



Aluminum honeycomb is one of the most widely used core materials in the aerospace industry. Many combinations of core densities and face materials enable the designer to specify panels to meet a wide variety of requirements.

General Veneer Manufacturing Co. has been supplying lightweight parts and raw materials to the Aircraft and Aerospace Industry for over 50 years.

GH-40 Geneerco Thinlam Sandwich Structures

Geneerco Thinlam was developed to provide a thin aluminum sheet at one half the weight of a solid aluminum sheet with a stiffness ratio of 5:1 over the same weight solid sheet. Due to wide acceptance, other faces such as Titanium and Stainless Steel are now available as Geneerco Thinlam sandwich structures.

The material consists of thin facings structurally bonded to a compressed aluminum honeycomb core flooded with adhesive so that the folded walls are bonded together. For applications requiring flexural panel, shear panel and compression panel functions, the advantage of this superior stiffness to weight ratio is readily apparent.

Facing: Material shall conform to applicable

specifications. The face sheet surfaces shall be clean and free of stains, corruptions and foreign matter. When specified, the panel surfaces may be covered with protective film.

Flatness: Sandwich panels furnished as flat sheet stock shall be flat with no abrupt change in contour. Large, gentle waves are permissible when a pressure of no more than 2 p.s.i. will remove them.

Core Ribbon Direction: The ribbon direction of the core shall be parallel to the short dimension of the panel unless otherwise specified on the purchase order.

Bonding: Adhesive shall conform to the requirements of MMM-A-132, Type I or MIL-A-25463, Type I, Class 2.

Geneerco Structures are available for many applications and installations that require quality products at a competitive cost. Please contact General Veneer Manufacturing Co. for more information regarding other available panel types.

As primary manufacturers of composite sandwich structures, we can help customers achieve maximum efficiency and cost-effectiveness when we also machine finished parts and add coatings, putty, and aerospace hardware.

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In the table listed below are examples of the many combinations of facings currently being supplied. Other combinations are readily available.

Type	Total Thickness (Inches)	Nominal Weight	Face Thickness (Inches)	Back Thickness (Inches)	Face Alloy
A	0.062	0.43	0.008	0.008	2024 T3 Clad
B	0.091	0.76	0.020	0.012	2024 T3 Clad
B-I	0.091	0.54	0.010	0.010	2024 T3 Clad
C	0.091	0.74	0.020	0.010	7075 T6 Clad
D	0.091	0.82	0.020	0.016	7075 T6 Clad
E	0.125	0.90	0.025	0.016	2024 T3 Clad
E-I	0.125	0.74	0.012	0.012	2024 T3 Clad
F	0.125	0.90	0.020	0.020	2024 T3 Clad
G	0.100	0.76	0.020	0.012	2024 T3 Clad
G-I	0.150	0.96	0.020	0.020	2024 T3 Clad
M	0.100	1.10	0.012	0.010	301 1/4 Hard CRES ¹
T	0.091	0.63	0.010	0.005	CP Titanium ²
U	0.091	0.70	0.010	0.010	CP Titanium ²
R	0.091	0.68	0.010	0.008	CP Titanium ²
S	0.091	0.82	0.012	0.012	CP Titanium ²
W	0.074	0.60	0.020	0.008	2024 T3 Clad
Y	0.100	1.26	0.016	0.010	301 1/4 Hard CRES ¹

¹MIL-S-5059 ²MIL-T-9046 Type I, Composition A

The properties for six types of sandwich panels are listed below.

Type	A	B	E	G	T	U	Unit
Overall Thickness	0.062	0.091	0.125	0.100	0.091	0.091	in.
Unit Weight	0.43	0.76	0.90	0.76	0.63	0.75	p.s.f.
Facing Thickness	0.008	0.020	0.025	0.020	0.010	0.010	in.
Backing Thickness	0.008	0.012	0.016	0.012	0.005	0.010	in.
Min. Flexural Strength @ 160°F	70	100	100	100	100	100	lb.
Min. Flatwise Tensile Strength @ 160°F	1500	1500	1500	1500	1500	1500	p.s.i.
Min. Forming Radius @ 75°F	2	4	16	4	6	6	in.
Thickness Tolerance	±.005	±.005	±.010	±.005	±.005	±.005	in.
Weight Tolerance	±.05	±.05	±.05	±.007	±.05	±.05	p.s.f.

Values listed represent theoretical averages to be expected. Prospective users should evaluate the material to determine if material is suitable for the users' specific requirements. User assumes all risk and responsibilities for any loss or damage caused by or resulting from the use of any information contained within this product bulletin.



Need a part, not just a raw panel? General Veneer Manufacturing Co. can machine, drill, fill, prime, paint and add hardware to your product. We are a fully automatable shop, with 3 large CNC routers and a team of specialists for delicate custom work. Our finished parts fly daily and are launched into space on a regular basis.

General Veneer Manufacturing Co.

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