# CHO-MASK® II Foil Tape with Peel-Off Mask

## CHO-MASK II Conductive Foil Tape with Peel-Off Mask

Easy-to-use CHO-MASK II conductive foil tape provides a cost-effective alternative to chromate conversion coating, plating and conductive paints.

CHO-MASK II tape consists of a 3 mil polyester paint mask covering a layer of 2 oz. (56.7g) tin-plated copper foil. The solvent/chemical resistant tape can withstand baking temperatures of up to 400°F (204°C) while maintaining excellent adhesion and conductivity. CHO-MASK II foil tape meets MIL-T-47012 and the tin-plating meets MIL-T-10727. The adhesive contains highly stable, conductive particles which provide long-term reliability.

CHO-MASK II tape is applied to clean metal frame, door and panel surfaces where electrical continuity is required. The mask's recessed edge allows paint to flow over foil edges and provides corrosion protection. After painting, the peel-off mask is easily removed, exposing a clean foil surface with electrical through resistance below 200 milliohms. When used with Chomerics' EMI gaskets, CHO-MASK II tape provides effective shielding performance and grounding points within the painted enclosure.

Both the ST (Standard Tack) and HT (High Tack) versions of CHO-MASK II tape can accommodate a wide range of enclosure finishing processes, including powder coating.

## High Tack Version

CHO-MASK II HT (High Tack) tape offers exceptional adhesive strength at temperatures up to 400°F (204°C). It is recommended that lengths in excess of 5 feet (1.5 m), baked at over 350°F (177°C), be installed with a 0.062 inch (1.5 mm) gap between lengths. Otherwise, the thermal expansion rate differences between copper and typical cabinet substrates can cause buckling of long lengths.

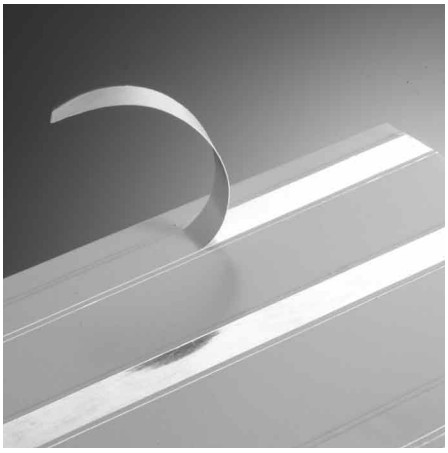

**Table 1**

| PROPERTY | TEST METHOD | TYPICAL VALUES |
|---|---|---|
| Foil Type/Thickness (mils) | — | Tinned Copper/2.8 |
| Mask Type/Thickness (mils) | — | Polyester/3.0 |
| Adhesive/Thickness (mils) | — | Acrylic/1.8 – Standard Tack<br>Acrylic/2.0 – High Tack |
| Total Thickness[1] (mils) | ASTM D1000 | 4.6 – Standard Tack<br>4.8 – High Tack |
| Continuous Use Temperature Range max., °F (°C) | — | –40 to 180 (–40 to 82) |
| Paint Cure Cycle | — | Not to exceed 1 hour at 365°F (185°C) – Standard Tack<br>Not to exceed 1 hour at 400°F (204°C) – High Tack |
| Adhesion (foil to cabinet substrate) | ASTM D1000 | See Table 3 |
| Adhesion[2] oz/in (N/m) mask to foil | ASTM D1000 | 24 (263) |
| Surface Electrical Resistance[2, 6] | Chomerics TM71 | <200 milliohms |
| Flame Resistance | UL Subject 510 | Pass/File #E90722 |
| Corrosion Resistance[3] | MIL-STD-810 | Pass |
| Chemical Resistance[4] | ASTM D896-84 | Pass |
| Humidity Exposure[5] | ASTM D1000 | Pass |
| Gasket Closure Cycling (10,000 cycles, 15% deflection)[6] | Chomerics #40 | See Table 4 |
| Heat Aging Baked 48 hours @ 365°F (185°C); lb/in (N/m) | ASTM D1000 | 2.8 (490) |

1 Includes adhesive
2 Before and after bake
3 Salt Fog Chamber at 35°C, for 144 hrs. (CHO-MASK II tape adhered to steel plate, painted)
4 Withstands 1,1,1 Trichloroethane, ethanol, acids, cleaning solvents, and alkaline solutions without degradation. Complete list available from Applications Engineering Department.
5 Tested at 60°C, 96 hours, 95% RH
6 Copies available from the Applications Engineering Department



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Parker Seals

## Ordering Procedure

CHO-MASK II tape is available on continuous rolls or custom die-cut configurations. Alternate constructions and non-standard roll sizes are available. Contact Chomerics for details. Standard rolls can be ordered using the following part number system.

For more information, request Technical Bulletin **210**.

**CMT – XX – 108 – XXXX**

**ST** = Standard Tack
**HT** = High Tack

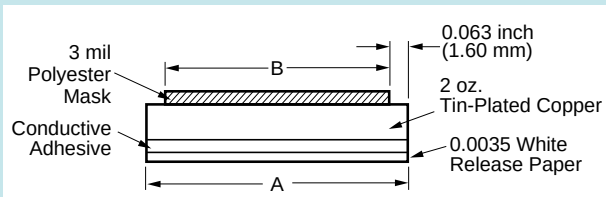
*Length of Roll (108 yards/98.76 meters)*

### Table 2

| FOIL WIDTH CODES (XXXX) *inch (mm)* | | | |
|---|---|---|---|
| –0430 | 0.430 (10.9) | –0800 | 0.800 (20.3) |
| –0500 | 0.500 (12.7) | –1000 | 1.000 (25.4) |
| –0625 | 0.625 (15.9) | –1500 | 1.500 (38.1) |
| –0750 | 0.750 (19.1) | –1750 | 1.750 (44.5) |

CHO-MASK II ST and HT tapes are available in any slit width up to 21 inches (533 mm) without recessed mask edges. Contact your local Chomerics distributor for details.

