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THE M.C. GILL DOORWAY

New Vistas in Composites

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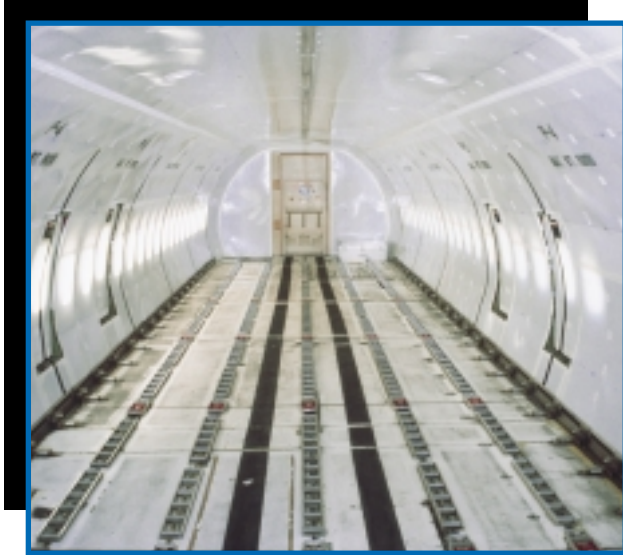
FROM OUR 225,000 SQ.FT "



ONE-STOP "BUYING CENTER



From Our "One-Stop" Buying Center



IN THE EARLY DAYS...

Our Gilliner 1066, a fiberglass reinforced polyester resin laminate, was the benchmark cargo liner of the market in terms of durability, puncture resistance, and other important physical and mechanical properties. It seldom scored high in laboratory analysis, because the specifications were not based on in-service tests but were written by engineers with metals background and who were unfamiliar with reinforced fiberglass plastics. 1066 was our break-through product that advanced cargo liner a full generation over existing liners. We still sell a lot of 1066 as replacement liner, and except for smoke generation, has no peer.

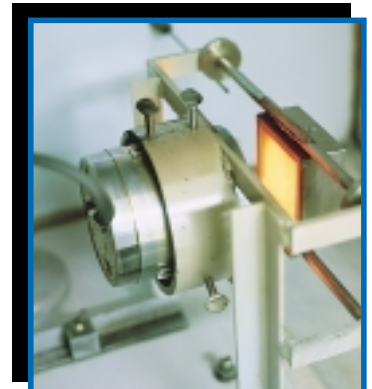


TODAY'S REQUIREMENTS

Airframe manufacturers, commercial airlines, and the FAA have laid down increasingly demanding requirements for cargo liners. The specifications now call for low smoke and low or no toxic emissions in a fire; it must have high puncture resistance and edge bearing values; it must be abrasion resistant; it cannot fail any of the several flammability tests; and, it must have high specific strength. There are valid reasons for all these requirements and it is incumbent on the supplier to meet them.



*Oil Burner-Burn Through
Cargo Liner Test*



*Measuring smoke emission in
an NBS smoke chamber*

ONE TYPE DOES NOT FIT ALL. THEREFORE MORE CHOICES.



Because M.C. Gill Corp. is the largest manufacturer of cargo liners in the world, we are able to offer our customers more types of cargo liner than any other company. Just as important, these liners are qualified to the specifications of virtually every airframe manufacturer in the world as shown by the data in Tables 1,2 and 3. Note: Airbus Industries uses sandwich panels in place of cargo liner in the cargo compartments of its aircraft.

CARGO LINER AVAILABILITY

Sheets

Thickness from .011", .016", and .020" and up in various multiples with a maximum length of 168" and maximum width of 72".

Roll stock

Cargo liner thickness depends on the product selected: up to 60" wide (trimmed to exact width): and, 150' in length or longer.

*Note: For additional information on cargo liner,
please refer to the Spring 1998 issue of the M.C. Gill Doorway.*

TABLE 1
M.C. GILL OEM-QUALIFIED AND PROPRIETARY CARGO LINERS

| Aircraft | Gill Part | Specifications | Construction/Key Characteristic |
|--------------------|----------------|---|---|
| Proprietary | Gillner 1066 | Far 25.855(1)(a)(ii) | Woven fiberglass cloth reinforced polyester laminate. General purpose, with high puncture resistance and proven history of in-service durability. Forerunner of all high performance cargo liners. |
| Boeing | Gillner 1076A | BMS 8-2 Class 1 Grade A .013", .023", .035", .045", .059", .070" | Woven fiberglass cloth reinforced polyester laminate. General purpose, low cost with good mechanical strength. |
| Boeing | Gillner 1076B | BMS 8-2 Class 3 Grade A .020", .045" | Woven fiberglass cloth reinforced polyester laminate with wear resistant surface. High wear and abrasion resistant, designed for use in areas such as 737 lower sidewall which may be prone to wear-through over frame sections and/or fastener hole tear-out at attach points. |
| Boeing | Gillfab 1108 | BMS 8-100 Class 1&2 Grade A .020", .030", .040", .050", .070" | Unidirectional fiberglass reinforced epoxy laminate. High impact resistance. |
| Boeing | Gillner 1266* | Per Boeing Drawing | Woven fiberglass cloth reinforced polyester laminate with .004" Gillcoat® surface. Superior abrasion resistance and good rigidity. |
| Boeing | Gillner 1366* | BMS 8-2 Class 2 Grade A .011", .020", .030", .045", .070" | Woven fiberglass cloth reinforced polyester laminate. Superior impact resistance and edge bearing strength. |
| Boeing | Gillner 1366T* | BMS 8-2 Class 2 Grade B .011", .020", .030", .045", .070" | Woven fiberglass cloth reinforced polyester laminate. Superior impact resistance and edge bearing strength. White Tedlar® overlay on face side for cleanability. |
| Boeing | Gillfab 1367 | BMS 8-223 Class 2 Grade B .013", .020", .030", .040", .050", .070" | Woven fiberglass cloth reinforced phenolic laminate with white Tedlar® on the face side for reflectivity. Superior impact resistance, low smoke and toxicity. |
| Boeing | Gillfab 1367A | BMS 8-223 Class 2 Grade B .013", .020", .030", .040" | Woven fiberglass cloth reinforced phenolic laminate with white Tedlar® on the face side for reflectivity. Very high impact strength, low smoke and toxicity. Lower cost than Gillfab 1367 because of hybrid construction. |
| Boeing | Gillfab 1367B | BMS 8-223 Class 4 Grade B .011", .018", .026", .035", .045" | Woven fiberglass cloth reinforced phenolic laminate with white Tedlar® on the face side for reflectivity. Superior impact strength, low smoke and toxicity. Lighter weight (20-25%) than 1367 and 1367A. |
| de Havilland | Gillfab 1566* | DHMS P1.42 CI A .016", .020", .033", .040" | Kevlar® reinforced polyester laminate with white Tedlar® on the face side. Very light weight (33% less than fiberglass). |
| de Havilland | Gilliner 1366* | DHMS P1.42 CI B .020", .030", .040", .050" | Woven fiberglass cloth reinforced polyester laminate. Superior impact resistance and edge bearing strength. |
| Lockheed | Gilliner 1366* | LAC-C-22-1249 Class 3 .020", .030", .040", .050", .070", .125" | Woven fiberglass cloth reinforced polyester laminate. Superior impact resistance, and edge bearing strength. |
| Lockheed | Gillfab 1367 | LAC-C-22-1249 Class 3 .020", .030", .040", .050", .070", .125" | Woven fiberglass cloth reinforced phenolic laminate with white Tedlar® on the face side for reflectivity. Superior impact strength, low smoke and toxicity. |
| Mc Donnell Douglas | Gillfab 1100 | DMS 1946 Type 1 .010", .016", .023", .030", .045", .060", .070", .090", .110", .120" | Woven fiberglass cloth reinforced polyester laminate. High impact strength and rigidity. |
| Mc Donnell Douglas | Gillfab 1100G | DMS 1946 Type 2 .010", .016", .023", .030", .045", .060", .070", .090", .110", .120" | Woven fiberglass cloth reinforced polyester laminate. High impact strength and rigidity. color: green. |
| Mc Donnell Douglas | Gilliner 1167* | DMS 2226 Type 1 Class 1 .016", .023", .030", .045", .060" | Woven fiberglass cloth reinforced phenolic laminate with white Tedlar® on the face side for reflectivity. Superior impact strength, low smoke and toxicity, good rigidity. First high performance phenolic cargo liner. |
| Mc Donnell Douglas | Gillfab 1367A | DMS 2419 Class 1 .013", .020", .030", .040" | Woven fiberglass cloth reinforced phenolic laminate with white Tedlar® on the face side for reflectivity. Superior impact strength, low smoke and toxicity. Lower cost and weight than 1167 due to hybrid construction. |

