

Our honeycombs are made according to customer specifications and in order to optimize our production means, we have achieved different standards in terms of panel structure, grid thickness, framing, reinforced protection and fasteners. Thus, the customer can create his own plan from existing products. All the information below is given for glued aluminum gratings. The grade 5052 aluminum foil used is a lightweight material with superior mechanical strength compared to standard alumina and excellent corrosion resistance. It meets all the requirements of the



MIL-C-7438. This aluminum is also used to manufacture aircraft floors, wing edges, rotors blades of helicopters, so the recurring quality is assured. However, it is possible to switch to welded manufacturing technology, if necessary. It is also possible (under extreme conditions) to also supply steel panels. The standard frame on the other hand can be available in Aluminium 6063-T2 or Steel. The tolerances on the complete panel are +/- 0.8 mm.

Technical features:

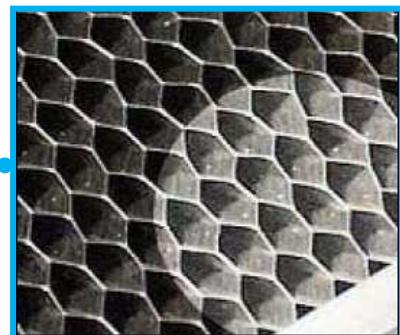
- **Standard 90° hexagonal cell types available:**

1



Cells 1.6 x 6.35 mm
cells 3.2 x 3.2 mm
cells 3.2 x 6.35 mm
cells 3.2 x 12.70 mm

2



Cells of 3.2 x 6.35 mm x 30 mm Cells
of 3.2 x 6.35 mm x 45 mm

- **Types of "kick" protection:**

1



Aluminium wire:
Produces the maximum protection,
--> the airflow is reduced.

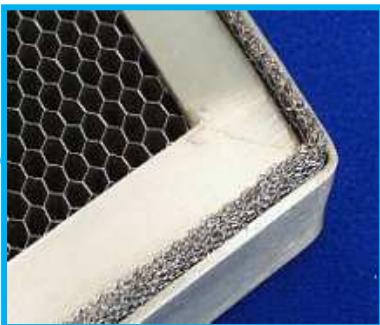
2



Woven stainless steel mesh:
Produces the minimum protection,
--> the airflow is optimized.

⊕ Technical data: (continued)**◦ Types of gaskets:**

1

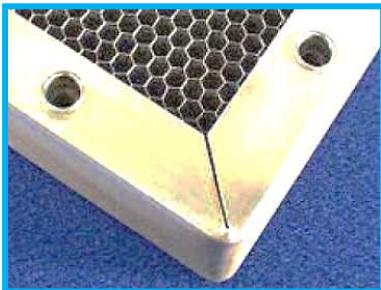


2



The frames of panels 1702 and 1703 are supplied with silicone loaded with monel wires (not shown).

For the other panels, all types of gaskets can be chosen: mesh, contact fingers, foam-fabric gaskets, silicone loaded with conductive particles...

◦ Types of fasteners:

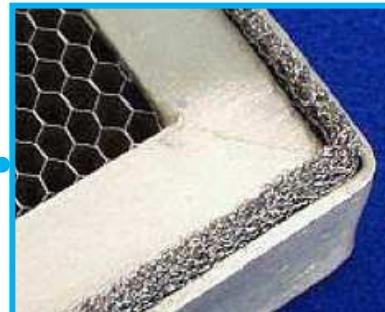
The frames are supplied with specific holes. We offer 3 basic sizes: M3, M4 and M5. Inserts are possible and other sizes on request. The tolerance on the center of the holes is +/- 0.4 mm.

◦ Welding of angles:

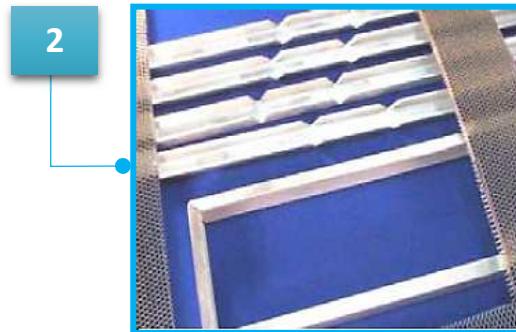
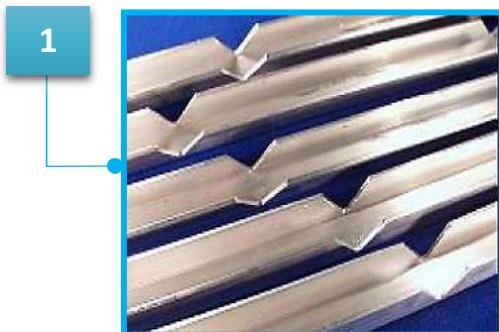
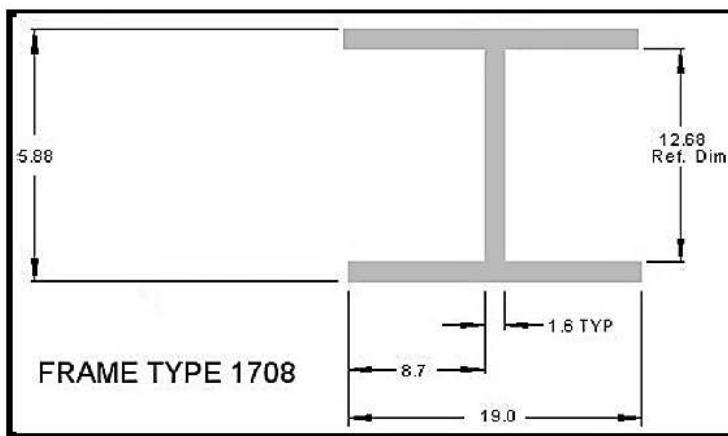
1



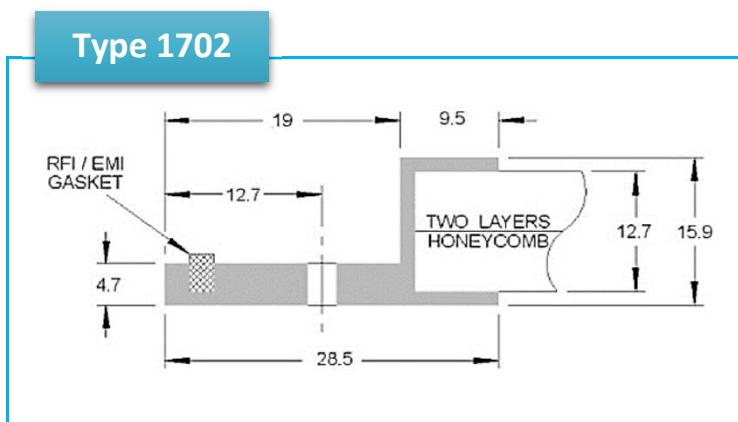
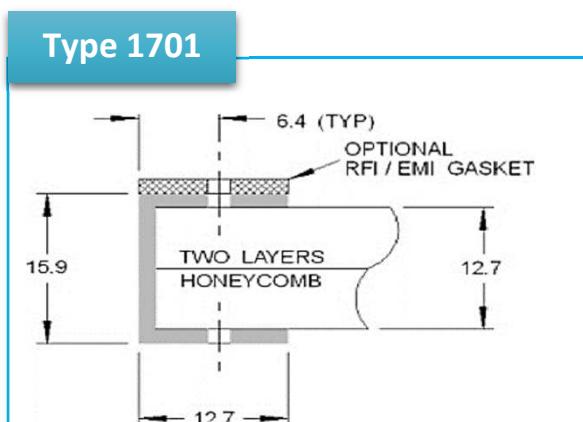
2



