

Honeycomb Panel Spec Sheet

SDS WaveGuide Panels

SDS's ready-to-install honeycomb ventilation panels offer superior EMI/RFI shielding with minimal airflow pressure drop. Using a waveguide design ensures high shielding effectiveness, while thin foil cell walls allow for efficient air passage.

Key Considerations for Selecting a Shielded Honeycomb Panel:

- Airflow: Panels maintain high airflow efficiency due to thin cell walls.
- Mounting and security requirements

Features

Ease of Installation

SDS Waveguides are available with multiple installation applications.

Optimal Shielding & Airflow

The honeycomb structure, with its 4:1 opening-to-depth ratio, ensures effective waveguide cut-off for EMI/RFI attenuation while maintaining airflow for cooling.

Standard Configurations

A wide range of sizes is available to meet diverse design needs. RoHS-compliant options are also offered.

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EMI/RFI Shielded HVAC Panels

Radiated Emission Testing Results

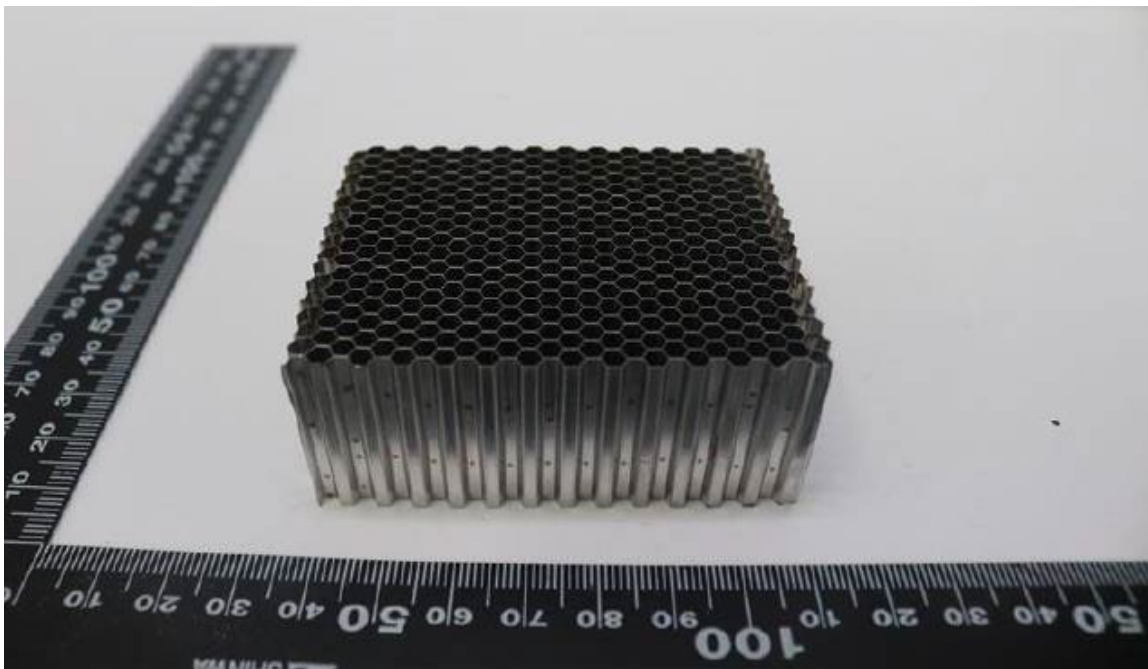
for 12" x 12" x 0.5" Honeycomb Vent Panels:

- **Aluminum (Non-Hexavalent Chromate Coated):** 30 dB up to 18 GHz (Plane Wave)
- **Aluminum (Tin-Plated):** 60 dB up to 18 GHz (Plane Wave)
- **Steel (Tin-Plated):**
 - 70 dB up to 18 GHz (Plane Wave)
 - 45 dB at 10 kHz and 60 dB at 100 kHz (Magnetic H-Field)

RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method: With reference to IEC 62321-4:2013+AMD1:2017, IEC62321-5:2013 and IEC62321-7-1 :2015, analyzed by ICP-OES, AAS and UV-Vis.

Test Items	Limit	Unit	MDL	001
Cadmium(Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	-	ug/cm ²	.10	ND



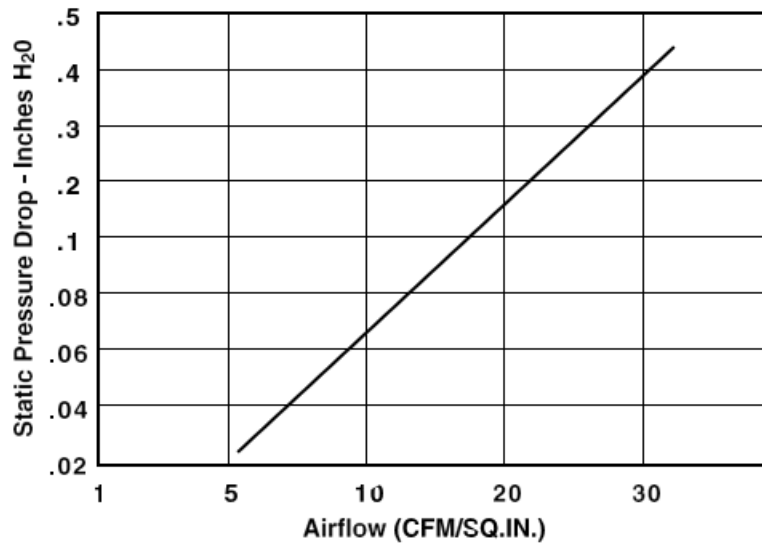
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Notes :