* Developed at M.C. Gill Corp. but subsequently adopted as original equipment.

TABLE 2 - A CHRONOLOGY OF M.C. GILL CARGO LINERS

| Year Introduced | Part No. | Customer | Construction* |
|-----------------|-----------|------------------------|------------------------|
| 1946 | 1038 | Convair | Polyester |
| 1951 | 1018 | Douglas | Polyester |
| 1958 | 1044 | Douglas | Polyester ¹ |
| 1961 | 1066 | Douglas, United, Delta | Polyester |
| 1965 | 1076 | Boeing | Polyester |
| 1972 | 1108 | Boeing | Epoxy ² |
| 1972 | 1138 | Lockheed | Polyester |
| 1972 | 1338 | Lockheed | Polyester ³ |
| 1972 | 1366 | United | Polyester |
| 1973 | 1095/1096 | McDonnell Douglas | Polyester |
| 1977 | 1100 | McDonnell Douglas | Polyester |
| 1977 | 1102 | McDonnell Douglas | Phenolic |
| 1978 | 1366T | Boeing | Polyester |
| 1978 | 1166 | Proprietary | Polyester |
| 1978 | 1266 | Boeing | Polyester |
| 1979 | 1014 | McDonnell Douglas | Polyester |
| 1980 | 1566 | Boeing | Polyester ⁴ |
| 1981 | 1076 | Boeing | Polyester |
| 1982 | 1366 | Boeing | Polyester |
| 1985 | 1167 | McDonnell Douglas | Phenolic |
| 1986 | 1367 | Boeing | Phenolic |
| 1991 | 1167B | McDonnell Douglas | Phenolic |
| 1991 | 1367A | Boeing | Phenolic |
| 1992 | 1367B | Boeing | Phenolic |
| 1993 | 1367A | McDonnell Douglas | Phenolic |
| 1994 | 1076B | Boeing | Polyester |
| 1998 | 1076A | Boeing | Polyester |

*Unless otherwise noted, the reinforcement in the above products is reinforced fiberglass cloth; only the resins are called out. ¹ Reinforcement was half nylon and half glass cloth ² Epoxy unidirectional glass ³ Reinforcement is Nomex[®] or Kevlar[®] cloth. ⁴ Reinforcement is Kevlar[®]

TABLE 3 - WHERE GILLINER IS ORIGINAL EQUIPMENT

| Boeing All 700 Series | | McDonnell Douglas Aircraft as noted in () | | Lockheed L-1011 | |
|--------------------------|---|---|---|-----------------|---------------------|
| Part No. | Specification | Part No. | Specification | Part No. | Specification |
| 1076A | BMS 8 - 2, CI 1, Gr A | 1100 | DMS 1946, Ty 1 (DC-10 & KC-10) | 1138 | LAC-C-22-1249, C1 1 |
| 1366 | BMS 8-2, CI 2, Gr A | | | 1338 | LAC-C-22-1347, C1 1 |
| 1366T | BMS 8-2, CI 2, Gr B | 1100G | DMS 1946, Ty 2 (DC-9) | 1366 | LAC-C-22-1249, C1 3 |
| 1367 | BMS 8-223, CI 2, Gr B (all types) | 1167 | DMS 2226, Ty 1 & Ty 2 (MD-80 & MD-11) | 1367 | LAC-C-22-1249, C1 3 |
| 1367A* | BMS 8-223, CI 2, Gr B (Types 13, 20, 30, 40) | 1167B | DMS 2226, Ty 1 (MD-80 & MD-11) | 1367A* | LAC-C-22-1249, C1 3 |
| 1367A* | BMS 8-223, CI 2, Gr C (Type 40) | 1367A* | DMS 2419 (All Douglas aircraft except freighters) | | |
| 1367B | BMS 8-223, CI 4, Gr B (Types 13, 20, 30, 40, 50) | | | | |

*Universal liner; used in Boeing, Douglas, and Lockheed aircraft.

From Our "One-Stop" Buying Center

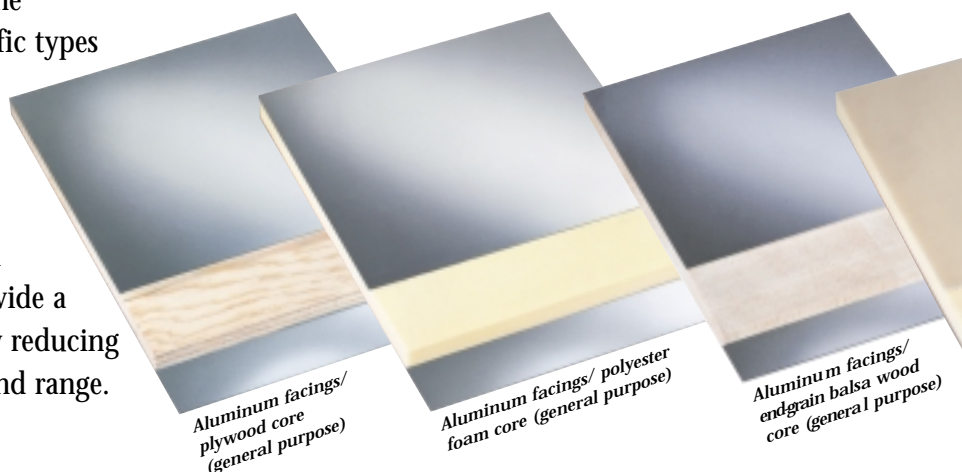
EARLY ON, AN OVERLOOKED COMPONENT

Panels, much less those of the sandwich variety, were not a major consideration in the first passenger aircraft for good reasons. First, raw material selection was pretty much confined to aluminum, magnesium, steel, wood (primarily plywood), and thermoplastic; second, fuel was inexpensive and plentiful; and third, average flight distances were short. In addition, there was a somewhat narrow range of aircraft types and a "one-material-fits-all" philosophy prevailed. To a large extent, it was for these same reasons that the M.C. Gill Corp. did not rush to add sandwich panels to its product line.



