CHO-FOIL® & CHO-FAB™ Shielding Tapes

CHO-FOIL EMI Shielding Tape with Conductive Adhesive (Copper, Aluminum or Tinned Copper)

Chomerics' CHO-FOIL tapes are an economical EMI shielding solution for a variety of commercial uses. The tapes are available in copper, aluminum, or tinned copper foil backed with Chomerics' highly conductive pressure-sensitive adhesive*. Typical properties are shown in Table 1 on the next page, and reliability data appears in Table 4 on page 148. CHO-FOIL copper tape is available with a non-conductive adhesive for applications requiring surface conductivity only. An embossed version of CHO-FOIL copper tape is also available, for a more attractive appearance up to 6 inches (152 mm) wide. Standard length rolls and die-cut custom shapes can be ordered.

Typical Applications for CHO-FOIL and CHO-FAB EMI Shielding Tapes

- Provide a low impedance connection between a braided cable shield and the metal connector backshell in molded cables. An effective EMI shielded assembly can be achieved without soldering the tape to the braid or backshell
- EMI radiation measurement troubleshooting, using CHO-FOIL tape to shield ventilation slots or seam gaps
- Provide electrical continuity in seams of EMI shielded rooms and electronic enclosures
- Supply electrical contact to surfaces that can't be soldered to, such as conductive plastic or aluminum
- EMI shield for cables by wrapping the tape around the cable. An overlap is recommended
- ESD shielding
- Provide corrosion-resistant ground contact points
- Fabric tape available where weight and flexibility are important, such as for wrapping cables

CHO-FAB EMI Shielding Fabric Tape with Conductive Adhesive

CHO-FAB tape is a corrosion resistant nickel-plated cloth coated with Chomerics' highly conductive pressure-sensitive adhesive*. CHO-FAB tape is extremely strong and lightweight, and has excellent conformability/wrapability to enhance shielding performance and appearance. Use of corrosion resistant nickel-plated cloth and Chomerics' superior metal-particle-filled conductive adhesive technology produces a tape used in a wide variety of EMI shielding and grounding applications. Typical properties are shown in Table 1 on the next page.

Chofab is available in standard (CFT) and rip-stop (CRS) nylon fabric forms. Both fabrics use nickel / silver plating to provide excellent electrical and corrosion resistance properties.

Ordering Procedure

Refer to Tables 2 and 3. All CHO-FOIL and CHO-FAB tapes are available in standard 36 yard (32.9 m) rolls or die-cut custom configurations. Call Chomerics' Applications Engineering Department for assistance with a custom configuration.

* Recognized Under the Component Program of Underwriters Laboratories, Inc.

CHOMERICS

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Parker Seals

Table 1

PROPERTIES									
Property	**Test Method**	**Typical Values**							
Part Number Prefix	—	**CCH**	**CCE**	**CCJ**	**CCK**	**CCD**	**CAD**	**CFT**	**CRS**
Foil/Fabric Type	—	1 oz. RA Copper	1 oz. Embossed RA Copper	Aluminum	1 oz. Tin-Plated Copper	1 oz. RA Copper	Aluminum	Nickel-Plated Fabric	Nickel-Plated Fabric
Foil/Fabric Thickness, mils (mm)	—	1.4 (0.0356)	1.4 (0.0356)	2 (0.0508)	1.6 (0.0406)	1.4 (0.0356)	2 (0.0508)	5 (0.127)	4 (0.1016)
Adhesive Type	—	Electrically Conductive, Pressure-Sensitive Acrylic							
Adhesive Thickness, mils (mm)	—	1.5 (0.0381)				2 sides: 1.5 each (0.0381 each)		1.5 (0.0381)	1.5 (0.0381)
Total Thickness, mils (mm)	—	2.9 (0.0737)	4* (0.1102)	3.5 (0.0889)	3.1 (0.0787)	4.4 (0.1118)	5 (0.127)	6.5 (0.165)	5.5 (0.1397)
Temperature Range, °F (°C)	—	–40 to 400 (–40 to 205)						–40 to 180 (–40 to 82)	–40 to 180 (–40 to 82)
Electrical Resistance, ohms/in² (ohms/cm²)	MIL-STD-202C	<0.003 (<0.0005)	<0.003 (<0.0005)	<0.010 (<0.0016)	<0.003 (<0.0005)	<0.010 (<0.0016)	<0.010 (<0.0016)	<0.100 (<0.016)	<0.100 (<0.016)
Flame Resistance	UL Subject 510	PASS	MEETS	PASS	PASS	MEETS	MEETS	N/A	N/A
Adhesion to Aluminum oz./inch [ppi] (N/m)	ASTM D1000	>40 [2.5] (438)							

