

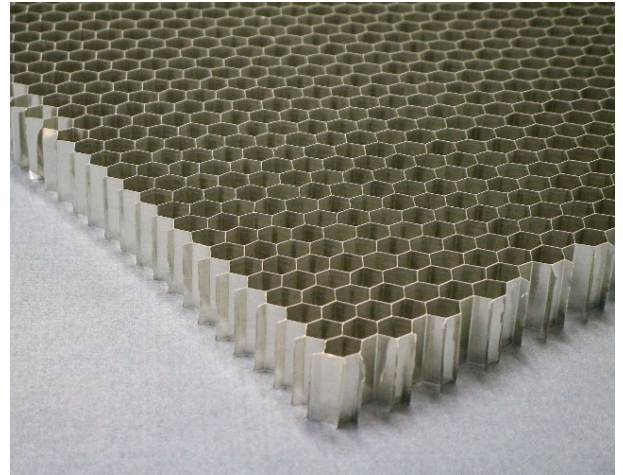
ALUMINUM HONEYCOMB

Description

Aluminum honeycomb is a lightweight structural core material which is made up of countless numbers of hexagonal aluminum foil cells. It is normally used in sandwich panels with variety skin materials such as aluminum, steel or FRP.

Showa's aluminum honeycomb is made from 5052 aluminum alloy foil and available in a wide selection of cell size and foil gauges.

The honeycomb can be also used as non-structural material in wide range of uses such as energy absorption and directional air/fluid flow control.



Features

- Low weight / High strength
- Superior flatness as sandwich core material
- Excellent energy absorption
- Air / fluid directionalization
- Light diffusion
- Electromagnetic shielding
- Uniform hexagonal shape suitable for decoration uses

Applications

- Industrial equipment (tooling table)
- Energy absorbers, Car crash test barriers
- Rectifying device for wind tunnel test equipment and air flow meter
- Lighting louver
- DeElectromagnetic shielding filter
- Corative applications

Designation

Example

AL - 2.3 - 1/4 - 10 (5052N)

N:Indicates the cell walls are not perforated

P:Indicates perforated

Alloy of the foil (Alloy 5052)

Foil Thickness (inch)

Cell size (inch)

Density (pounds per cubic foot)

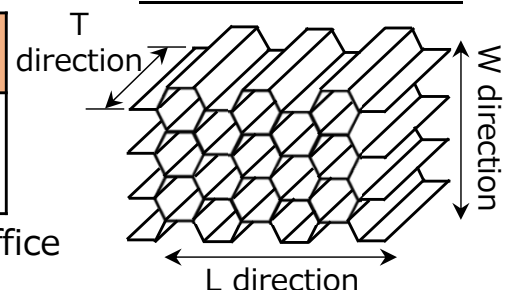
Aluminum

Standard Dimensions

L direction	W direction	T direction (Min.)
48 +2/-0 inch (1200 +50/-0 mm)	96 +4/-0 inch (2400 +100/-0 mm)	0.12 ±0.01 inch (3.0 ±0.25 mm)

NOTE: For more information, please contact our Sales Office

Dimensional Nomenclatures



Mechanical Properties

Designation	Nominal Density (lbs/ft ³)	Compressive		Crush Strength (psi)	Plate Shear			
		Strength (psi)	Modulus (ksi)		L Direction		W Direction	
					Strength (psi)	Modulus (ksi)	Strength (psi)	Modulus (ksi)
AL-4.5-1/8-10(5052)	4.5	652	83	232	348	203	92	41
AL-6.1-1/8-15(5052)	6.1	1058	125	435	565	319	139	54
AL-8.1-1/8-20(5052)	8.1	1435	166	652	855	435	165	70
AL-3.1-3/16-10(5052)	3.1	319	32	145	217	130	45	20
AL-4.4-3/16-15(5052)	4.4	609	61	232	333	174	93	40
AL-5.7-3/16-20(5052)	5.7	899	92	362	522	246	114	47
AL-8.1-3/16-30(5052)	8.1	1377	128	623	797	406	210	74
AL-2.3-1/4-10(5052)	2.3	232	23	87	159	87	31	13
AL-3.4-1/4-15(5052)	3.4	348	34	145	246	130	44	21
AL-4.3-1/4-20(5052)	4.3	609	58	217	333	188	60	38
AL-6.0-1/4-30(5052)	6.0	957	96	391	551	319	140	59
AL-7.9-1/4-40(5052)	7.9	1421	159	652	783	406	184	69
AL-1.6-3/8-10(5052)	1.6	116	53	43	101	43	13	9
AL-3.0-3/8-20(5052)	3.0	319	67	130	203	116	37	20
AL-4.2-3/8-30(5052)	4.2	522	75	188	333	188	63	44
AL-2.0-3/4-30(5052)	2.0	159	39	72	130	72	18	12
AL-2.3-3/4-40(5052)	2.3	275	43	101	145	101	38	17

NOTE:

- The above data are the properties when tested per SAE-AMS-STD-401 at room temperature using 0.625 inch core thickness.
- The typical values represent the mean average of relatively large number of test values from many blocks of honeycomb, and are not guaranteed.
- Tolerance of the density is $\pm 10\%$ of nominal density.
- Core types shown in bold type are standard.
- Core types shown in small type will be produced on order. One block minimum buy may apply.
- P type (cell walls perforated) is available on special order. One block minimum buy may apply.

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