ALL OF A SUDDEN, PANELS ARE IMPORTANT

This changed in the early 1960's when airframe manufacturers became more specialized—specific types of aircraft were designed for specific types of routes, e.g., DC-9's and 737's for short haul and L-1011's, 747's and DC-10's for the long haul flights. With the advent of jet aircraft, a primary objective of sandwich panel design in general, and flooring in particular, was to provide a serviceable panel at minimum weight, thereby reducing fuel consumption while increasing payloads and range. Meeting these criteria meant that composites had found another end use.



DID SOMEBODY SAY COMPOSITES?

M.C. Gill Corp. decided to get into the sandwich panel business in the early 1960's, thus broadening the company's product base. The first effort was Gillfloor® 5007 (fiberglass cloth reinforced polyester skins bonded to an end grain balsa wood core) introduced in 1963. In fact, that basic composite construction is still in widespread use today. Table 4 shows sandwich panel components. *Today, the M.C Gill Corporation's sandwich panels are qualified to virtually every airframe manufacturer in the world as shown in the following tabulation.*

AIRCRAFT USING M.C. GILL QUALIFIED PANELS

| | |
|-----------------------|---------------------|
| Airbus Industrie | Dassault Falcon Jet |
| Boeing | Embraer |
| Bombardier Aerospace- | Fokker |
| deHavilland | Learjet |
| British Aerospace | Lockheed |
| Canadair | McDonnell Douglas |
| Cessna | Raytheon/Beech |
| Convair | |

PANEL AVAILABILITY UP TO 104" WIDE, 14' LONG*

VERSATILE CHANGES. Our standard raw stock sandwich panels are made on an end-opening press. Generally, they are four or five feet wide by eight, ten, or twelve feet long and .400" thick although almost any thickness is available. We can make them as wide as 104" and as long as 14' – longer and/or wider with “step pressing”.

*If step pressing is used on our side opening press, panels can be up to 25ft. long and 14ft. wide. This versatility is rarely found elsewhere.

CLEANROOM CAPABILITY. To maintain our qualifications and continue to qualify for new ones we built a clean room with a climate controlled environment virtually free of contaminating materials. It allows us to respond to requests for quotations for products requiring this type of facility for the manufacturing process—especially commercial aircraft and military specification quality sandwich panels. The clean room also makes for greater efficiency because panel lay up is done in a separate area with kitted products.

Note: For additional information on sandwich panels, please refer to the Winter, Spring, Summer, and Fall 1997 issues of the M.C. Gill Doorway. Also see Tables 5 and 6 on pages 10 and 11.

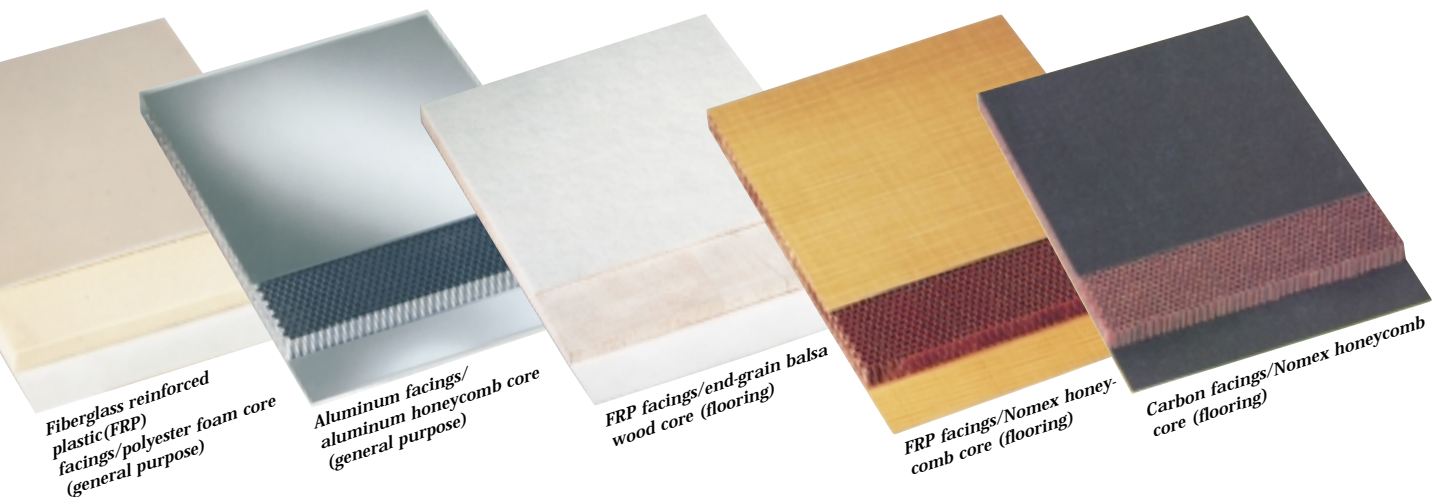
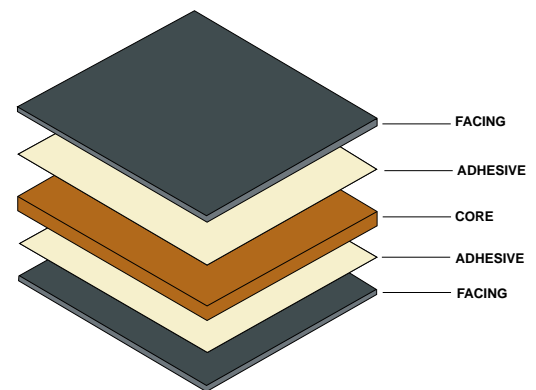


TABLE 4- SANDWICH PANEL COMPONENTS

| <u>Facings</u> | <u>Cores</u> | <u>Adhesives</u> |
|--|---------------------|---------------------------|
| Aluminum | End-grain | Urethane and contact-type |
| E-glass ¹ | Balsa Wood | Elastometric Contact |
| S-glass ¹ | Nomex or paper | Epoxy |
| Carbon* | Honeycomb | Phenolic |
| Stainless steel, titanium or magnesium | Aluminum Honeycomb | |
| | Crushed aluminum | |
| | Honeycomb | |
| | Foam | |
| | Plywood | |



TYPICAL SANDWICH PANEL CONSTRUCTION

¹Either cloth or uni-directional (ribbon-like)