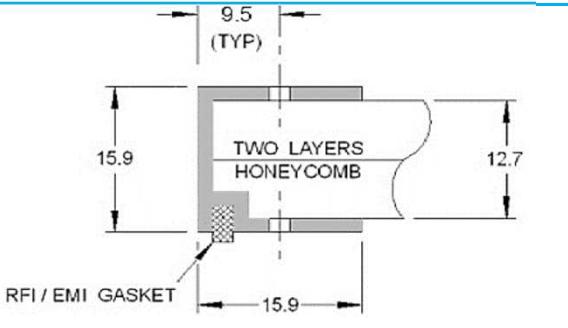
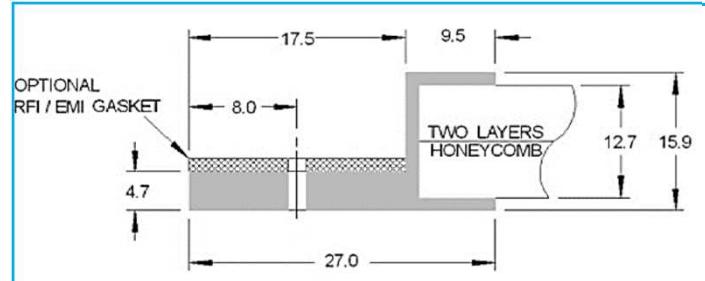
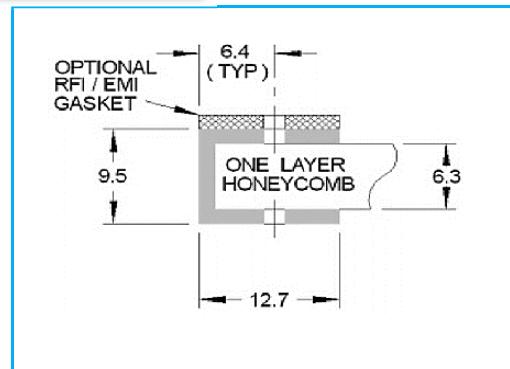
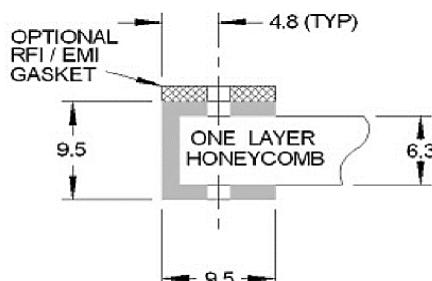
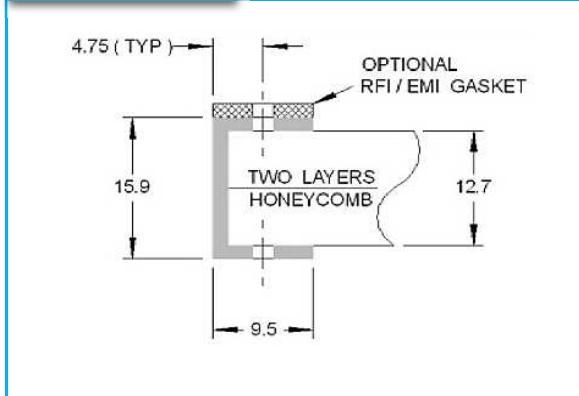
The frames of panels 1702 and 1704 are always provided fully welded due to the nature of their construction. On the other hand the other types come with 3 fluted corners and a single welded corner to achieve the best compromise between cost and performance. The combination of the Cem seal is normally sufficient to meet the requirements of the Cem specifications. Note that on request we can weld the 3 corners.

Technical data: (continued)**Standard frameworks:****Reinforcement of frameworks:**

We can supply for relatively large panels extruded bars for strengthen the honeycomb and give it the necessary additional mechanical rigidity.

Standard types of Honeycombs:

- Standard Types of Honeycombs: (continued)

Type 1703**Type 1704****Type 1705****Type 1706****Type 1707**

- Nota:**

Panels 1705 & 1706 are only available in Type versions: 1/ 2 & 3.

Panels 1701/ 1702/ 1703/ 1704 1 1707 are only available in Type versions: 4 & 5.

+ **Types of constructions:**

- **Type 1** : 2 layers of cells 3.2 x 3.2 mm thick (total 6.4 mm)
- **Type 2** : 1 layer of cells 3.2 x 6.35 mm thick
- **Type 3** : 1 layer of cells 1.6 x 6.35 mm thick
- **Type 4** : 2 layers of cells 3.2 x 6.35 mm thick (total 12.7 mm)
- **Type 5** : 1 layer of cells 3.2 x 6.35 mm thick + 1 layer of
+ 3.2 x 6.35 mm thick cells (total 12.7 mm) oriented at 45°.

* For type 5 option to have 2 additional orientations: 30° and 60° on specific request.

+ **Aluminum Honeycomb Shielding Attenuation:**

Tests carried out on a panel equipped with an EMC Mesh seal with sutec 650 finish in accordance with MIL C 5541E and according to EMC standard --> MIL STD 285.

Frequencies	Field type	Attenuation (dB)				
		Type 1	Type 2	Type 3	Type 4	Type 5
200 kHz	H	66	39	65	71	71
100 MHz	E	105	80	105	105	105
500 MHz	P	81	55	50	93	93
2 GHz	P	85	52	60	94	94
10 GHZ	P	85	61	72	82	90

