



## AAA AMBER ALUMINIUM AEROSPACE HONEYCOMB

Amber's AAA core is a structural Aerospace grade Aluminium Honeycomb available in 5052 and 5056 alloys.

### FEATURES:

- > Excellent Corrosion resistance
- > High strength-to-weight ratio
- > Readily available
- > Perforated foil available
- > Low cost

### APPLICATIONS

Designed predominately for use in sandwich structures to produce highly engineered structural components. In particular the material offers the designer high strength to weight properties at relatively low cost, particularly suitable as a shear carrying core in adhesively bonded sandwich panel assemblies.

Typical sandwich panel applications include,

- Aircraft floors
- Aircraft leading and trailing edges
- Helicopter rotor blades
- Fuselage components
- Fan casings
- Marine bulkhead joiner panels
- Automotive chassis construction

A wide variety of other applications have been found to exploit the unique properties of aluminium honeycomb such as,

- Energy absorption - crash barriers, impact protection,
- Air or fluid flow control - wind tunnels, refrigeration display counters,
- Acoustical absorbers,
- RF shielding.



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### PRODUCT DESIGNATION

e.g.	AAA	-5.2	-1/4	-25	-N	-5052/5056
	(a)	(b)	(c)	(d)	(e)	(f)
a.	AAA					= Amber Aluminium Aerospace honeycomb
b.	5.2					= Density in pounds per cubic foot ( lb/ft <sup>3</sup> ).
c.	1/4					= Cell size in fractions of an inch.
d.	25					= Nominal foil thickness in ten thousands of an inch.
e.	N					= Non-perforated foil,
	P					= Perforated foil.
f.	5052/5056					= Aluminium alloy.

### PRODUCT RANGE

#### Standard Products

The following products are usually available as ex-stock items other grades are available to order.

- AAA-2.3-1/4-10N-5052
- AAA-3.1-1/8-07N-5052
- AAA-3.4-1/4-15N-5052
- AAA-4.3-1/4-20N-5052
- AAA-4.5-1/8-10N-5052
- AAA-4.5-1/8-10P-5052
- AAA-5.2-1/4-25N-5052
- AAA-8.1-1/8-20N-5052
- AAA-10.0-1/8-25N-5052

A range of products is also available with 3003 foil.

#### Standard dimensions and tolerances

Nominal sheet length (W) = 2440 mm (min)  
Nominal sheet width (L) = 1220 mm (min)  
Sheet thickness as requested above 2mm, +/- 0.125 mm  
Density as nominal, +/- 10%  
Cell size as nominal, +/- 10%

Other sheet sizes may be available upon request.

Over sized sheets are available upon request.

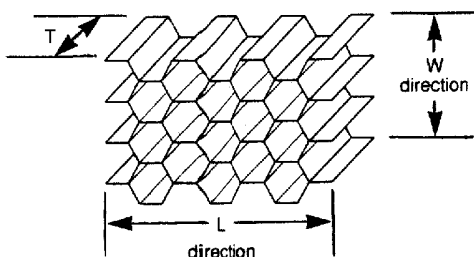


## AAA AMBER ALUMINIUM AEROSPACE HONEYCOMB

GRADE	COMPRESSIVE			CRUSH	PLATE SHEAR			
	BARE	STABILISED			L DIRECTION		W DIRECTION	
	Strength psi	Strength psi	Modulus ksi		Strength psi	Modulus ksi	Strength psi	Modulus ksi
AAA-2.3-1/4-10N-5052	180	195	45	75	135	32	85	16
AAA-3.1-1/8-07N-5052	260	280	75	130	210	45	130	21
AAA-3.4-1/4-15N-5052	345	365	90	150	230	50	140	24
AAA-4.3-1/4-20N-5052	500	520	140	230	320	68	210	30
AAA-4.5-1/8-10N-5052	520	540	150	260	340	70	220	31
AAA-5.2-1/4-25N-5052	670	700	190	335	410	82	265	35
AAA-8.1-1/8-20N-5052	1450	1500	350	750	775	138	460	54
AAA-10.0-1/8-25N-5052	2100	2250	-	-	970	175	550	65

GRADE	COMPRESSIVE			CRUSH	PLATE SHEAR			
	BARE	STABILISED			L DIRECTION		W DIRECTION	
	Strength psi	Strength psi	Modulus ksi		Strength psi	Modulus ksi	Strength psi	Modulus ksi
AAA-3.1-3/16-10N-5056	360	380	97	170	260	45	150	20
AAA-4.5-1/8-10N-5056	520	550	180	320	400	70	230	33

Hexagonal Cell



T = Thickness, or cell depth  
 L = Ribbon direction  
 W = Direction perpendicular to the ribbon direction

For further information refer to Aluminium Honeycomb Material Safety Datasheet.

This is not a specification. The information given in this data sheet in relation to the performance, storage and other characteristics of the product is based on results gained from experience and tests and is believed to be accurate. Given, however, that conditions of use and storage will vary, Amber Composites will not be liable for any loss or damage resulting from reliance upon such information. The purchaser is recommended to carry out his own tests to establish the suitability of the product for its particular purpose. The use of the product in certain processes may require third party consent.