TABLE 5 - M.C. GILL OEM-QUALIFIED

| 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 Iss. 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 Iss. 5 | Cabin | Same construction as 4105 Ty I with a sheet of aluminum foil bonded to the bottom facing |
| Airbus A300, 310 | Gillfab 4405 Ty I | TL53/5000/79 Iss. 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 Iss. 8 | Cabin (PC-3/2) | Same construction as PC-3/1 with a sheet of aluminum foil bonded to the bottom facing |
| Airbus A319, 320,321 | Gillfab 4205 | 5360 M1B 000100 | Cabin (Flight & Pax compartment) | .375" thick; .025"/.025" woven fiberglass/UD carbon reinforced phenolic facings; 6.0 pcf Nomex® honeycomb core |
| Airbus A319 320,321 | Gillfab 4322 | 5360 M1B 000100 | Cargo-Container | .375" thick; .024"/.022" woven fiberglass reinforced phenolic facings; 6.0 pcf Nomex® honeycomb core |
| Airbus A300,310 319,320,321 | Gillfab 4323 | 5360 M1B 000100 | Cargo-Bulk | .496" thick; .030"/.020" woven fiberglass reinforced phenolic facings; 6.0 pcf Nomex® honeycomb core |
| BAe J31/41, ATP & 1000 | Gillfab 4017T Ty I | MAT 003 Ty I | Cabin-High Traffic | Panel thickness per customer specifications; .015"/.015" UD fiberglass reinforced epoxy facings; 9.0 pcf Nomex® honeycomb core |
| BAe J31/41, ATP & 1000 | Gillfab 4017T Ty II | MAT 003 Ty II | Cabin-Low Traffic | Panel thickness per customer specifications; .015"/.015" UD fiberglass reinforced epoxy facings; 5.0 pcf Nomex® honeycomb core |
| BAe 146/RJ | Gillfab 4609 Gr L | AVN 3-005 Grade L | Cabin-Low Traffic | .400" thick; .014"/.014" UD carbon reinforced phenolic facings; 4.0 pcf Nomex® honeycomb core |
| BAe 146/RJ | Gillfab 4609 Gr M | AVN 3-005 Grade M | Cabin-High Traffic | .400" thick; .014"/.014" UD carbon reinforced phenolic facings; 8.0 pcf Nomex® honeycomb core. |
| BAe 146/RJ | Gillfab 4004A | BAER 3232 | Cargo | .410" thick; .030"/.015" UD fiberglass reinforced phenolic facings; 9.0 pcf Nomex® honeycomb core |
| Boeing 707, 727 | Gillfab 5042 | BMS 4-10 Ty I* | Cargo | Panel thickness and facings per specification grade; aluminum facings/9.0 pcf (avg.) end-grain balsa wood core |
| Boeing (all) | Gillfab 4417 Ty I | BMS 4-17 Ty I | Cabin-Underseat | .400" thick; .015"/.015" UD fiberglass reinforced epoxy facings; 5.0 pcf Nomex® honeycomb core |
| Boeing (all) | Gillfab 4417 Ty II | BMS 4-17 Ty II | Cabin-Aisle | .400" thick; .015"/.015" UD fiberglass reinforced epoxy facings; 9.0 pcf Nomex® honeycomb core |
| Boeing (all) | Gillfab 4417A Ty VI | BMS 4-17 Ty VI | Cabin-Gallery/High Traffic | .400" thick; .020"/.020" UD fiberglass reinforced epoxy facings; 10.0 pcf Nomex® honeycomb core |
| Boeing 767 | Gillfab 4417 Ty IV | BMS 4-17 Ty IV | Cargo | .665" thick; .015"/.015" UD fiberglass reinforced epoxy facings; 5.0 pcf Nomex® honeycomb core |
| Boeing 707,727, 737,757 | Gillfab 5424 Ty I | BMS 4-23 Ty I | Cabin-Underseat | .400" thick; .018"/.018" UD fiberglass reinforced epoxy facings; 6.1 pcf aluminum honeycomb core |
| Boeing 707,727, 737,757 | Gillfab 5424 Ty II | BMS 4-23 Ty II | Cabin-Aisle | .400" thick; .018"/.018" UD fiberglass reinforced epoxy facings; 8.5 pcf aluminum honeycomb core |
| Boeing 707,727, 737,757 | Gillfab 4417 Ty III | BMS 4-17 Ty III | Cabin-Gallery/High Traffic | .400" thick; .022"/.022" UD fiberglass reinforced epoxy facings; 9.0 pcf Nomex® honeycomb core |
| Boeing 747, 767,777 | Gillfab 4709 Ty III | BMS 4-20 Ty III | Cabin-Underseat | 400" thick; .015"/.015" UD carbon reinforced epoxy facings; 5.0 pcf Nomex® honeycomb core |
| Boeing 747, 767,777 | Gillfab 4709 Ty II | BMS 4-20 Ty II | Cabin-Aisle/Entry | 400" thick; .015"/.015" UD carbon reinforced epoxy facings; 9.0 pcf Nomex® honeycomb core |
| Boeing 747, 767,777 | Gillfab 4417 Ty V,IX | BMS 4-17 Ty V, IX | Cabin-Gallery/High Traffic | 400" thick; .030"/.030" UD fiberglass reinforced epoxy facings; 12.0 pcf Nomex® honeycomb core |

* In qualification.

