2/B4: Sidewall FWD; Decompression Panel FWD A310/A300-600: Sidewall FWD; Partition Wall C38.2; Decompression Panel FWD A320/A321 Container: Sidewall FWD; Sidewall AFT; Partition Wall C34; Partition Wall C47 A330/A340: Sidewall FWD; Sidewall AFT; Partition Wall C39.1; Partition Wall C53.2; Decompression Panel Sidewall FWD; Decompression Panel Sidewall AFT; Decompression Panel Wall C39.1; Decompression Wall C53.2
E	Gillfab 4422-386	0.386 (9.8)	0.552–0.608 (2.45–2.97)	A320/A321 Container: Sidewall Bulk; Partition Wall C65; Decompression Panel Wall C28; Decompression Panel Wall C52.A; Decompression Panel Wall C56 A319/A320/A321 Bulk: Sidewall FWD; Sidewall AFT; Sidewall Bulk; Partition Wall C34; Partition Wall C47; Partition Wall C65; Decompression Panel Wall C28; Decompression Panel Wall C52.A; Decompression Panel Wall C56 A319 Bulk: Decompression Panel Wall C55.A A330/A340: Sidewall Bulk; Decompression Panel Sidewall Bulk
F	Gillfab 4422-413	0.413 (10.5)	0.438–0.489 (2.14–2.39)	A300/B2/B4: Partition Wall C38.2
G	Gillfab 4422-508	0.508 (12.9)	0.467–0.524 (2.28–2.56)	A320/A321 Container: Partition Wall C24.A; Decompression Panel Wall C24.A A319/A320/A321 Bulk: Partition Wall C24.A; Decompression Panel Wall C24.A
Н	Gillfab 4422-610	0.610 (15.5)	0.498–0.561 (2.43–2.74)	A300 B2/B4: Partition Wall C20; Decompression Panel Wall C20 A310/A300-600: Partition Wall C20; Decompression Panel Wall C20 A330/A340: Partition Wall C20; Door Panel C59.A; Decompression Panel Wall C20
К	Gillfab 4422-630	0.630 (16.0)	0.504–0.567 (2.46–2.77)	A330/A340: Partition Wall C73; Decompression Panel Wall C73

TABLE 3-PHYSICAL AND MECHANICAL

Property	Test Method	4422	-295	4422	2-307	442	2-315	4422-
Weight, psf (kg/m²)		0.430 (2.10)		0.554 (2.70)		0.555 (2.71)		
Thickness, inches (mm)		0.300 (7.61)	0.308 (7.82)		0.316 (8.01)		
		Actual	Requirement	Actual	Requirement	Actual	Requirement	Actual
Warpage, max., in/ft (mm/m)	AI 2550 M1M 000800 1 2.2.3	0.00	0.036 (3.0)	0.00	0.036 (3.0)	0.00	0.036 (3.0)	0.007 (0.583)
Bending under static load, max., lbs (N)*	AI 2550 M1M 000800 1 2.3.7	481.8 (2143)	150 (667)	661.8 (2943.7)	150 (667)	613.5 (2728.7)	150 (667)	553.5 (2461.8)
Long beam flexural, lbs (N)	ASTM C 393	94.22 (418.1)	Report	117.92 (524.51)	Report	124.34 (557.51)	Report	117 (524.51)
Core Shear: Core Shear Stress, psi (N/cm²) @ room temperature @ -40°C @ 80°C Facing Stress, ksi (N/cm²) @ room temperature @ -40°C @ 80°C	ASTM C 393 ASTM C 393	187.27 (129.11) 274.47 (189.22) 144.63 (99.71) 28.82 (19.87) 42.23 (29.11) 22.25 (15.34)	Report Report	217.8 (150.16) 276.25 (190.45) 169.78 (117.05) 21.8 (15.03) 27.6 (19.03) 16.95 (11.69)	Report Report	227.3 (156.71) 296.2(204.21) 168.5(116.17) 22.8 (15.72) 29.6 (20.41) 16.9 (11.65)	Report Report	177.1 (122.1) 265.7 (183.2) 134.8 (92.94) 27.2 (18.75) 40.9 (28.2) 24.7 (14.3)
Stabilized Core Compression, psi (N/cm ²)	ASTM C 365 Method A	601 (414.3)	Report	574.8 (396.4)	Report	591.7 (407.9)	Report	596.83 (411.47)
Climbing Drum Peel, lbs (N)* Top Skin Bottom Skin	ASTM D 1781	50.98 (226.8) 50.42 (224.3)	Report	62.25 (276.9) 61.01 (271.4)	Report	57.87 (257.4) 57.06 (253.8)	Report	55.03 (235.9) 51.88 (230.7)
Impact Strength, min., ft-lbs (Nm)	AI 2550 M1M 000800 ¶ 2.3.4.3	32 (44)	1.5 (2)	45 (62)	1.5 (2)	38 (52)	1.5 (2)	40 (54)
Flammability* 60 Second Vertical Test Exting Time, max., secs Burn Length, max., in (mm) Drip Exting. Time, max., secs	FAR 25, Appendix F, Part I	7.3 2.1 (53.34) 0	15 6.0 (152) 3.0	10.7 1.7 (42.10) 0	15 6.0 (152) 3.0	8.5 1.7 (43.18) 0	15 6.0 (152) 3.0	5.9 2.0 (50.8) 0
Flammability* 30 Seconds 45 Degree Exting. Time, max., secs Burn Length, max., in (mm) After Glow Time, max.	FAR 25, Appendix F, Part I	0.6 None 0	15 None 10	5.5 None 0	15 None 10	0.4 None 0	15 None 10	0.5 None 0
Flame Penetration Temperature Rise, max., °F (°C)	FAR 25, Appendix F, Part III	Pass	Pass	Pass	Pass	Pass	Pass	Pass

