

DEFINING EMI SOLUTIONS
www.schlegelemi.com

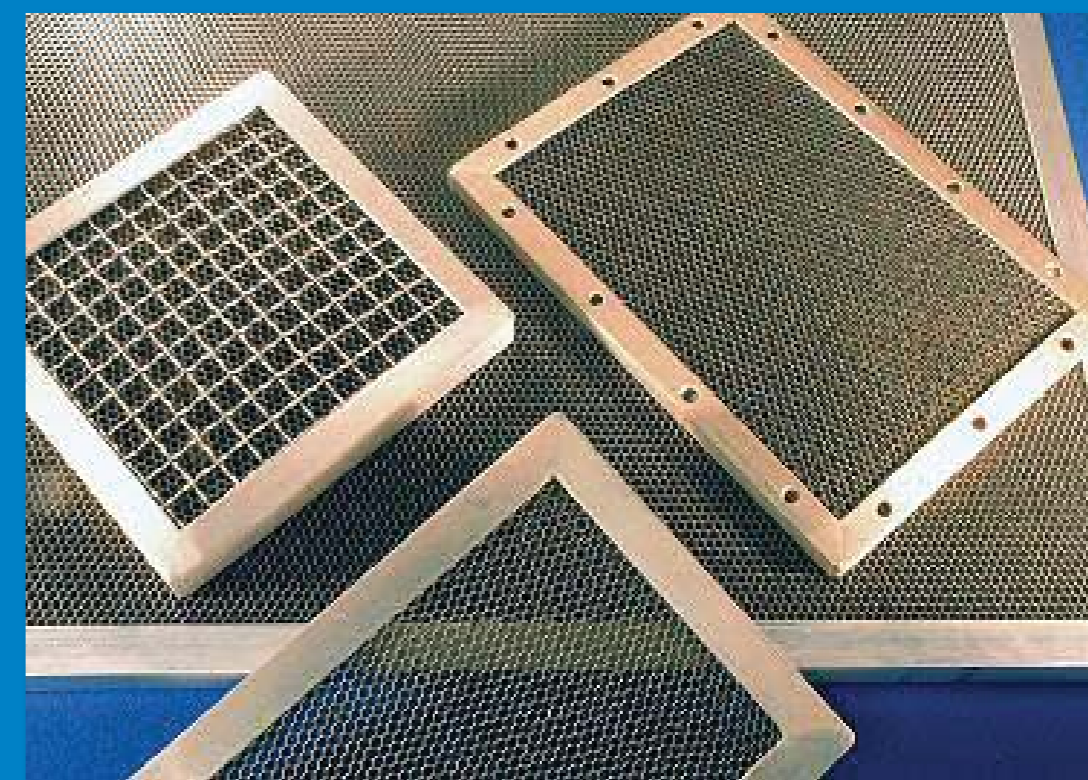
SEM, Inc.
806 Linden Avenue
Suite 100 (14625)
P.O. BOX 20310
Rochester, NY 146003-0310
Tel: +1 585-643-2000
Fax: +1 585-427-7216
schlegelemi.na@schlegelemi.com

SEM Belgium bvba
Slijpesteenweg 28
8432 Middlekerke (Leffinge)
Belgium
Tel: +32 59 560 270
Fax: +32 59 560 271
schlegelbe@schlegelemi.com

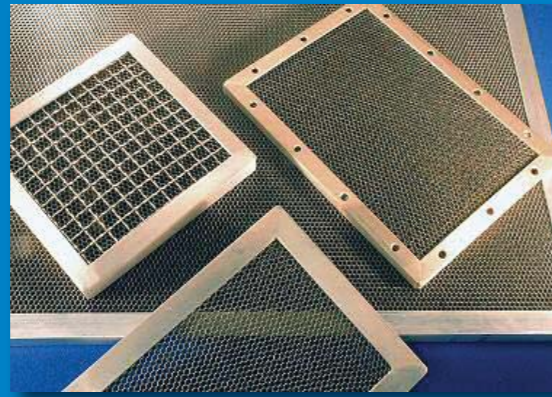
SEM (Far East) Ltd.
Unit 3, 3/F, Block A
New Trade Plaza
6 On Ping Street
Shatin, N.T., Hong Kong
Tel: +852 2686 9872
Fax: +852 2686 9728
schlegelemi@emeigroup.com

Honeycomb Vent Panels

HONEYCOMB VENT PANELS



Honeycomb Vent Panels



Think Schlegel EMI for Shielding

As the originator of the fabric-clad foam EMI shielding technology, Schlegel EMI is the industry's most trusted name. We continue to set the standard for quality and innovation, designing advanced solutions for a wide range of applications. And our worldwide locations ensure that you get what you need, when you need it.