AND PROPRIETARY FLOORING PANELS

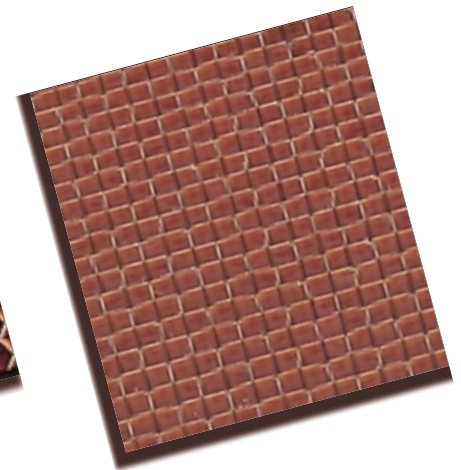
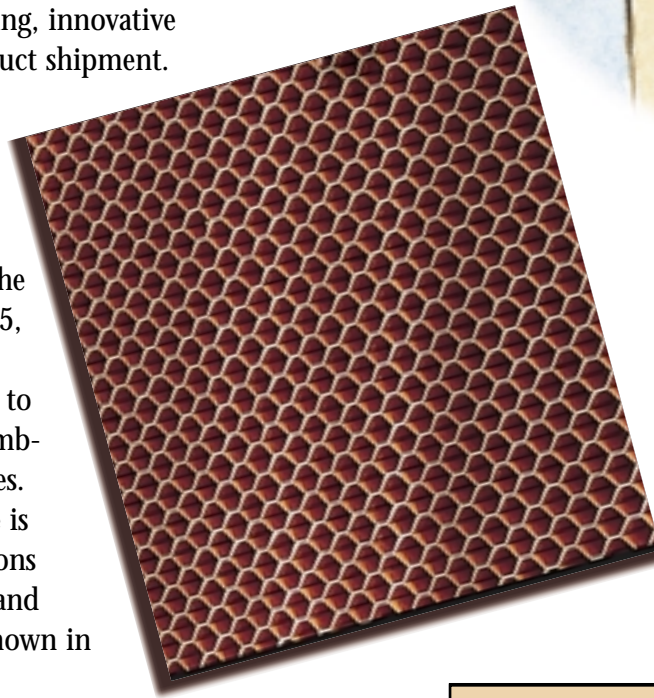
| Aircraft | Gill Part | Specifications | Application | Construction |
|---------------------------------------|-------------------------|----------------------------|-------------------------|---|
| Boeing 777 | Gillfab 5433C | BMS 7-326 Ty VII CI 2/1 | Cargo | .058" thick; .016"/.020" 2024T3 clad aluminum; woven fiberglass reinforced epoxy core |
| Embraer 135/145 | Gillfab 4017T Ty I | MEP 15-031 Ty I | Cabin-High Traffic | .400" thick; .015"/.015" UD fiberglass reinforced epoxy facings; 9.0 pcf Nomex® honeycomb core |
| Embraer 135/145 | Gillfab 4017T Ty II | MEP 15-031 Ty II | Cabin-Low Traffic | .400" thick; .015"/.015" UD fiberglass reinforced epoxy facings; 5.0 pcf Nomex® honeycomb core |
| Embraer 135/145 | Gillfab 4009 | MEP 15-030 | Cabin | .400" thick; .010"/.010" UD carbon reinforced epoxy facings; 4.0 pcf Nomex® honeycomb core |
| Embraer 135/145 | Gillfab 5040 | MEP 15-011 | Cabin-Aisle | .400" thick; .020"/.012 2024T3 clad aluminum facings; 9.0 pcf (avg.) end-grain balsa wood core |
| Fokker 100 | Gillfab 4018 | FoN1.4350CC102 | Cabin-Entry/Gallery/Lav | .402" thick; .028"/.028" UD fiberglass reinforced phenolic facings; 9.0 pcf Nomex® honeycomb core |
| Fokker 100 | Gillfab 4019 | FoN1.4354DD120 | Cabin-Aisle | .477" thick; .022"/.022" UD fiberglass/carbon reinforced phenolic facings; 6.0 pcf Nomex® honeycomb core |
| Learjet | Gillfab 5040 | LES 1189 | Cabin | Panel thickness per customer call-out; .010"/.010" aluminum 2024T3 aluminum facings; 9.0 pcf (avg.) end-grain balsa core |
| Learjet | Gillfab 4201 | LES 1227 | Cabin | Panel thickness, facing alloy & honeycomb per customer callout; aluminum facings (primed)/aluminum honeycomb core |
| Lockheed L-1011 | Gillfab 4017L | LAC-C-28-1386 Ty I | Cabin-High Traffic | .375" thick; .015"/.015 UD fiberglass reinforced epoxy facings; 9.0 pcf Nomex® honeycomb core |
| Lockheed L-1011 | Gillfab 4017L | LAC-C-28-1386 Ty II | Cabin-Low Traffic | .375" thick; .015"/.015 UD fiberglass reinforced epoxy facings; 5.0 pcf Nomex® honeycomb core |
| McDD DC-9, MD 80/90,- (B717) DC-10 | Gillfab 4017T Ty I | BZZ 7002 Ty I | Cabin-High Traffic | .400" thick; .015"/.015 UD fiberglass reinforced epoxy facings; 9.0 pcf Nomex® honeycomb core |
| McDD DC-9, MD 80/90, (B717) DC-10 | Gillfab 4017T Ty II | BZZ 7002 Ty II | Cabin-Low Traffic | .400" thick; .015"/.015 UD fiberglass reinforced epoxy facings; 5.0 pcf Nomex® honeycomb core |
| McDD DC-10, MD-11 (Freighter) | Gillfab 4017T Ty III | BZZ 7002 Ty III | Cargo | .400" thick; .030"/.015 UD fiberglass reinforced epoxy facings; 9.0 pcf Nomex® honeycomb core |
| McDD MD-80/90, (B717) MD-11 | Gillfab 4509 Ty I | 7954400 Ty I | Cabin-High Traffic | .390" thick; .015"/.015" UD carbon reinforced phenolic facings; 8.0 pcf Nomex® honeycomb core |
| McDD MD-80/90, (B717) MD-11 | Gillfab 4509 Ty II | 7954400 Ty II | Cabin-Low Traffic | .390" thick; .015"/.015" UD carbon reinforced phenolic facings; 4.0 pcf Nomex® honeycomb core |
| McDD MD-80, MD-11 | Gillfab 4004 | 7954400 | Cargo | .410" thick; .030"/.015" UD fiberglass reinforced phenolic facings; 9.0 pcf Nomex® honeycomb core |
| McDD DC-9, MD-80 | Gillfab 4106 | S3932194 | Cabin-Underseat | .390" thick; .016"/.010" 7075T6 clad aluminum facings; 3.1 pcf Nomex® honeycomb core |
| McDD DC-9, MD-80/90 (B717) | Gillfab 5242 | S00096 | Cargo | .390" thick; .020"/.012" 2024T3 clad aluminum facings w/frp overlay face-side; 9.0 pcf (avg.) end-grain balsa wood core |
| McDD DC-10, MD-11 | Gillfab 5042B | S3932193 | Cargo | .390" thick; .016"/.010" 7075T6 clad aluminum facings; 9.0 pcf (avg.) end-grain balsa wood core |
| McDD DC-10, MD-11 | Gillfab 5042B | S3932195 | Cargo | .390" thick; .020"/.016" 7075T6 clad aluminum facings; 9.0 pcf (avg.) end-grain balsa wood core |
| McDD DC-10 | Gillfab 4022B | S3933941 | Cabin-Galley | Facing & panel thickness per specification type; fiberglass reinforced phenolic facings; 8.0 pcf Nomex® core |
| McDD DC-10 | Gillfab 4022C | S3933942 | Cabin-Entry, Lavatory | Facing & panel thickness per specification type; fiberglass reinforced phenolic facings; 6.0 pcf Nomex® core |
| McDD DC-10, MD-11 | Gillfab 5142 | S4929905 | Cargo | .390" thick; .016"/.010" 7075T6 clad aluminum facings; 6.5 pcf (avg.) end-grain balsa wood core |
| McDD DC-10, MD-11 | Gillfab 5042B | S4931863 | Cargo | .390" thick; .025"/.020" 7075T6 clad aluminum facings; 9.0 pcf (avg.) end-grain balsa wood core |
| M.C. Gill Proprietary | Gillfab 5007A | FAR 25.853(1)(a)(ii) | Cargo | Fiberglass reinforced polyester facings; 9.0 pcf (avg.) end-grain balsa wood core. Panel and facing thickness per customer req't |
| M.C. Gill Proprietary | Gillfab 5007B | FAR 25.853(1)(a)(ii) | Cargo | Similar to 5007A but higher peel strength |
| M.C. Gill Proprietary | Gillfab 5007C | FAR 25.853(1)(a)(ii) | Cargo | Similar to 5007B but with a .005" mat overlay for high abrasion resistance |
| M.C. Gill Proprietary | Gillfab 5040 | FAR 25.853(1)(a)(ii) | Cargo | Aluminum facings/ 9.0 pcf (avg.) end-grain balsa wood core Panel and facing thickness per customer req't |

From Our "One-Stop" Buying Center

Relative to the two previous segments of our product base, our manufacture of Gillcore HD is somewhat recent. The company has used honeycomb as a core material since 1955 but it has only been since 1986 that we have made it ourselves.

In fact, our decision was in keeping with a long-established policy of vertical integration. This practice provides us with greater control over our supply of raw materials, their quality, production scheduling, innovative modification, and end-product shipment.

At the outset, we produced Gillcore HD necessary for in house consumption, i.e., core for sandwich panels. The long range goal, met in 1995, was to have the facilities to expand production capacity to enable us to make honeycomb-only sales in blocks and slices. The success attained to date is evidenced by the qualifications shown in Table 7. Physical and mechanical properties are shown in Tables 7 and 8.



AVAILABILITY

Gillcore HD can be sliced in sheets as thin as .080" or in blocks as thick as 36". Without splicing, Gillcore HD is available in lengths of up to 144" and widths up to 60". It is available in 1/8" cell sizes in densities from 1.8 to 9.0 pcf and higher; 3/16" cell size in densities from 3.5. to 6.0 pcf and higher; and 1/4" cell size in densities from 1.5 to 4.0 pcf and higher.

Note: For additional information on honeycomb please refer to the Fall 1999 issue of the M.C. Gill Doorway.

