

## 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).

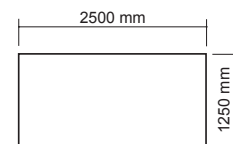
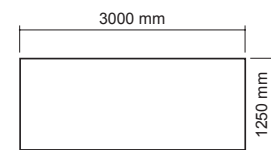
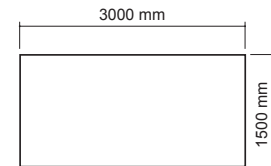
Honeycomb density (from 20 to 163 kg/m<sup>3</sup>) depends on foil's thickness and on cell size.

**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				
Aluminium Alloy series 3000	3003/3005/3103/3104					
Ø honeycomb in mm ca.	3,8	6	9	12	19	
Ø honeycomb in inches	1/8"	1/4"	3/8"	1/2"	3/4"	
Density kg/m <sup>3</sup>	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					
maximum use temperature °C	180°					



**Standard dimensions**  
(other dimensions available on request)



Honeycomb core's properties		70 Microns				
Aluminium Alloy series 3000	3003/3005/3103/3104					
Ø honeycomb in mm ca.	3,8	6	9	12	19	
Ø honeycomb in inches	1/8"	1/4"	3/8"	1/2"	3/4"	
Density kg/m <sup>3</sup>	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					
maximum use temperature °C	180°					

Alloy 3000/3003/3005/3103/3104 aluminium honeycomb is sold **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.**

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	<b>MOD. B.</b> Certification Nr.: MED- 147 (IG-293-2013) REV.2 2017CS011592  <b>MOD. D.</b> Certification Nr.: MED- 154 (IG-178-2014) REV.13	<b>ALUMINIUM HONEYCOMB</b> 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	<b>MOD. B.</b> USCG N. approval Nr.: 164.109/EC0407  <b>MOD. D. N.</b> approval.: 164.109/EC0407/MED000154 (for MED/3.13)	<b>ALUMINIUM HONEYCOMB</b>
BUILDING	UNI EN 13501-1	<b>A1</b> Classification, non-combustible Class Certification Nr. IN-01746/2017-OC-E	<b>ALUMINIUM HONEYCOMB</b> A1 - Incombustible
BUILDING	NF P92-501-1995 NF EN ISO 171	<b>M0</b> Classification, non-combustible Class Classification RA21-0114	<b>ALUMINIUM HONEYCOMB</b> M0 - Incombustible