**Figure 1** CHO-MASK II – Construction




| If "A" is … | Then "B" is … | If "A" is … | Then "B" is … |
|---|---|---|---|
| 0.430 (10.9) | 0.305 (7.75) | 0.800 (20.3) | 0.675 (17.1) |
| 0.500 (12.7) | 0.375 (9.53) | 1.000 (25.4) | 0.875 (22.2) |
| 0.625 (15.9) | 0.500 (12.7) | 1.500 (38.1) | 1.375 (34.9) |
| 0.750 (19.1) | 0.625 (15.9) | 1.750 (44.5) | 1.625 (41.3) |

### Table 3

Typical Post Bake Adhesion Values for Standard and High Tack Tapes
*(Tin-plated copper tape to cabinet substrate)*

| TEST ENVIRONMENT | TO ALUMINUM LBS/IN (N/m) | TO STEEL LBS/IN (N/m) |
|---|---|---|
| Ambient Temperature | 2.5 (438) | 2.5 (438) |
| Baked 1 hour @ 350°F (177°C) | 4.0 (700) | 3.9 (682.5) |
| Baked 1 hour @ 400°F (204°C) | 5.1 (892.5) | 5.0 (875) |
| Baked 48 hours @ 350°F (177°C) | 3.1 (542.5) | 3.0 (525) |
| Baked 168 hours @ 165°F (74°C) 95% RH | 4.1 (717.5) | 4.0 (700) |

### Table 4

Abrasion Resistance
*(10,000 Door closure cycles at 15% deflection on 2 oz. (56.7 g) tin-plated copper foil, using various Chomerics EMI gaskets)*

| EMI GASKET TYPE | TEST RESULTS | COMMENTS |
|---|---|---|
| Ag/Cu filled silicone elastomer | Pass | No defects/abrasions |
| Ag/Al filled silicone elastomer | Pass | No defects/abrasions |
| Ag filled silicone elastomer | Pass | No defects/abrasions |
| Ag/Ni filled silicone elastomer | Pass | No defects/abrasions |
| Ag/glass filled silicone elastomer | Pass | No defects/abrasions |
| Ag/Cu filled fluorosilicone elastomer | Pass | No defects/abrasions |
| Ag/Al filled fluorosilicone elastomer | Pass | No defects/abrasions |
| Ag filled fluorosilicone elastomer | Pass | No defects/abrasions |
| Ferrex* knitted wire mesh | Pass | No defects/abrasions |
| Monel** knitted wire mesh | Pass | No defects/abrasions |
| Monel knitted wire mesh with urethane foam core | Pass | No defects/abrasions |
| Aluminum knitted wire mesh | Pass | No defects/abrasions |
| Conductive fabric/foil | Pass | No defects/abrasions |

* Tin-plated copper clad steel ** Nickel copper alloy

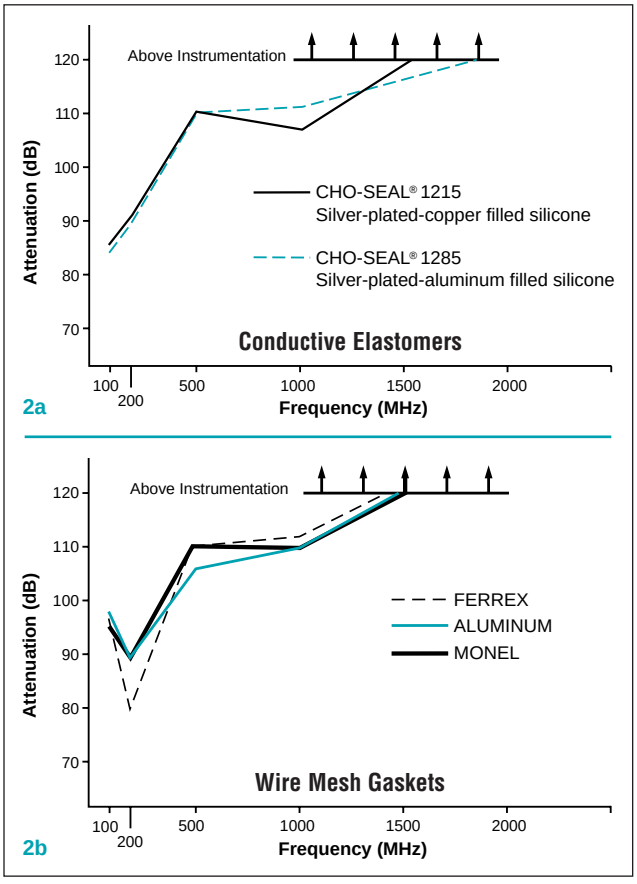



**Figure 2** CHO-MASK II Shielding Effectiveness (E-Field) with Various EMI Shielding Gaskets

(mm dimensions in parentheses)