



ALUMINUM HONEYCOMB

With the aluminum honeycomb

Aluminum honeycomb is a structure composed of countless aluminum foil hexagonal cylinders. Honeycomb was named after its structure's resemblance to that of beehives. Aluminum Honeycomb is known for its light weight - about 97% of its volume is occupied by air. That makes it possible to use the material as light weight, highly-rigid honeycomb sandwich panels by bonding aluminum plate or FRP to the surfaces. Due to its many superb characteristics, including commutation and shock-absorbency, Aluminum honeycomb is commonly used in non-structural applications also.



Featurer

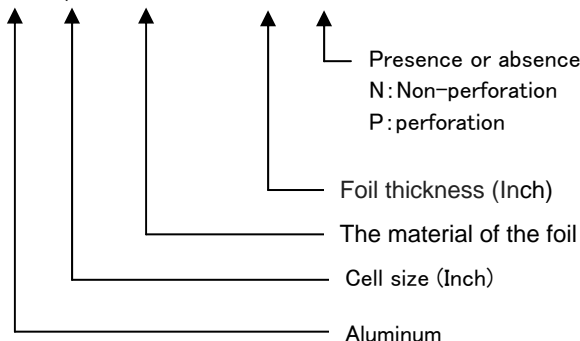
- Light weight・ high stiffness
- Flatness
- Shock absorbency
- Rectification characteristics
- Scattered light characteristics
- Electric wave cover characteristics
- Design characteristics

Applications

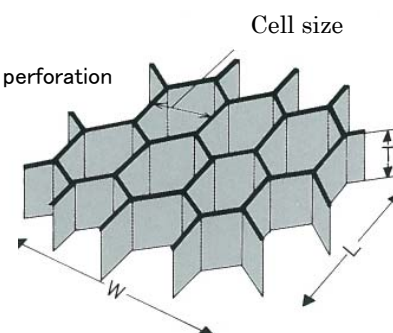
- Aerospace products
(Satellite, rocket body structure, Plane Flap・Floor Panel)
- Industrial instrument (Processing machine table)
- Bumper, Car crash test barrier
- Wind tunnel laboratory equipment, Air flow meter
- Lighting louver
- Electromagnetic shielding filter
- Decorative applications

Designation of aluminum honeycomb

Example : AL 1/4-5052-. 001 N



Dimensioning of aluminum honeycomb



Standard Dimensions

- "L" Dimension: 1200 +100/-0 mm
- "W" Dimension: 2400 +200/-0 mm
- "T" Dimension: 3mm ~ ±0.25 mm

※For details ,please contact our Sales & marketing department.

Standard performance of aluminum honeycomb

Designation	Nominal Density ρ		Compressive Strength σ (MPa)	Compressive modulus E (MPa)	Crash Strength (MPa)	Shear strength τ (MPa)		Shear modulus G (MPa)	
	(lbs/ft ³)	(kg/m ³)				"L" Direction	"W" Direction	"L" Direction	"W" Direction
AL1/8-5052-.001	4.5	72	4.5	575	1.6	2.4	1.4	640	289
AL1/8-5052-.0015	6.1	98	7.3	863	3.0	3.9	2.2	962	373
AL1/8-5052-.002	8.1	130	9.9	1150	4.5	5.9	3.0	1140	484
AL3/16-5052-.001	3.1	50	2.2	222	1.0	1.5	0.9	315	144
AL3/16-5052-.0015	4.4	70	4.2	422	1.6	2.3	1.2	648	281
AL3/16-5052-.002	5.7	91	6.2	635	2.5	3.6	1.7	787	329
AL3/16-5052-.003	8.1	130	9.5	889	4.3	5.5	2.8	1450	514
AL1/4-5052-.001	2.3	37	1.6	161	0.6	1.1	0.6	218	93
AL1/4-5052-.0015	3.4	54	2.4	240	1.0	1.7	0.9	305	151
AL1/4-5052-.002	4.3	69	4.2	401	1.5	2.3	1.3	414	265
AL1/4-5052-.003	6.0	96	6.6	668	2.7	3.8	2.2	967	413
AL1/4-5052-.004	7.9	127	9.8	1100	4.5	5.4	2.8	1270	480
AL3/8-5052-.001	1.6	26	0.8	368	0.3	0.7	0.3	94	63
AL3/8-5052-.002	3.0	48	2.2	464	0.9	1.4	0.8	257	138
AL3/8-5052-.003	4.2	67	3.6	519	1.3	2.3	1.3	437	307
AL3/4-5052-.003	2.0	32	1.1	275	0.5	0.9	0.5	126	88
AL3/4-5052-.004	2.3	37	1.9	302	0.7	1.0	0.7	266	123

• This standard performance is the average value of the test data at ambient temperature, not a guaranteed value.

(Compliance standard: SAE-AMS-STD-401)

• Density shows nominal values. Tolerance is 10%± of the nominal value.

• Grade Boldface(N type) is a standard model.

• Grade of fine print on the cover will be built to order. Minimum lot order is applied.

• (With perforation)P type will be built to order. Minimum lot order is applied.

Showa Aircraft Industry CO., LTD

Head Office・Factory

600 Tanaka-cho Akishima, Tokyo. 196-8522

Head Office Tel: +81 42-541-2111 Fax: +81 42-545-0174

Factory Tel: +81 42-541-2113 Fax: +81 42-541-1105

Sales Tel: +81 42-541-8883 Fax: +81 42-542-8899

Thubu Region Sales Office

2-1309-1 Kounan Meitou Nagoya. 465-0004

Tel: +81 52-775-0508 Fax: +81 52-775-0510