Table 6
Gillcore HD Qualifications by End User

| End User | Qualified to Specification: |
|---|---|
| Aim Aircraft | AIM-M-1013 |
| Bell Helicopter (Textron) | 299-947-103 |
| Boeing | BMS 8-124 |
| Cessna | CMNP083, Ty II, B1 4, Gr 1.8, 3.0, and 6.0 |
| FAR | 25.853 |
| Lockheed | LCM (28) - 1041, G28001 |
| Lockheed-Georgia | STM(28) - 105. 1/8-1.8 (1.5) and 1/8-3.0 (2) |
| McDonnell Douglas | DMS 1974 |
| Naval Sea Systems | Drawing No. 803 - 5959189. GPR Construction Bulkheads For Surface Ships |
| Northrup Grumman | GC101D |
| Northwest Technical | NMS 200 |
| Raytheon/Beech | BS 23732 |
| Vought | 10425.1957 |
| Weber | WMS 711 |
| Also, Gillcore meets the requirements of Rockwell LBO130-022 and Mil-C-81986. | |

GILLCORE HD

(Nomex Honeycomb Core)

TABLE 7

PHYSICAL AND MECHANICAL PROPERTIES OF GILLCORE HD BASED ON .500" THICK SLICES UNLESS STATED OTHERWISE. TYPICAL AVERAGE VALUES.

| PROPERTY | TEST METHOD | UNIT (Eng/Metric) | 1/8 CELL (± 10%) | | | | | 3/16 CELL (± 10%) |
|--|--------------|----------------------------------|---------------------------|-----------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|
| NOMINAL DENSITY | | | 1.8 PCF | 3.0 PCF | 4.0 PCF | 8.0 PCF | 9.0 PCF | 6.0 PCF |
| BARE COMPRESSION | MIL-STD-401B | lb/sq in (kg/sq m) | 95 (66,792) | 327 (229,905) | 609 (428,172) | 2,011 (1,413,882) | 2,145 (1,508,094) | 994 (698,856) |
| STABILIZED COMPRESSION | MIL-STD-401B | lb/sq in (kg/sq m) | 132 (92,806) | 317 (222,874) | 624 (438,718) | 2,173 (1,527,780) | 2,456 (1,726,750) | 1,120 (787,443) |
| SHEAR - L Direction Ultimate Load Modulus | MIL-STD-401B | lb/sq in (KPa) lb/sq in (GPa) | 102 (703) 4,371 (30.1) | 178 (1,227) 8,408 (57.9) | 367 (2,230) 10,200 (70.3) | 573 (3,951) 17,100 (117.9) | 526 (3,627) 19,418 (133.9) | 590 (4,068) 17,000 (117.2) |
| SHEAR - W Direction Ultimate Load Modulus | MIL-STD-401B | lb/sq in (KPa) lb/sq in (GPa) | 48 (331) 2,010 (13.9) | 100 (689) 3,823 (26.4) | 226 (1,558) 7,100 (49.0) | 441 (3,041) 12,800 (88.3) | 345 (2,379) 11,996 (82.7) | 388 (2,675) 9,900 (68.3) |
| WATER MIGRATION | MIL-STD-401B | number of contiguous cells | 3.23 | 1.43 | 1.26 | 1.00 | 1.47 | 1.08 |
| FLAMMABILITY - 60 Second Vertical Self-Extinguishing Time Burn Length Drip Extinguishing Time | BSS 7230 | second inch (mm) second | 0.1 1 (25) 0 | 1.6 1.9 (48) 0 | 1.1 2.7 (69) 0 | 1.3 2.9 (74) 0 | 0.1 0.5 (13) 0 | 1.9 1.6 (41) 0 |

Note: Check with our Customer Service Dept. for additional densities.

TABLE 8

PHYSICAL AND MECHANICAL PROPERTIES OF OX GILLCORE HD

| DESIGNATION | CELL SIZE DENSITY (GAUGE) | COMPRESSIVE STRENGTH | | PLATE SHEAR | | | |
|-------------|---------------------------------|-------------------------|-------------------------------|-----------------------------|---------------------------|-----------------------------|---------------------------|
| | | BARE (MIN. AVG. PSI) | STABILIZED (MIN. AVG. PSI) | "L" DIRECTION | | "W" DIRECTION | |
| | | | | STRENGTH (MIN. AVG. PSI) | MODULUS (MIN.AVG. KSI) | STRENGTH (MIN. AVG. PSI) | MODULUS (MIN.AVG. KSI) |
| HD 3/16-1.8 | 3/16-1.8 (2) | 70 | 85 | 45 | 1.5 | 42 | 2.2 |
| HD 3/16-3.0 | 3/16-3.0 (2) | 230 | 280 | 90 | 2.2 | 90 | 4.5 |

Note: Check with our Customer Service Dept. for additional densities.

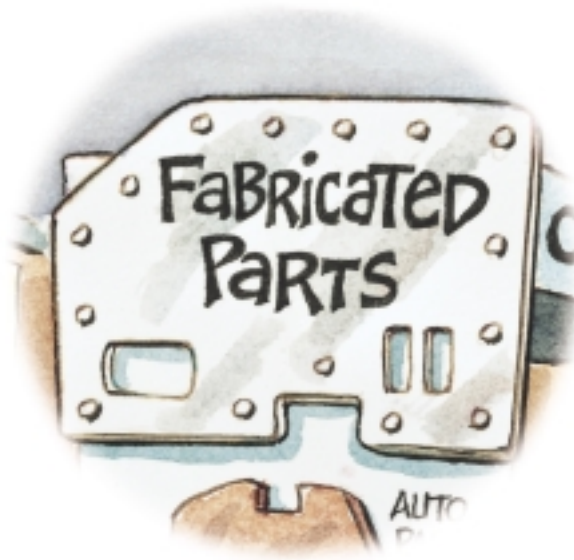
From Our "One-Stop" Buying Center

The fourth and newest element of our current product base is the fabrication of "drop-in ready" parts. The company has long realized that to maintain its leadership position, it had to offer more value added for its existing and potential customer base.

In 1993 the decision was made that in addition to our multi-use raw stock panels and flat laminates we would give our customers the option of ordering those products detailed to their requirements. That included cutting to shape, edge routing and filling, drilling, counter-sinking and installing inserts—in short, finished products that are essentially "drop-in ready".

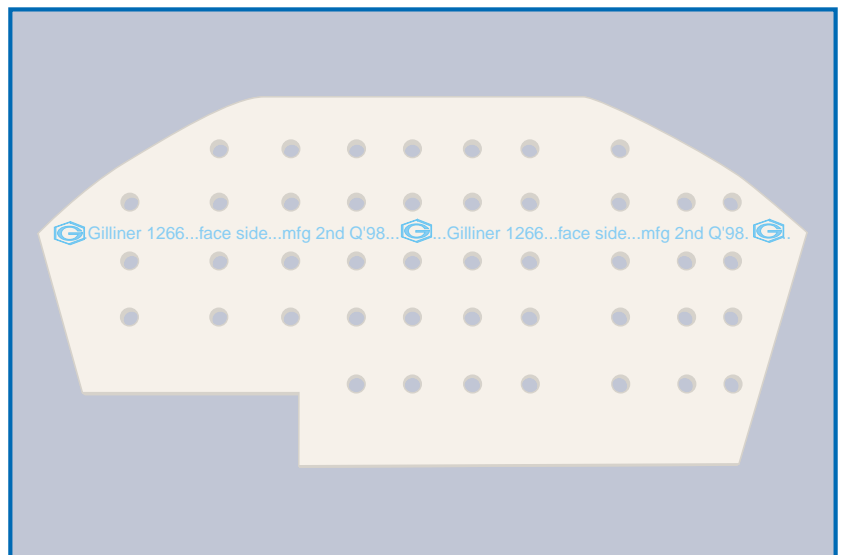
In addition to fabricating flooring panels for Douglas Products Division and others, we have profiled base plates for pre-production units of ground combat tactical trainers, window frames for commercial aircraft, radome skins, shipping/storage containers for satellites, and flooring panels for a prototype sports car.

