VENT PANELS

Laird has various vent panels to fit specific application needs.

Laird shielding ventilation panels are available in a wide array of materials, platings and mounting configurations.

Vent panels offer designers new versatility to meet EMI, environmental and mechanical system requirements.

When custom designs are needed, Laird engineering staff helps construct efficiencies in performance, cost and manufacturability from the very beginning stages of the application.

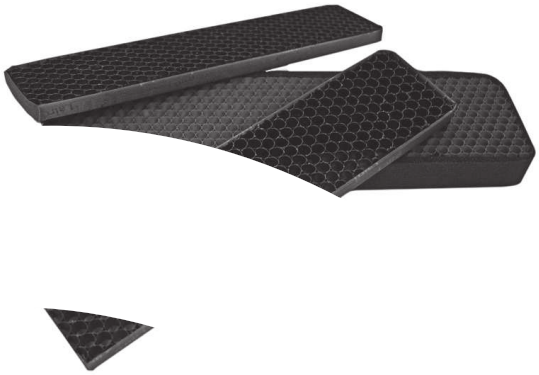
VENT PANELS
MAXAIR™

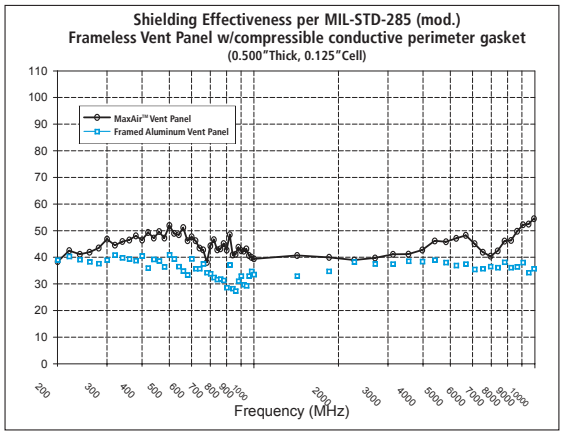
COMBINING EMI INNOVATION AND COST EFFICIENCY

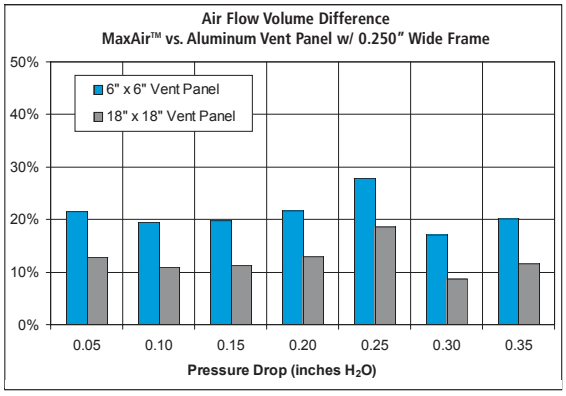
Laird's patented MaxAir vent panel product line provides an innovative cost effective approach for providing increased airflow and EMI protection for telecommunications hardware equipment such as fans and server racks.

This metallized polycarbonate honeycomb material provides a rigid medium eliminating the need for costly frame designs. This frameless design allows greater airflow through the entire honeycomb surface and ease of installation through its press-to-fit assembly. The MaxAir vent panel provides greater durability and flexibility than traditional aluminum vent panels.

Varying densities of material are available to meet specific levels of rigidity requirements. The honeycomb cell size can be 0.125 in (3,18mm) or 0.250 in (6,35mm) in standard thicknesses of 0.250 in (6,35mm) and 0.500 in (12,70mm).







Features and Benefits:

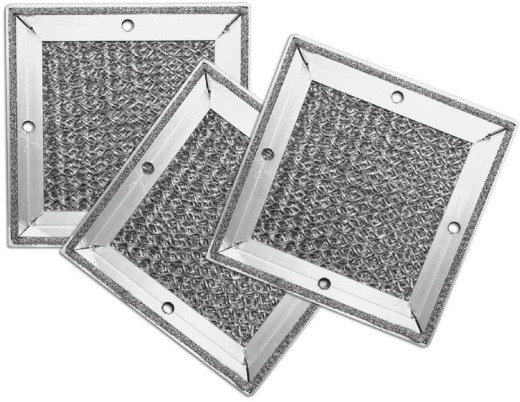
- Metallized polymeric honeycomb provides excellent product rigidity and dent resistance
- Eliminates frames, rivets and costly labor to install
- UL 94 V0 rated or intumescent coated versions available for flame resistance
- Increases useable air flow area by 10% to 20% compared to framed aluminum vent panels
- Special features can be machined into honeycomb, such as recesses and rabbet cuts to customize panel
- Half the weight of traditional aluminum honeycomb vent panels
- Compressible conductive perimeter gasket provides extensive tolerance to accommodate variations in shelf widths or vent panel opening dimensions
- Can be manually inserted with slide-in motion or by compression fit utilizing compression stops and minimal hardware

