

Aluminium honeycomb

Aluminium honeycomb is used for several of applications (i.e. for tool machines, for serigraphy..etc.) **and in different sectors** such as: public transport industry, nautical sector, building industry, etc...

As core material, aluminium honeycomb is used in sandwich panels and it is utilised in: floors, roofs, doors, partitions, facades, working surfaces for automatic machines and for all products which require an optimal stiffness-to-weight-ratio.

Aluminium honeycomb as panels' core has several advantages:

- lightweight
- stiffness
- reaction to fire
- compression, shear and corrosion resistance

Aluminium honeycomb can be used as deflector for laminar flow-ventilation, and as crash-absorber for kinetic energy.

Thickness of non-expanded Blocks: 1000mm standard, the diameter of the cells from 3 to 25 mm. The density of the honeycomb depends on the thickness of the foil and the diameter of the cells.

Thickness of expanded section from 3mm to 60 / 200mm approx. (depending on the cell diameter).

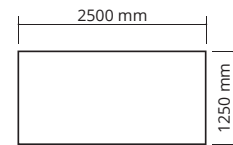
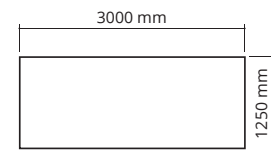
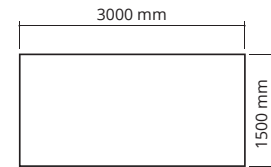
Honeycomb density (from 20 to 163 kg/m³) depends on foil's thickness and on cell size.

CERTIFICATE FOR SHIPBUILDING INDUSTRY: IMO MED, FTP CODE 2010 Mod. B. and D

CERTIFICATE FOR CONSTRUCTION INDUSTRY: UNI EN 13501-1 Fire Class A1

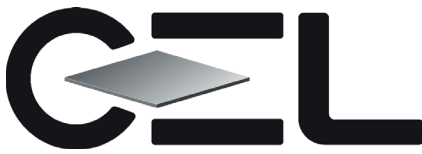
Honeycomb core's properties	50 Microns				
Type	ALUMINIUM ALLOY 3003/3005/3103/3104				
Ø honeycomb in mm	3,2	6	9	12	19
Ø honeycomb in inches	1/8"	1/4"	3/8"	1/2"	3/4"
Density kg/m ³	112	56 - 59	39 - 40	29 - 30	20 - 21
Compressive stabilised strength MPa	6,8	3,0 - 3,5	1,4 - 1,95	0,8 - 0,95	0,4 - 0,6
thickness' tolerance mm	± 0,1 (± 0,05 on request)				
dimension's tolerance mm	± 30				

Standard dimensions
(other dimensions available on request)



Honeycomb core's properties	70 Microns				
Type	ALUMINIUM ALLOY 3003/3005/3103/3104				
Ø honeycomb in mm	3,2	6	9	12	19
Ø honeycomb in inches	1/8"	1/4"	3/8"	1/2"	3/4"
Density kg/m ³	123	80 - 83	54	40 - 42	27 - 29
Compressive stabilised strength MPa	7,7	4,3 - 4,6	2,5 - 2,6	1,41 - 1,5	0,85 - 0,9
thickness' tolerance mm	± 0,1 (± 0,05 on request)				
dimension's tolerance mm	± 30				

Alloy 3000/3003/3005/3103/3104 aluminium honeycomb is **solid perforated or non perforated** (the micro perforations allowing air flow between cells, for use under vacuum or decompression) in three forms: **unexpanded block non perforated, unexpanded slices, expanded sheets.**

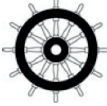



CEL Components S.r.l.
 Via Buozzi 25 - 40057 Cadriano (Bologna) Italy
 Tel. +39 051 782505 Fax +39 051 782477
 www.cel.eu info@cel.eu
 P.IVA 04102600378 CCIAA BO 0339628

ALUMINIUM AND THERMOPLASTIC HONEYCOMBS, LAMINATES, SANDWICH PANELS

ENG

Certified version Aluminium honeycomb must be required while asking for a quotation.
 Certified products must be required in advance and might have a price surcharge due to certified materials.

CLASSES FOR FIRE REACTION			
SHIPBUILDING	MED, IMO  0407	MOD. B. Certification Nr.: MED- 147 (IG-293-2013) 2017CS011592 MOD. D. Certification Nr.: MED- 154 (IG-178-2014)	ALUMINIUM HONEYCOMB aluminium honeycomb complying with the MED directive for the application in ships registered or applied in the European Union. Item N. MED/3.13, IMO 2010 FTP Code, Annex 1
	 U.S. Coast Guard	MOD. B. USCG N. approval Nr.: 164.109/EC0407 MOD. D. N. approval.: 164.109/EC0407/ MED000154 (for MED/3.13)	ALUMINIUM HONEYCOMB
BUILDING	UNI EN 13501-1	A1 Classification, non-combustible Class Certification Nr. IN-01746/2017-OC-E	ALUMINIUM HONEYCOMB A1 - Incombustible
BUILDING	NF P92-501-1995 NF EN ISO 171	M0 Classification, non-combustible Class Classification RA21-0114	ALUMINIUM HONEYCOMB M0 - Incombustible