Modern electronic equipment often requires EMI Gaskets to avoid radiating EMI/RFI susceptibility to outside sources of EMI/RFI. Maintaining electromagnetic compatibility can be an increasing challenge of the designers of today's electronic and electrical products.

Schlegel Electronic Materials, Inc. (SEM), the preeminent manufacturer of fabric over foam EMI shielding products for the computer, telecommunications, and electronic industries, offers a full range of EMI shielding products—including gaskets, I/O backplane shielding gaskets, and highly conductive envelopes, tapes and laminates. SEM is now proud to introduce a complete line of quality beryllium copper (BeCu) EMI Gaskets. The addition of BeCu Gaskets to SEM's extensive portfolio of shielding products allows SEM to be your exclusive EMI shielding supplier, to help you meet or exceed your global requirements for electromagnetic compatibility (EMC).

We use 5052 grade aluminium foil which is a lightweight material offering superior strength and corrosion resistance over commercial grade aluminium foils. It meets all the requirements of MIL-C- 7438. This material is used to manufacture aircraft floors & wing edges, missile wings, helicopter rotor blades etc, so quality and repeatability is assured. Currently we have 7 frame styles available. To keep down production cost, vent panels made with styles 1701, 1703, 1705, 1706 & 1707 are normally supplied with 3 corners notched and the 4th joined corner welded. If required, all 4 corners of the panel can be supplied fully welded. Frame styles 1702 & 1704 are always supplied with fully welded corners.

All frame styles are supplied with a conductive gasket to provide the best electrical contact between the frame and mating metal surface.

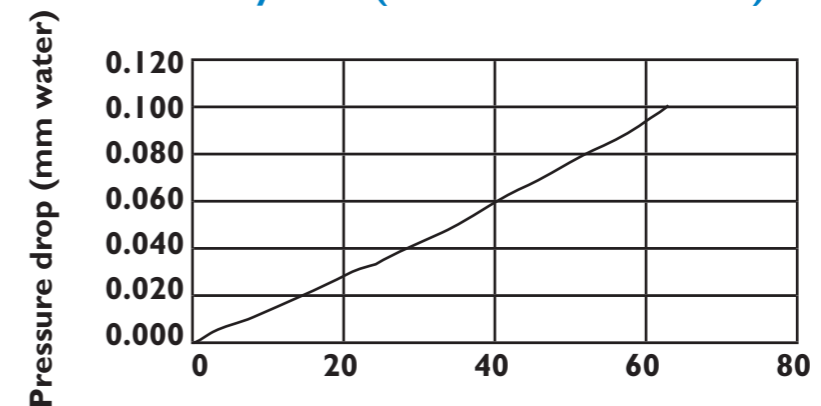
Standard tolerances for overall Finished Vent Dimensions are +/- 0.8mm
 Standard tolerances on Hole Centres are +/- 0.4mm
 Typical corner radii on frame styles 1701, 1703, 1705, 1706 & 1707 are R3.0mm

The standard finish for aluminium vent panels is SemPas, it fully meets the RoHS directive and replaces Alocrom 1200. This in-house process applies a permanganate passivation which is a chromate free, inorganic and non toxic coating. The process produces a dense, uniform coating consisting of aluminium and reduced manganese oxides giving a golden yellow colour to the surface. The surface finish is conductive with a low contact resistance equalling Alocrom 1200. It also meets all requirements of MIL-C-5541E for corrosion and electrical conductivity

Pressure Drop and Shielding Performance

SEM will be publishing enhanced pressure drop data later this year. In the meantime, pressure drop data is provided as is from previously published data.

