

- Conductive elastomers • Knitted wire mesh
- Conductive coatings, sealants, adhesives
- Cable shielding products • EMI/ESD shielding laminates
- Shielded vents and windows
- FCC/VDE and TEMPEST testing

EMI Shielding Laminate with Releasable Dielectric Layer

FEATURES

- Conductive PSA for conductive ground attachment
- Kiss-cut dielectric layer for low-cost customizing
- Low cost alternative to conductive paints, metalization and plating of plastic enclosures (Allows for plastic enclosure recycling)

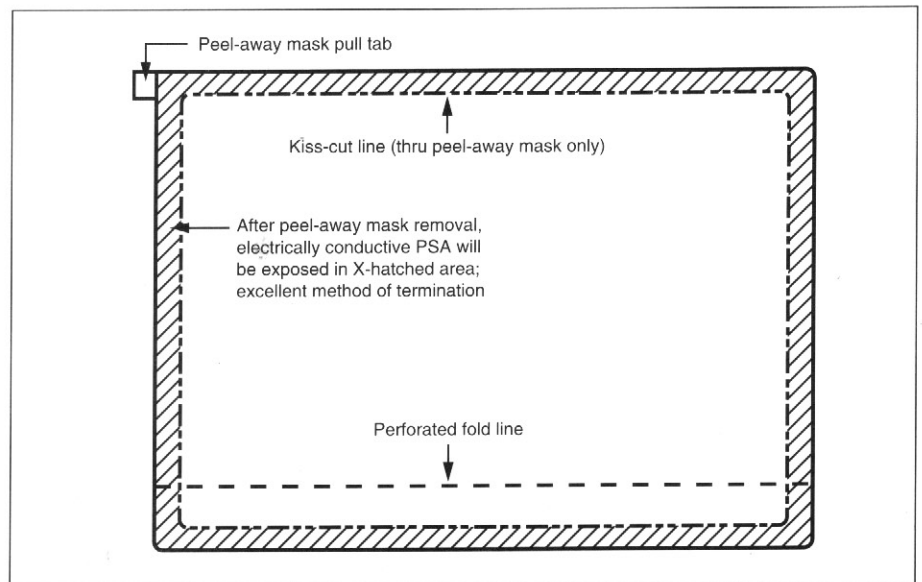
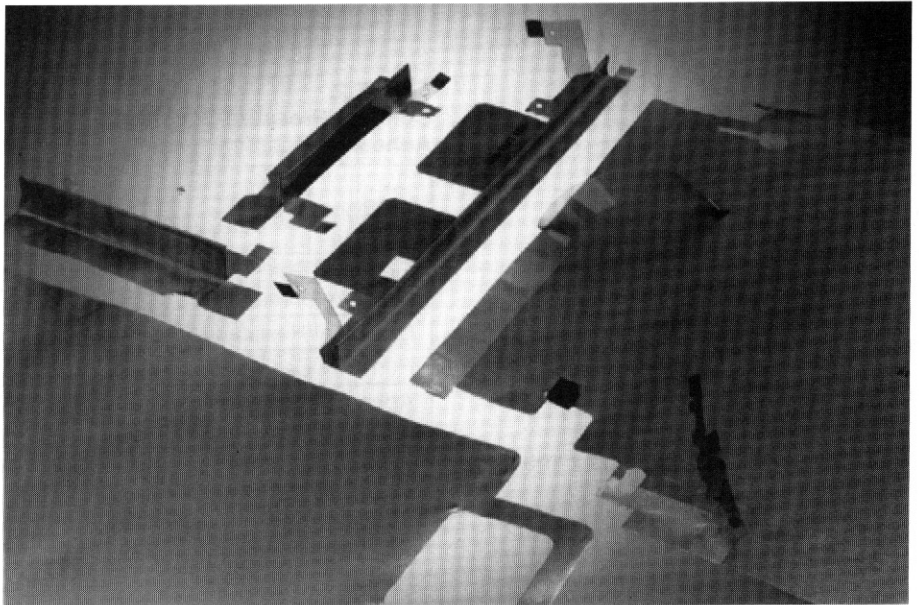
Chomerics has developed a unique EMI shielding laminate consisting of an aluminum foil and a dielectric film layer. The foil and dielectric film materials are bonded together with a conductive pressure sensitive adhesive (PSA). Sections of the dielectric layer can be selectively removed to expose the PSA and foil. This feature provides choices for grounding/bonding sites.