APPLICATIONS:

- Telecommunications hardware equipment
- Fans
- Server racks
- Military applications
- Shielded rooms

VENT PANELS

ELECTRO-AIR™ EMI/DUST FILTRATION PANEL



Maximum Protection/Minimum Impedance

Laird has a proven solution for air filtration and EMI shielding in electronic enclosures. The Electro-Air EMI/dust filtration panel, consisting of layered, woven, and crimped wire mesh plus filtering media (as needed), captures microscopic airborne contaminants while providing minimal air flow impedance.

Better yet, the panel's specially designed EMI gasket prevents signal migration to the enclosed sensitive electronic equipment. In fact, when measured according to MIL-STD-285, the panel provides shielding effectiveness in excess of 60 dB for a range of 18 MHz to 1 GHz plane wave.

Features and Benefits:

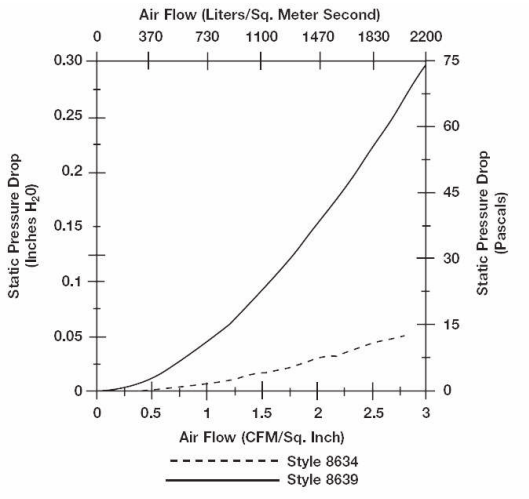
- Universal applications—ideal for small enclosures, large housings, high traffic areas, even room size facilities
- Extensive service life—built to outlast the equipment it protects
- Variety of design specifications—modular construction is available in assorted standard sizes from 3 to 18 sq. in. (19,35 to 116,13 sq. cm)
- Easy installation—pre-drilled through holes or captive fasteners allow for quick mounting and removal
- Simple maintenance—washing with mild soap solution, rinsing, and drying as often as necessary does not degrade performance
- Design assistance—Laird Technologies engineering department offers technical assistance and testing data to help solve the toughest application challenges

METAL AND PLATING CODES

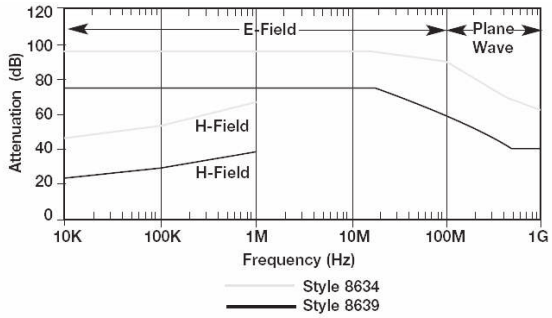
CODE NO	FRAME MATERIAL	FILTER MEDIA	EMI GASKET	PLATING FINISH
73	Aluminum Alloy 6063-T4	**GRILLE:** Aluminum Alloy 6063-T4 **MEDIA:** Wire Fabric Aluminum RR-W-385 Type VII 18x14	**GROUND:** Knit Monel Wire Per QQ-N-281 Class A **ELASTOMER:** Neoprene Sponge MIL-R-6130 Type II Medium	Chromate Coating Per MIL-C-5541 Class 3
74	Aluminum Alloy 6063-T4	Aluminum Alloy 1100-0 Per QQ-A-250/1, with Polyethylene Interlayer	Knit Monel Wire Per QQ-N-281 Class A	Chromate Coating Per MIL-C-5541 Class 3

If required, the panels can be supplied painted to match enclosure color.

AIR FLOW VS. RESISTANCE



SHIELDING EFFECTIVENESS



FILTRATION PANEL SIZE DETERMINATION STYLE 8639

1. Customer determines fan size and velocity based on their calculated cooling requirements. Example: Fan @ 240 CFM velocity with static pressure of 0.035 inches H_2O.

2. Determine panel opening size so not to impede airflow

A. From Air Flow vs. Resistance graph intersect 0.035 inches on Y axis

B. Draw line to curve–this intersects at 2.3 CFM/in²

C. Required vent opening = (240 –: 2.3) = 104 in² opening

D. Choose vent size with 104 in² opening or larger

For additional information on any of the other products available, please contact sales for assistance or visit us at www.lairdtech.com.