Pressure drop across double layer aluminium honeycomb (2 x 6.3 thick x 3.18 cell)



Measure shielding performance in accordance with Mil Std 285

All vents fitted with solid mesh EMC gasket, with standard finish

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

- Vent type 1:** 2 layers 3.2cell x 3.2mm thick honeycomb (total 6.4mm)
- Vent type 2:** 1 layer 3.2cell x 6.35mm thick honeycomb
- Vent type 3:** 1 layer 1.6cell x 6.35mm thick honeycomb
- Vent type 4:** 2 layers 3.2cell x 6.35mm thick honeycomb (total 12.7mm)
- Vent type 5:** 1 layer 3.2cell x 6.35 thick honeycomb + 1 layer 3.2cell x 6.35mm thick 45° slant honeycomb (total 12.7mm)

Centre Bar Extrusion

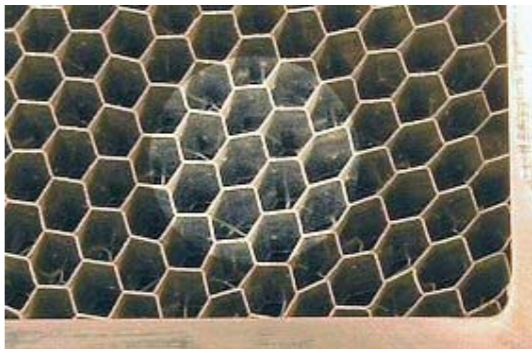
Where a vent panel is very large, we can fit a centre strengthening extrusion to provide additional mechanical rigidity to the vent panel. Used with outer frame styles 1701/1702/1703/1704 & 1707 only



Aluminium Honeycomb Sizes and Styles

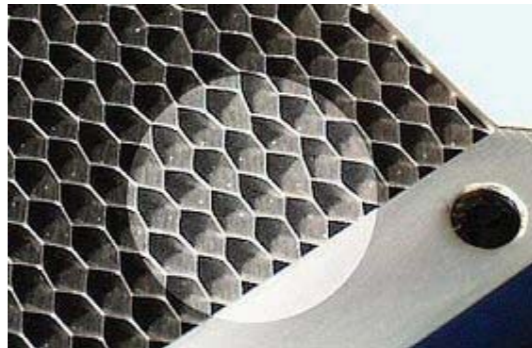
Standard straight cell sizes & thickness held in stock are:-

- 3.2mm (0.125") cell x 12.70mm (0.50") thick
- 3.2mm (0.125") cell x 6.35mm (0.25") thick
- 1.6mm (0.0625") cell x 6.35mm (0.25") thick
- 3.2mm (0.125") cell x 3.2mm (0.125") thick



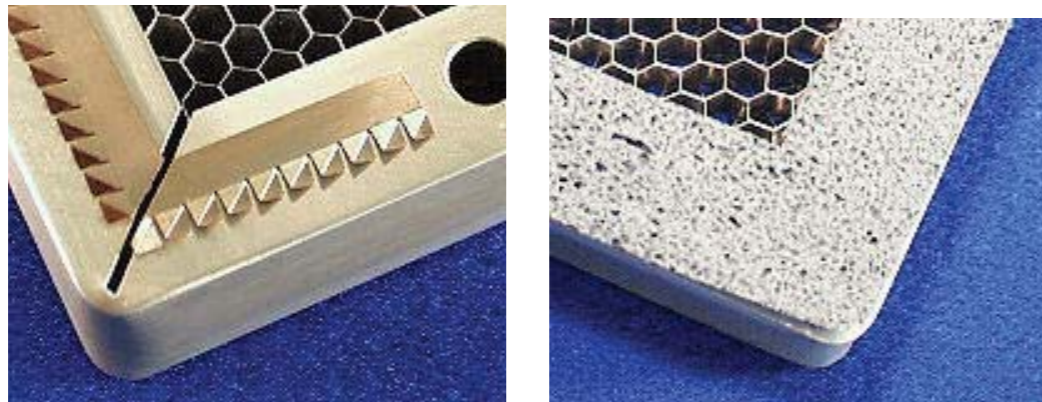
Standard slant cell sizes, angles & thickness held in stock are:-

- 3.2mm (0.125") cell x 6.35mm (0.25") thick x 30°
- 3.2mm (0.125") cell x 6.35mm (0.25") thick x 45°