Note: For additional information on fabricated parts please refer to the Summer 1994 and the Winter 1996 issues of the M.C. Gill Doorway.



Carbon/Nomex fabricated floor panel

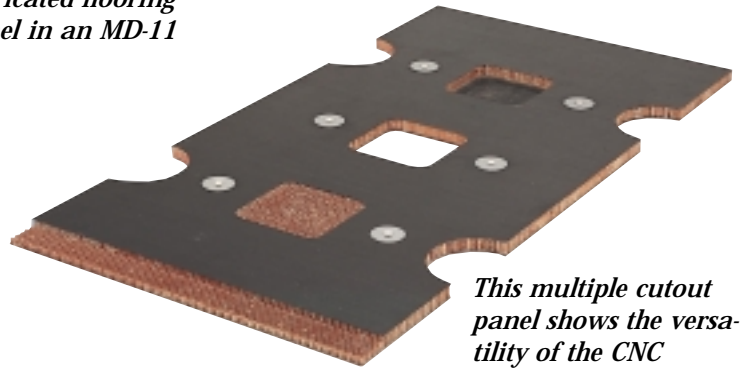
"DROP-IN DETAILED TO



"Special use" fabricated cargo liner



*Installing an M.C. Gill
fabricated flooring
panel in an MD-11*

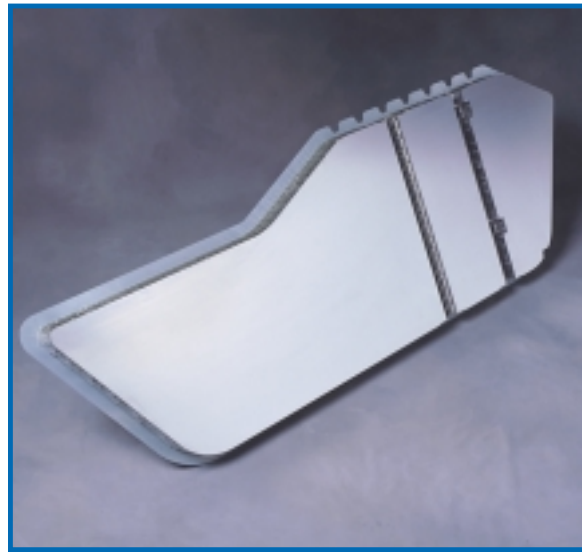
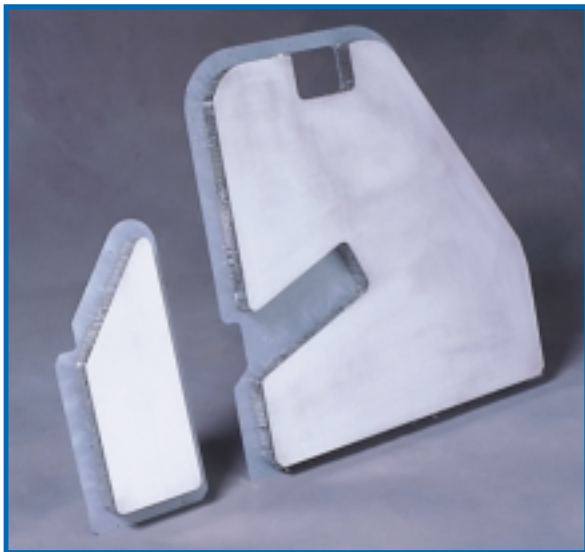


*This multiple cutout
panel shows the versa-
tility of the CNC
router/profiler*



*Fiberglass reinforced
phenolic resin housing for smoke
detection equipment in baggage
compartment*

READY" PARTS YOUR DESIGNS & SPECS



*Aluminum facings/aluminum honeycomb core for these panels profiled for
Carroll Shelby's new Series 1 car.*

**A WIDE VARIETY OF
PRODUCTS AND THEIR
AVAILABILITY SUPPORT
OUR "ONE-STOP" CONCEPT.**

However, there are ancillary services that also must be provided to support the availability of these products.

Unless and until these services are in place the job is not complete. The M.C. Gill Corp. has long recognized the importance of services to our customers.

For example, we have offered AOG service (Aircraft On Ground, meaning an aircraft is grounded until a required part has been purchased and installed in the aircraft) and an established line of credit for charge account purchases for many years.

In addition, we have recently added Express Services, Credit Card Payment, and Just-In-Time delivery as described on pages 16,17 and 18. These services further support the product base previously discussed.

EXPRESS SERVICES

Introduced only last year (1999), Express Services has already become a welcome and innovative service. Essentially, we maintain an inventory that includes our faster selling products and those required to provide a base stock that is qualified to major airframe manufacturers, specifications for flooring and cargo liner. Our customers place their orders from this inventory or "menu" of products (see Table 9) and the parts can be packaged and shipped in one day versus a normal lead time of several weeks.

Note: For additional information on Express Services please refer to the Summer 1999 issue of the M.C. Gill Doorway.

**M.C. Gill Proprietary Products
Available for Express Services**

| M.C.GILL PART NO. | CONSTRUCTION | LOCATION IN AIRCRAFT |
|------------------------------------|---|---|
| GILLINER 1066/ GILLINER 1366 | FIBERGLASS CLOTH REINFORCED POLYESTER RESIN | LOCATION IN CARGO COMPARTMENT DEPENDENT ON THICKNESS |
| GILLINER 1367C | FIBERGLASS CLOTH REINFORCED PHENOLIC RESIN | SAME AS ABOVE |
| GILLFLOOR 4030 | ALUMINUM FACINGS/ ALUMINUM HONEY- COMB CORE | MANY INTERIOR APPLICATIONS INCLUDING BULKHEADS, SHELV- ING, AND GALLEY PANELS |
| GILLFLOOR 5007B GILLFLOOR 5007C | FIBERGLASS CLOTH REINFORCED POLYESTER FACINGS END GRAIN BALSA WOOD CORE | FLOORING, BULKHEADS, SHELV- ING, GALLEY PANELS, PARTI- TIONS, CARGO PALLET BASES |