Custom configurations of these EMI shielding laminates are available using standard die-cutting processes. Overall dimensions are cut-through, and various grounding/bonding locations can be kiss-cut for peel-off removal of the dielectric film layer. This feature eliminates the need for selective lamination, in which parts are fabricated with exposed metal foil sites.

DESCRIPTION

Chomerics' EMI shielding laminates offer a combination of mechanical, electrical and processing properties plus economy for commercial applications. EMI shielding laminates with releasable film layers consist of aluminum foil, a conductive PSA material and a dielectric layer. The metal foil layer supplies the necessary EMI shielding (generally 20-60 dB depending on frequency, size, configuration and installation*) and grounding properties. The dielectric layer provides isolation and flexibility. It can be selectively removed by kiss-cutting and peeling it away to expose the conductive PSA material.

* To determine the shielding effectiveness of specific laminate parts, it is recommended that prototype shields be inserted and properly terminated in the product under test.



To enhance installation of these EMI shielding laminates, scores, slits, self-adhesive mounting strips, creases and other features can easily be designed into the part. The acrylic PSA contains a

uniform dispersion of unique, oxidation resistant conductive particles that create a very low electrical resistance through the shield.

continued

TYPICAL APPLICATIONS

- Custom grounding straps
- PCB ground planes
- Crosstalk shields between proximate PCBs
- ESD shields
- Display shields

AVAILABILITY

Low cost EMI laminate shields are available in the following materials and standard forms:

Materials

- 5 mil Aluminum
- 2 mil dielectric layer
- 1.5 mil conductive acrylic PSA

Forms

- Rolls up to 24 in (61 cm) wide
- Die-cut to customer specifications

Custom configurations are available. Please contact Chomerics for engineering assistance

ORDERING INFORMATION

Standard Part Numbers:

CBL-10-2503-2400 24 in. wide x 100 ft. (61 cm wide x 30.5 m long)

Contact Chomerics for design and rapid prototype support. We can also accept your CAD drawing files on-line. Sheet samples are available for your in-house custom application work.

TABLE 1. Shielding Laminate Technical Data

| | Test Method | Typical Values |
|-------------------------------------|-------------|-----------------|
| Foil Type | — | Aluminum 1100-0 |
| Foil Thickness, in (mm) | — | 0.005 (0.127) |
| Adhesive Thickness, in (mm) | — | .0015 (0.038) |
| Film Thickness, in (mm) | — | .002 (0.051) |
| Dielectric Strength, kVAC | ASTM D149 | 3.0 |
| Max. Continuous Use Temperature, °C | — | 90 |
| Manufacturing Characteristics | | |
| Punchable/Stampable | — | Yes |
| Crease Formable | — | Yes |

TABLE 2. Conduct Pressure-Sensitive Adhesive Technical Data

| | Test Method | Typical Values |
|---|--------------------------------|--|
| Adhesive Type | — | Conductive particle-filled acrylic pressure-sensitive adhesive |
| Electrical Resistance ohms-in (ohms-cm ²) | MIL-STD-202C | <0.010 (<0.065) |
| Chemical Resistance* | ASTM D896-84 | Pass |
| Humidity Cycling** | ASTM D1000 | Pass |
| Adhesion Value to Aluminum lbs/in. (N/m) | ASTM D1000 ambient temperature | 3.0 (525) |

* Withstands acids, cleaning solvents and alkaline solutions without degradation. Complete list is available from Chomerics' Applications Department.

** Tested at 60°C, 96 hours, 95% RH.



Chomerics
Div. of Parker Hannifin Corp.
77 Dragon Court
Woburn, MA 01888-4014
Tel: 617-935-4850
FAX: 617-933-4318



Parker Hannifin PLC
Chomerics Europe
Parkway, Globe Park Estate
Marlow, Bucks., SL7 1YB, England
Tel: (44) 1628 486030 FAX: (44) 1628 890053
France Freephone Tel: (0590) 8170
Germany Freephone Tel: (0130) 818074



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