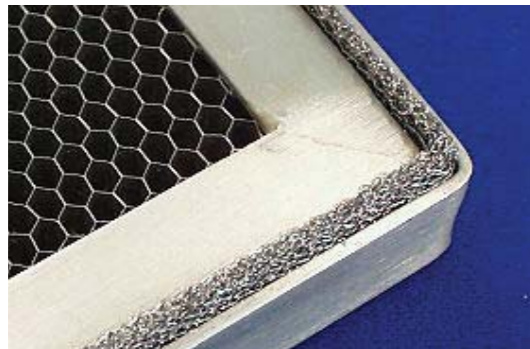


Gaskets

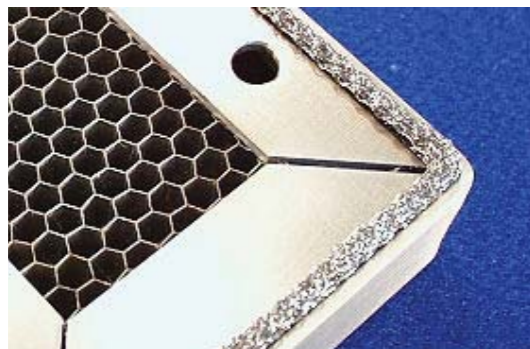
Frame styles 1702 & 1703 are supplied fitted with solid monel mesh EMC gasket as standard. Tinplated Copper Clad Steel (TCS), Aluminium or Stainless Steel solid mesh can also be specified if required. All other frame styles can be supplied with many different types of EMC gaskets including knitted mesh bonded to an environmental seal, oriented wires in silicone, conductive fabric over foam or beryllium copper



1703 style Attenuvent showing a welded corner (Rear with EMC Gasket)

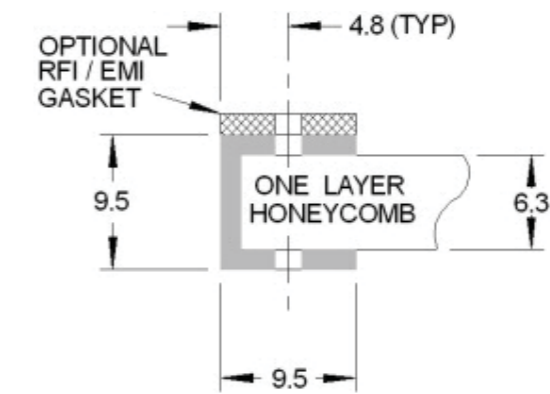


1703 style Attenuvent showing notched corners (Rear with EMC Gasket)



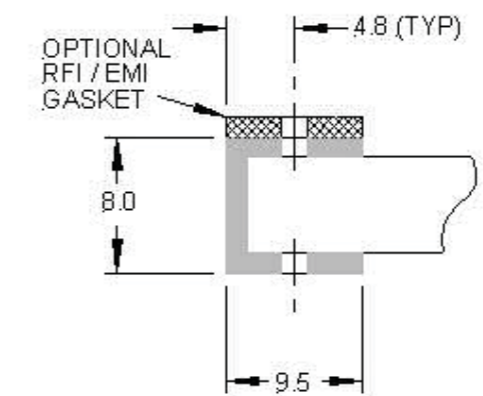
Standard Frames

1706 Will accommodate 1 layer of 3.2 or 1.6mm cell x 6.35mm thick honeycomb. Also possible to accommodate 2 layers of 3.2mm cell x 3.2mm thick honeycomb.



FRAME TYPE 1706

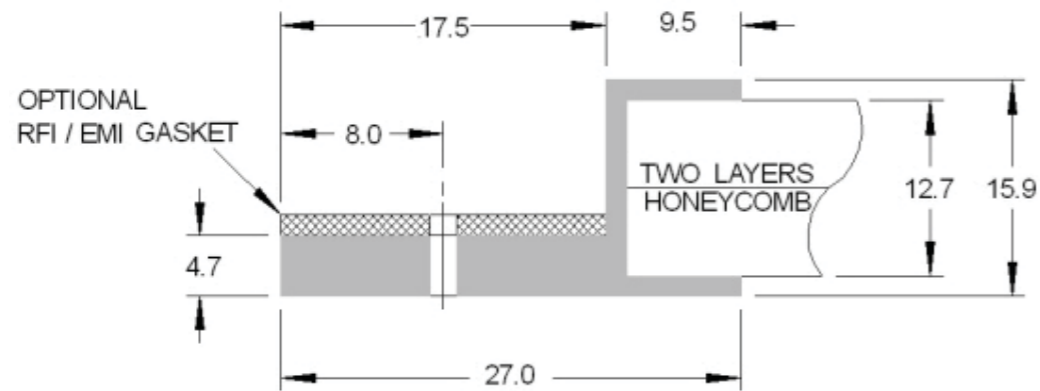
1709 Main use is for dust filter panels that can be fitted over EMC vent panels, but can accommodate one layer of 3.2 or 1.6mm cell x 6.35mm thick honeycomb, however this is not recommended.