*Test data from L658, MCG QTR 9402A

1. New type, introduced since 1994 report.

OUR OTHER AIRBUS

In the Beginning.....from a somewhat less than auspicious beginning in 1986, when we qualified our first flooring panel to Airbus specifications, the M.C. Gill Corporation now has ten sandwich panels qualified as replacement flooring for every aircraft Airbus currently manufactures in addition to the recently qualified Gillfab 4422. We manufacture a sandwich panel for every Airbus flooring specification. It should be

ROPERTIES OF GILLFAB 4422

6	4422-	-386	4422	-413	4422	-508	4422	-610	4422	2-630 ^{1.}
39 (2.14)	0.569 (2.78)		0.475 (2.32)		0.500 (2.44)		0.545 (2.66)		0.546 (2.66)	
66 (9.30)	0.381 (9.66)		0.415 (10.54)		0.506 (12.85)		0.611 (15.53)		0.63 (16.00)	
Requirement	Actual	Requirement	Actual	Requirement	Actual	Requirement	Actual	Requirement	Actual	Requirement
0.036 (3.0)	0.015 (1.250)	0.036 (3.0)	0.00	0.036 (3.0)	0.00	0.036 (3.0)	0.001 (0.06)	0.036 (3.0)	0.00	0.036 (3.0)
150 (667)	805.1 (3581.2)	150 (667)	568.5 (2528.5)	150 (667)	663.5 (2951.1)	150 (667)	863.5 (3840.3)	150 (667)	861.3 (3831.1)	150 (667)
Report	155.78 (692.91)	Report	140.19 (623.50)	Report	169.63 (754.52)	Report	208.95 (929.4)	Report	218.77 (973.08)	Report
Report Report	214.9 (148.2) 277.7 (191.44) 165.3 (113.95) 21.5 (14.81) 27.8 (19.17) 16.5 (11.38)	Report Report	179.6 (123.8) 250.9 (173.0) 130.0 (89.6) 27.6 (19.0) 38.6 (26.6) 20.0 (13.8)	Report Report	187.7 (129.4) 254.2(175.3) 136.1 (93.8) 28.9 (19.9) 39.1 (27.0) 20.9 (14.4)	Report Report	179.0 (123.4) 243.0 (167.5) 128.5 (88.6) 27.5 (19.0) 37.4 (25.76) 19.8 (13.64)	Report Report	178.5 (123) 235.0 (162) 134.1 (92.5) 27.45 (18.92) 36.20 (24.93) 20.6 (14.23)	Report Report
Report	595.83 (410.78)	Report	581.33 (400.8)	Report	594.17 (409.64)	Report	577.33 (398.03)	Report	554.33 (382.18)	Report
Report	58.15 (258.6) 62.84 (279.5)	Report	49.16 (218.6) 51.30 (228.2)	Report	49.16 (218.6) 51.30 (228.2)	Report	49.56 (220.4) 53.80 (239.2)	Report	60.0 (267) 79.8 (355)	Report
1.5 (2)	46 (63)	1.5 (2)	40 (55)	1.5 (2)	35 (47)	1.5 (2)	40 (54)	1.5 (2)	39 (52)	1.5 (2)
15 6.0 (152) 3 15	8.5 1.7 (43.18) 0	15 6.0 (152) 3	4.5 1.7 (43.18) 0	15 6.0 (152) 3	5.7 1.6 (40.64) 0	15 6.0 (152) 0 15	5.1 1.8 (45.72) 0	15 6.0 (152) 0	7.2 2.1 (53.34) 0	15 6.0 (152) 0
None 10	None 0	None 10	None 0	None 10	None 0	None 10	None 0	None 10	None 0	None 10
Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass

ANDWICH PANELS

noted that six of the ten flooring panels are second generation (Gillfab 4405 Ty 1 and Ty 2 [considered as one panel], 4522, 4223, 4123, 4505, and 4605) and offer improved mechanical properties. The remainder are first generation panels (Gillfab 4105 Ty 1 and Ty 2 [considered as one panel], 4323, 4205, and 4322). Data in Table 4, page 9 show application, panel designation and specification by aircraft of all ten panels.

TABLE 4-M.C. GILL QUALIFIED FLOORING PANELS FOR AIRBUS AIRCRAFT

Aircraft	Gill Part	Specifications	Application	Construction
Airbus (All)	Gillfab 4123	5360 M1M 000500	Cargo-Main Deck (MDC-2)	.375" thick; .030"/.020" fiberglass reinforced phenolic facings; 9.0pcf Nomex® honeycomb core
Airbus (All)	Gillfab 4223	5360 M1M 000500	Cargo-Bulk (BCC-2)	.496" thick; .050"/.020" fiberglass reinforced phenolic facings; 9.0 pcf Nomex® honeycomb core
Airbus (All)	Gillfab 4522	5360 M1M 000500	Cargo-Container (CCC-1)	.375"thick; .020"/.015" fiberglass reinforced phenolic facings; 9.0 pcf Nomex® honeycomb core
Airbus A319,320, 321,330,340	Gillfab 4505	5360 M1M 000600	Cabin-High Traffic (PC-3)	.375" thick; .020"/.020" fiberglass/UD carbon reinforced phenolic facings; 9.0 pcf Nomex® honeycomb core
Airbus A319,320, 321,330,340	Gillfab 4605	5360 M1M 000600	Cabin-Low Traffic (PC-1)	.375" thick .017"/.017" fiberglass/UD carbon reinforced phenolic facings; 8.0 pcf Nomex® honeycomb core
Airbus A300, 310	Gillfab 4105 Ty I	TL53/5000/79 lss. 5	Cabin	.375" thick; .025"/.025" fiberglass reinforced epoxy facings; 6.0 pcf Nomex® honeycomb core
Airbus A300, 310	Gillfab 4105 Ty II	TL53/5000/79 lss. 5	Cabin	Same construction as Ty1 with a sheet of aluminum foil bonded to the bottom facing
Airbus A300, 310	Gillfab 4405 Ty I	TL53/5000/79 lss. 8	Cabin (PC-3/1)	.375" thick; .030"/.024" fiberglass reinforced epoxy facings; 8.0 pcf Nomex® honeycomb core
Airbus A300, 310	Gillfab 4405 Ty II	TL53/5000/79 lss. 8	Cabin (PC-3/2)	Same construction as PC-3/1 with a sheet of aluminum foil bonded to the bottom facing
Airbus A319,	Gillfab 4205	5360 M1B 000100	Cabin (Flight	.375" thick; .025"/.025" woven fiberglass/UD carbon
320,321			& Pax compartment)	reinforced phenolic facings; 6.0 pcf Nomex® honeycomb core
Airbus A319	Gillfab 4322	5360 M1B 000100	Cargo-Container	.375" thick; .024"/.022" woven fiberglass reinforced phenolic
320,321				facings; 6.0 pcf Nomex® honeycomb core
Airbus A300,310	Gillfab 4323	5360 M1B 000100	Cargo-Bulk	.496" thick; .030"/.020" woven fiberglass reinforced phenolic
319,320,321				facings; 6.0 pcf Nomex® honeycomb core