- The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
 - IEC 62321 series is equivalent to EN 62321 series
https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25
- The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm². The sample coating is considered to contain CrVI.
 - The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm²). The coating is considered a non-CrVI based coating.
 - The result between 0.10 µg/cm² and 0.13 µg/cm² is considered to be inconclusive - unavoidable coating variations may influence determination. Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent the status of the sample at the time of testing.

Air Flow Resistance

SDS's shielded honeycomb panels are designed to minimize pressure drop, ensuring optimal airflow for effective cooling through intake and exhaust vents. Figure 1 illustrates the airflow resistance per square inch for standard honeycomb vents.

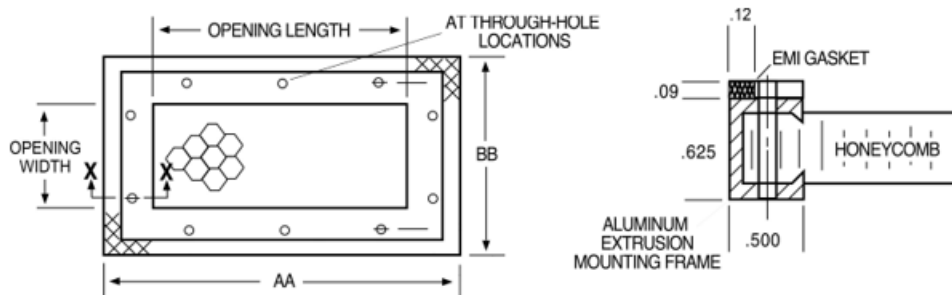


Mounting Options

Various mounting options are available.

Size Options

Panels are available in various widths (AA) and lengths (BB).



Shielding Effectiveness vs Frequency

Field	Aluminum - Non-hexavalent Chromate Finish Material Code - 90					
	Frequency					
	1 MHz	100 MHz	500 MHz	1 GHz	10 GHz	18 GHz
E	60	50	50	—	—	—
PW	—	—	—	45	40	30

Field	Aluminum – Tin Plate Material Code – 42					
	Frequency					
	1 MHz	100 MHz	500 MHz	1 GHz	10 GHz	18 GHz
E	100	90	85	—	—	—
PW	—	—	—	80	70	60

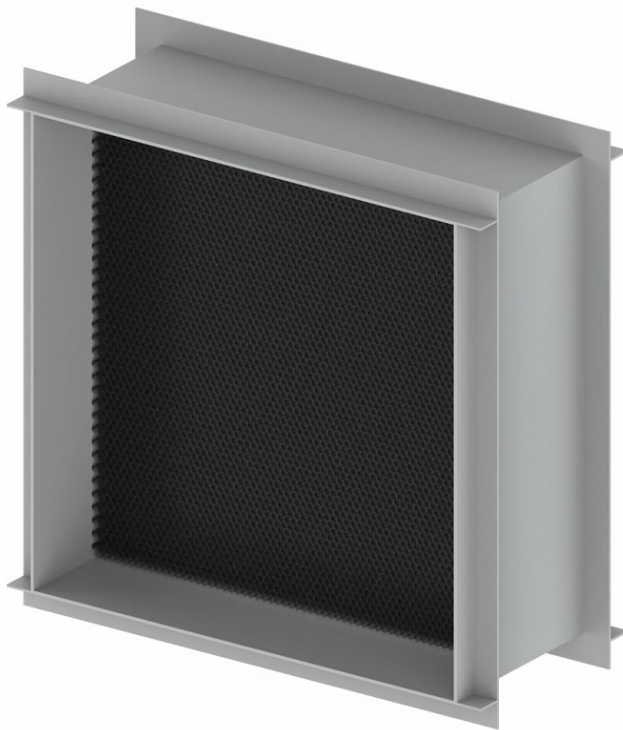
Field	Steel Frequency							
	10 kHz	100 kHz	1 MHz	100 MHz	500 MHz	1 GHz	10 GHz	18 GHz
H	45	60	—	—	—	—	—	—
E	—	—	110	110	110	—	—	—
PW	—	—	—	—	—	110	80	70

Shielding Data

The shielding characteristics shown in Table 1 are based on a 12" x 12" panel with a 0.5" x 0.125" cell size honeycomb, tested under MIL-STD 285 conditions. This data is intended for comparing shielded vent configurations and should not be used as a pass/fail specification for manufactured EMI/RFI waveguide panels.

Data reflects a steel honeycomb with a steel frame. Note: Not all mounting frame options are available in steel.

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Size shown is for illustration purposes only. Sizes will be as shown on proposal +/- 1/8". Security manbars to be included as show in illustration on following page.

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