FRAME TYPE 1709

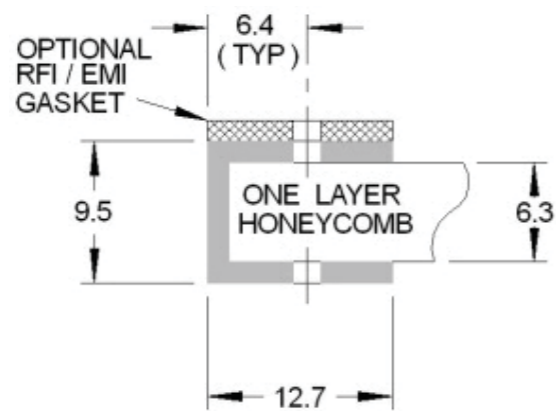
Standard Frames

1704 Will accommodate 2 layers of 3.2 or 1.6mm cell x 6.35mm thick honeycomb. Or one layer of 3.2mm cell x 6.35mm thick and one layer of 3.2mm x 6.35mm thick angled honeycomb.



FRAME TYPE 1704

1705 Will accommodate 1 layer of 3.2 or 1.6mm cell x 6.35mm thick honeycomb. Also possible to accommodate 2 layers of 3.2mm cell x 3.2mm thick honeycomb



FRAME TYPE 1705

Kick Plates:

For high traffic areas or where honeycomb damage could easily occur kick plates can be fitted. Two types are stocked as standard, however custom designs to customers specific requirements (i.e louvred openings) can be discussed and fitted if requested

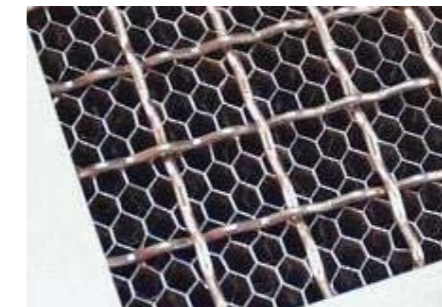
Expanded Aluminium style:

Provides maximum protection but reduced airflow



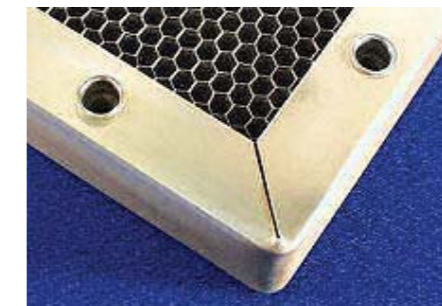
Woven Stainless Steel mesh

Provides lower protection but with better airflow



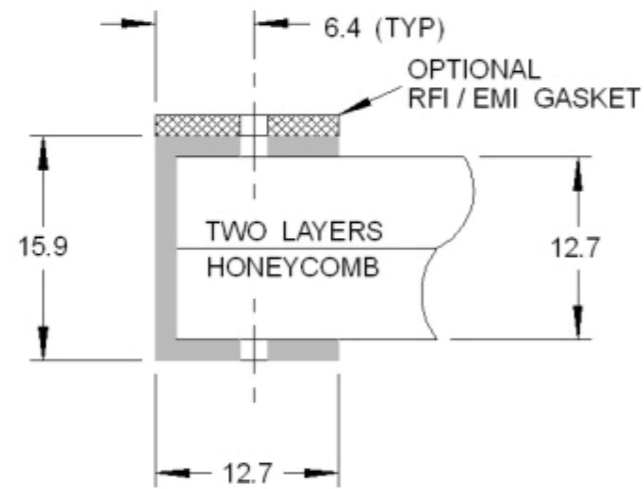
Fixings:

Vents are normally supplied with drilled clearance holes to customer specific sizes. Inserts are also offered and are stocked in M3, M4 & M5 sizes. Other styles and sizes are available on request. Standard tolerance on Hole Centres is +/- 0.4mm