VENT PANELS
ELECTROVENT™

Laird offers ElectroVent EMI shielding ventilation panels. Available in a wide choice of materials, platings, and mounting configurations, ElectroVent offers the designer new versatility to meet EMI, environmental and mechanical system requirements.

AVAILABLE PROTECTIVE GRILLE

For high traffic areas, all EMI ventilation panels are available with grille installed to protect honeycomb from damage that could impede airflow or shielding effectiveness.

Features and Benefits:

- Wide choice of materials and finishes to meet a broad range of shielding effectiveness requirements
- Varied mounting configurations to meet environmental and space considerations
- Protective grille can be supplied
- Panel supplied with 0.25 in (6,4 mm) thick or 0.50 in (12,7 mm) thick honeycomb
- Full EMI test of panel to MIL-STD-285 to aid in the early stages of equipment panel design

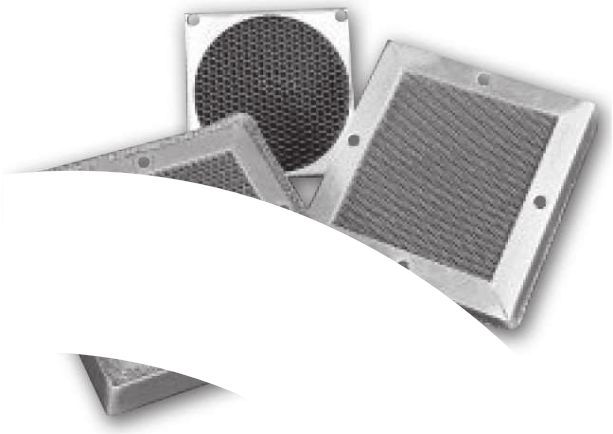
TABLE 1. CODES FOR PANEL MATERIALS AND PLATING COMBINATIONS

CODE NO.	HONEYCOMB MATERIALS	FRAME MATERIALS	PLATING	EMI GASKET
70	Aluminum Alloy MIL-C-7438	Aluminum Alloy 6063-T4	Chromate Coating MIL-C-5541 Class 3	Wire Knit: Monel QQ-N-281 Class A Elastomer: Neoprene MIL-R-6130 Type Grade A Medium
71	Aluminum Alloy MIL-C-7438	Aluminum Alloy 6063-T4	Tin Plating MIL-T-10727 Type 1	Wire Knit: Tin Coated Copper Clad Steel ASTM B 520 Elastomer: Neoprene MIL-R-6130 Type Grade A Medium
72	Steel SAE 1010	Aluminum Alloy 6063-T4* Chromate Coating	Honeycomb only Tin Plate MIL-T-10727 Type 1	Wire Knit: Monel QQ-N-281 Class A Elastomer: Neoprene MIL-R-6130 Type Grade A Medium

**Available with tin plated steel frame if required.*

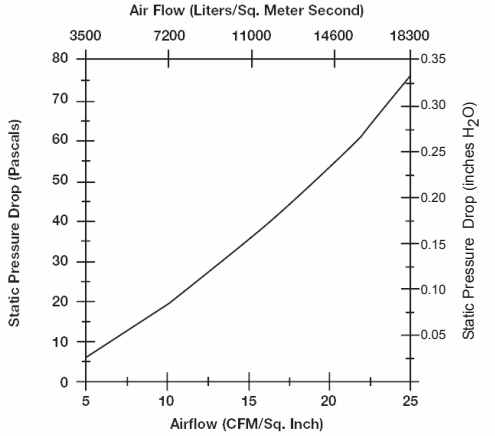
VENT PANEL SIZE DETERMINATION

1. Customer determines fan size and velocity based on their calculated cooling requirements. Example: Fan @ 240 CFM velocity with static pressure of 0.035 inches H_2O.
2. Determine panel opening size so not to impede airflow
   - A. From graph intersect 0.035 inches on Y axis
   - B. Draw line to curve—this intersects at 6 CFM/in²
   - C. Required vent opening = (240 –: 6) = 40 sq. in. opening
   - D. Choose vent size with 40 sq. in. opening or larger



Vent panels range from 3 in. (76,2 mm) to 18 in. (457,2 mm) square in standard sizes, and can be ordered with either 0.50 in. (12,7 mm) thick or space-saving 0.25 in. (6,4 mm) thick honeycombs.

AIR FLOW VS. RESISTANCE FOR STRAIGHT HONEYCOMB PANEL



SHIELDING EFFECTIVENESS FOR VARIOUS MATERIALS AND PLATING COMBINATIONS AT 10-12 INCH LBS TORQUE