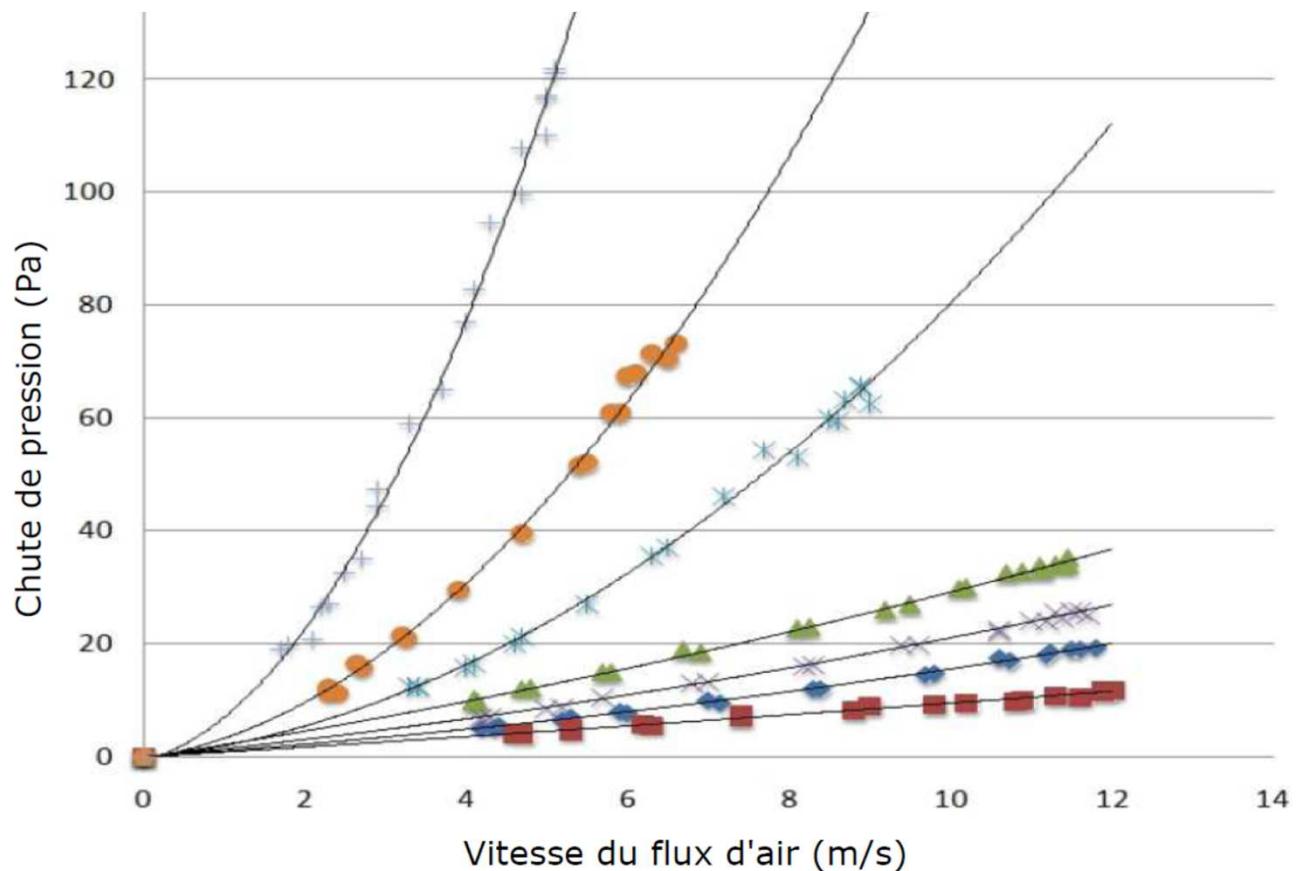
+ **Combination of Honeycomb Type & Standard Frames:**

Types Frames	Type 1	Type 2	Type 3	Type 4	Type 5
1701				X	X
1702				X	X
1703				X	X
1704				X	X
1705	X	X	X		
1706	X	X			
1707				X	X

+ **Traitement de Finition:**

As for the anti-corrosion treatment, Alodine 1200 is now prohibited, we have in replacement of Surtec 650. RoHS meeting the performance of MIL-C-5541-E. This treatment is visually similar to that of an alodine 1200.

An Infra Red Reflection (IRR) painting observing the DEF STAN 00-23, 80-166 and STANAG 2338 can be made upon specific request.

Air flow by type of honeycomb:**• Légend**

◆	Type 1
■	Type 2
▲	Type 3
×	Type 4
*	Type 5 - 30°
○	Type 5 - 45°
+	Type 5 - 60°

The results were obtained under laboratory conditions and should be considered only as an indication. As AB2E has no control over its customers' equipment and many other factors, it is the user's responsibility to carry out its own tests to ensure that the product corresponds to its needs.