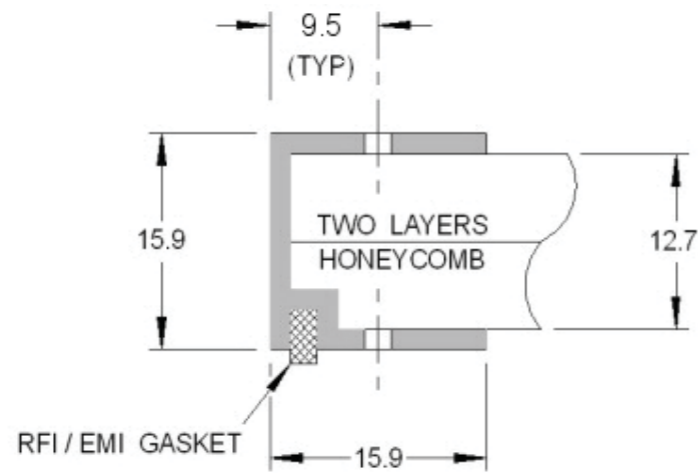
Standard Frames

1701 Will accommodate 2 layers of 3.2 or 1.6mm cell x 6.35mm thick honeycomb. Or one layer of 3.2mm cell x 6.35mm thick and one layer of 3.2mm x 6.35mm thick angled honeycomb



FRAME TYPE 1701

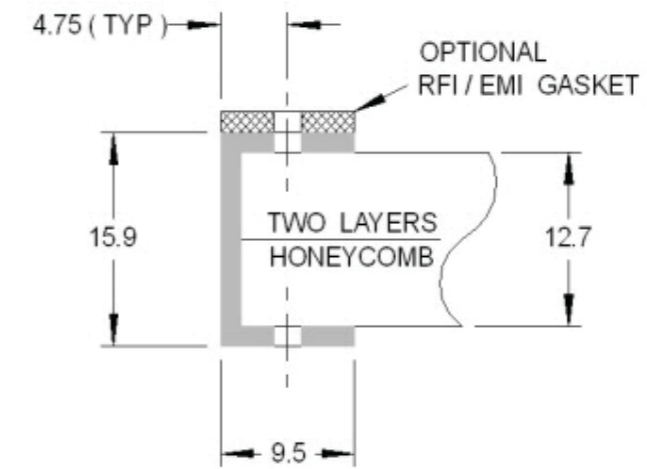
1703 Will accommodate 2 layers of 3.2 or 1.6mm cell x 6.35mm thick honeycomb. Or one layer of 3.2mm cell x 6.35mm thick and one layer of 3.2mm x 6.35mm thick angled honeycomb.



FRAME TYPE 1703

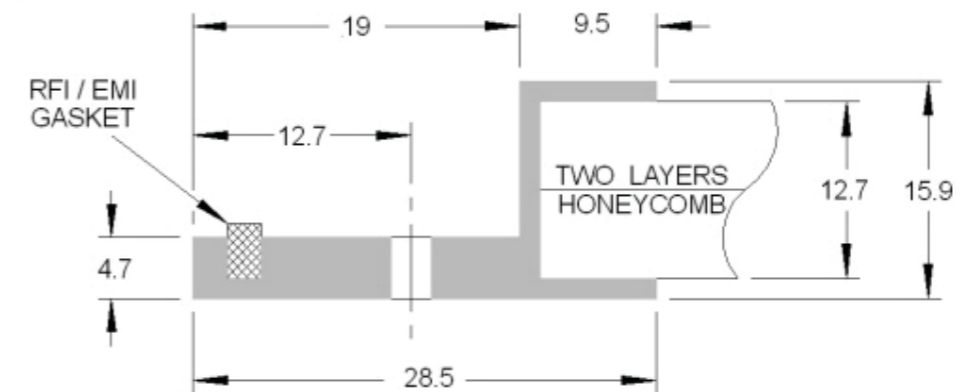
Standard Frames

1707 Will accommodate 2 layers of 3.2 or 1.6mm cell x 6.35mm thick honeycomb. Or one layer of 3.2mm cell x 6.35mm thick and one layer of 3.2mm x 6.35mm thick angled honeycomb.



FRAME TYPE 1707

1702 Will accommodate 2 layers of 3.2 or 1.6mm cell x 6.35mm thick honeycomb. Or one layer of 3.2mm cell x 6.35mm thick and one layer of 3.2mm x 6.35mm thick angled honeycomb



FRAME TYPE 1702