TABLE 9...EXPRESS SERVICES PARTS¹

| BOEING | | | | | | |
|---|---|--|-----------------------|--------------------------|--------------------------------|--------------------|
| AIRCRAFT TYPES | FLOOR PANELS | | | CARGO LINER | | |
| | LOCATION | SPECIFICATION | M.C. GILL PART NO. | LOCATION* | SPECIFICATION | M.C. GILL PART NO. |
| 737 | PASSENGER COMPARTMENT | BMS 4-23 | 5424 | SIDEWALLS, CEILING | BMS 8-223, CL 2 GR B | 1367, 1367A |
| | | BMS 4-17 BMS 4-17, Ty VI | 4417 4417A | AFT FLOORING | BMS DWG | 1266 |
| 747 747-400 767-200 767-300 | PASSENGER COMPARTMENT | BMS 4-17 | 4417 | CEILING (747) | BMS 8-2, CL 1 GR A | 1076A |
| | | BMS 4-20 BMS 4-17, TY VI | 4709 4417A | SIDEWALLS, CEILING | BMS 8-223, CL 2 GR B | 1367, 1367A |
| 777 | PASSENGER COMPARTMENT | BMS 4-20 BMS 4-17, TY VI | 4709 4417A | | | |
| 757 | PASSENGER COMPARTMENT | BMS 4-17 BMS 4-17, TY VI BMS 4-23 | 4417 4417A 5424 | SIDEWALLS, CEILING | BMS 8-223, CL 2 GR B | 1367, 1367A |
| DOUGLAS | | | | | | |
| AIRCRAFT TYPES | FLOOR PANELS | | | CARGO LINER | | |
| | LOCATION | SPECIFICATION | M.C. GILL PART NO. | LOCATION* | SPECIFICATION | M.C. GILL PART NO. |
| DC-9, DC-10 MD-11 MD-80 MD-90/B717 | PASSENGER COMPARTMENT | BZZ-7002 | 4017T | SIDEWALLS, CEILING | DMS 1946 TY 1 DMS 2419 CL 1 | 1100 1367A |
| DC-9, MD-80 MD-90/ B717 | CARGO COMPARTMENT | DAC S00096 | 5242 | SIDEWALLS, CEILING | DMS 1946 TY 1 DMS 2419 CL 1 | 1100 1367A |
| DC-10, MD-11 | CARGO COMPARTMENT | DAC S3932193 DAC S4929905 | 5042B 5142 | SIDEWALLS, CEILING | DMS 1946 TY 1 DMS 2419 CL 1 | 1100 1367A |
| MD-11 MD-80 MD-90/B717 | PASSENGER COMPARTMENT | DAC 7954400 | 4509 | SIDEWALLS, CEILING | DMS 1946 TY 1 DMS 2419 CL 1 | 1100 1367A |
| AIRBUS | | | | | | |
| AIRCRAFT TYPES | FLOOR PANELS | | | CARGO LINER ² | | |
| | LOCATION | SPECIFICATION | M.C. GILL PART NO. | LOCATION | SPECIFICATION | M.C. GILL PART NO. |
| A300, A310 | PASSENGER COMPARTMENT | TL53/5000/79 | 4105 TY I | | | |
| | | TL53/5000/79, ISSUE 8, ANNEX A, PC 3, TY 2 | 4405B | | | |
| | BULK CARGO COMPARTMENT | 5360 M1B 000100 | 4323 | | | |
| A330, A340 | PASSENGER COMPARTMENT | 5360 M1M 000600 ISSUE 3 (PC3) | 4505 | | | |
| A319, A320, A321 | PASSENGER COMPARTMENT | 5360 M1B 000100 | 4205 | | | |
| | | 5360 M1M 000600 ISSUE 3(PC3) | 4505 | | | |
| | CONTAINER CARGO COMPARTMENT | 5360 M1B 000100 | 4322 | | | |
| | BULK CARGO COMPARTMENT | 5360 M1B 000100 | 4323 | | | |
| A300 SERIES (ALL MODELS) | BULK CARGO COMPARTMENT | 5360 M1M 000500 ISSUE 3, TY BCC2 | 4223 | | | |
| | CONTAINER CARGO COMPARTMENT AND FREIGHTER | 5360 M1M 000500 ISSUE 5, TY CCC1 | 4522 | | | |

- The M.C. Gill Corporation is qualified to all types of the specifications listed here, but all types may not be available in Express Services. (Except BMS 4-17, Ty VII and BMS 4-23, Ty III, IV, and VII).
- Airbus aircraft uses sandwich panels instead of cargo liners in the cargo compartment as original equipment.

* Within the cargo compartment.



PAY BY CREDIT CARD

M.C. Gill has long offered credit to our customers to make it more convenient for them to purchase our products. Recently, we added the convenience of purchasing with credit cards and depending on the amount of the invoice, Visa or Mastercard can be used to pay for orders. All that is required is notification to M.C. Gill's Customer Service representative of intent to pay with a credit card, give him or her the card number and we will take care of the rest.

We offer this convenience to any of our customers, but particularly those who have not yet established credit. It also alleviates concerns that an order might exceed already established credit limits. The use of credit cards can be used for most orders—for example, it is not limited to Express Services or AOG orders.

JUST-IN-TIME (JIT)

Under certain specific circumstances, M.C. Gill will provide JIT Services for our customers. For example, a major airline has a multi-year contract with us to provide their flooring and cargo liner requirements. As part of this commitment, we maintain an inventory of the parts included in the contract. As the need for the parts arises, the airline notifies our Customer Service Department who, in turn, instructs our shipping department to pull those items from the aforementioned inventory and ship them on the date(s) specified by the customer, usually within a week.

JIT differs from the Express Services program described on page 16 in that, under JIT, the stock on hand is specific to a given customer's needs irrespective of whether or not those needs include our "faster selling" products. In short, M.C. Gill will inventory the products and guarantee their shipment in a timely manner based, again, on the customer's requirements.

THE MAGIC NUMBER IS "ONE"

The convenience of filling your interiors' requirements at the M.C. Gill Corporation's "One-Stop" Buying Center means:

ONE phone call or ONE fax is all it takes to order cargo liner, sandwich, panels, honeycomb core, and/or fabricated parts.

ONE purchase order is all that has to be issued.

ONE invoice for accounts payable who then writes ONE check. Moreover, record keeping is simpler; inventory problems, if any, are minimized; and, investment is reduced, all of which results in savings to the customer.

And, the ONE phone number to remember is 626-443-4022 and the ONE fax number is 626-350-5880.

Finally, your costs are reduced if you have only ONE vendor to control and the quality of only ONE product line to monitor and, best of all...

The M.C. Gill Corporation is the ONE and ONLY company that offers these advantages: the ONE that has been in the cargo liner and flooring panel business since 1945; and, the ONE whose experience and commitment to quality and customer service is without equal.

NEWS FLASH

Although 1999 was the best year ever for the M.C Gill Corporation, Father Time and retirement claimed two of our oldest employees (in terms of years of service)-- Pete Ortega and Javier Arriola, who together represented 75 years of service. Pete served as Production Foreman, Pressing Operations and was with us more than 45 years, from the days of the quonset hut to seven buildings on

Easy Street, having joined the company on November 1, 1954. Javier, better known as Indio, was a Production Foreman, Final Finishing, who served us well for more than 33 years. Indio started work in 1967. People like Pete and Indio can only be replaced but never duplicated. Both of them were an important part of our success and they have our heartfelt thanks and best wishes.

THE FUNNY SIDE

(TRUE WORDS OF WISDOM FROM KIDS)

Never trust a dog to watch you food.
Patrick, age 10

★★★★

When your dad is mad and asks you,
"Do I look stupid?" don't answer him.
Heather, 12

★★★★

Never tell your mom her diet's not working.
Michael, 11

★★★★

Stay away from prunes.
Randy, 9

★★★★

Never pee on an electric fence.
Robert, 12

★★★★

If you want a kitten, start out by
asking for a horse,
Naomi, 13

★★★★

When your mom is mad at your dad,
don't let her brush your hair.
Taylia, 12

★★★★

Never allow your three-year old brother
in the same room as your school assignment.
Traci, 13

★★★★

Don't sneeze in front of your mother
when you're eating crackers.
Mitchell, 12

★★★★

Never hold a dust buster
and a cat at the same time.
Andrew, 9

★★★★

Don't wear polka-dot underwear
under white shorts.
Kellie, 11

★★★★

Felt markers are not good to use as lipstick.
Lauren, 9

★★★★

When you get a bad grade in school,
show it to your mom when she's on the phone.
Alysha, 13

★★★★

Never try to baptize a cat.
Eileen, 8

*Do you enjoy these jokes? If you've heard a good one lately, send it to us
and we'll share it with the rest of our readers, and we'll give you credit.*