TABLE 5-PANEL AND h-PROFILE ASSEMBLY FOR DECOMPRESSION PANELS

	Sandwich Panel		h-Pi	ofile		
Airbus Aircraft	Airbus Type	M.C. Gill Product	Airbus Type	M.C. Gill Product	Aircraft Application	
A300	Α	Gillfab 4422 - 295	А	Gillfab 3072A	Decompression Panel on Sidewall AFT	
	С	Gillfab 4422 - 315	А	Gillfab 3072A	Decompression Panel at Frame C64	
		Gillfab 4422 - 366	В	Gillfab 3072B	Decompression Panel on Sidewall FWD	
	н	Gillfab 4422 - 610	D	Gillfab 3072D	Decompression Panel at Frame C20	
A310,	А	Gillfab 4422 - 295	А	Gillfab 3072A	Decompression Panel on Sidewall AFT	
A300-600	С	Gillfab 4422 - 315	Α	Gillfab 3072A	Decompression Panel at Frame C70	
	D	Gillfab 4422 - 366	В	Gillfab 3072B	Decompression Panel on Sidewall FWD	
	н	Gillfab 4422 - 610	D	Gillfab 3072D	Decompression Panel at Frame C20	
A320/A321	Α	Gillfab 4422 - 295	Α	Gillfab 3072A	Decompression Panel on Sidewall AFT	
Container Version	E	Gillfab 4422 - 386	В	Gillfab 3072B	Decompression Panel at Frame C52.A Decompression Panel at Frame C28 Decompression Panel at Frame C56	
	G	Gillfab 4422 - 508	С	Gillfab 3072C	Decompression Panel at Frame C24.A	
A319/A320/	А	Gillfab 4422 - 295	А	Gillfab 3072A	Decompression Panel on Ceiling	
A321 Bulk Version	E	Gillfab 4422 - 386	В	Gillfab 3072B	Decompression Panel at Frame C52.A Decompression Panel at Frame C28 Decompression Panel at Frame C56	
	G	Gillfab 4422 - 508	С	Gillfab 3072C	Decompression Panel at Frame C24.A	
A319 Bulk Version	E	Gillfab 4422 - 386	В	Gillfab 3072B	Decompression Panel at Frame C55.A	

ATTENTION GILLMART SHOPPERS

In our last issue, we pointed with no small degree of pride to the fact that the M.C. Gill Corporation is your one-stop buying center for sandwich panels, cargo liner, honeycomb, and fabricated parts. To our knowledge we are the only manufacturer in the world that can offer cargo liner and sandwich panels fully gualified to the specifications of not only Airbus, Boeing, Mc Donnell Douglas but to virtually every other OEM in the world. With this most recent qualification, we add Gillfab 4422 to the list of products that Airbus operators can purchase at Gillmart! We also have the capability to fabricate raw stock including 4422 to any configuration required by our customers.

EASY WAY TO REFER **TO PAST ISSUES**

If you value the data that appear in the Doorways we'll be pleased to send vou a loose leaf binder to retain them. Phone or fax us now.



Based on the current rate of increase, it would be 584 years until there are as many women holding public office as there are men.

It would take 2.8 million mosquito bites to drain the blood from a human being.

There are three pavillions in Los Angeles's recently completed \$1 billion Getty Museum. And two restrooms.

> Four percent of U.S. adults think they have gum disease. 75 percent actually do.

The longest sneezing fit lasted 978 days.

It takes two tons of water to grow the wheat for a one-pound loaf of bread.

92 percent of the U.S. population bite their fingernails.

The average body has 14-18 square feet of skin.

U.S. workers took 50 million sick days in 1996. ****

A casual toss of a cow's head has the same clout as a 30-pound sledgehammer.

***+ Cows make in excess of 40,000 jaw movements per day.