*Embossing adds 1.1 mil

Table 2

PART NUMBER	TAPE DESCRIPTION
CCH – 36 – 101 – **ZZZZ**	Copper foil, conductive adhesive version
CCE – 36 – 101 – **ZZZZ**	Copper foil, conductive adhesive, embossed
CCJ – 36 – 201 – **ZZZZ**	Aluminum foil, conductive adhesive
CCK – 36 – 101 – **ZZZZ**	Tin-plated copper foil, conductive adhesive
CCD – 36 – 101 – **ZZZZ**	Copper foil, conductive adhesive 2 sides
CAD – 36 – 201 – **ZZZZ**	Aluminum foil, conductive adhesive 2 sides
CFT – 36 – 101 – **ZZZZ**	Nickel-plated fabric, conductive adhesive

Table 3

TAPE WIDTH CODES (ZZZZ) *inch (mm)*									
0050	0100	0150	0200	0300	0400	0600	0800	1200	2400
0.5 (12.7)	1.0 (25.4)	1.5 (38.1)	2.0 (50.8)	3.0 (76.2)	4.0 (102)	6.0 (152)	8.0 (203)	12 (305)	24 (610)

Custom widths available up to 24 inches (61 cm)

Slit rolls are available through Chomerics' authorized distributors.

Please consult Chomerics' Applications Engineering Department for assistance with a custom application involving a need for material in other than slit roll form.

continued

NOTE: The following table represents actual experimental test data taken according to Chomerics internal test procedures. This data differs from Table 1 due to differences in test methods.

Table 4

RELIABILITY DATA										
Test		**Test Method**	**CCH**	**CCE**	**CCJ**	**CCK**	**CCD**	**CAD**	**CFT**	**CRS**
Initial Surface Resistivity (SR) (milliohms)*		CHO-TP-57***	<2	<2	<2	<2	N/A	N/A	<100	<100
Initial Through Resistivity (TR) (milliohms)*		CHO-TP-57***	<3	<3	<35	<2	<15****	<100****	<100	<100
Initial Peel Strength in oz./inch [ppi] (N/m) **		ASTM D1000	44.8 [2.8] (490)	44.8 [2.8] (490)	51.2 [3.2] (560)	46.4 [2.9] (508)	48 [3] (525)	70.4 [4.4] (710)	44.8 [2.8] (490)	44.8 [2.8] (490)
Initial Taber Abrasion Surface Resistivity (SR) (milliohms)		CHO-TP-57***	<6	<3	<6	<9	N/A	N/A	<100	<100
Heat Aging 185°F (85°C)/ 168 hrs.	SR (milliohms)*	CHO-TP-57***	<10	<2	<20	<2	N/A	N/A	<100	<100
	TR (milliohms)*	CHO-TP-57***	<16	<3	<22	<2	<7****	<60****	<150	<150
	Peel, oz./in. [ppi] (N/m) **	ASTM D1000	57.6 [3.6] (630)	62.4 [3.9] (683)	76.8 [8] (840)	67.2 [4.2] (735)	73.6 [4.6] (805)	78.4 [4.8] (840)	59.2 [3.7] (648)	59.2 [3.7] (648)
Heat Aging 250°F (121°C)/ 168 hrs.	SR (milliohms)*	CHO-TP-57***	<10	<3	<20	<2	N/A	N/A	<100	<100
	TR (milliohms)*	CHO-TP-57***	<70	<3	<23	<2	<3****	<10****	<150	<150
	Peel, oz./in. [ppi] (N/m) **	ASTM D1000	57.6 [3.6] (630)	59.2 [3.7] (648)	75.2 [4.7] (823)	51.2 [3.2] (560)	70.4 [4.4] (770)	84.8 [5.3] (928)	43.2 [2.7] (473)	43.2 2.7] (473)
Heat Aging with Humidity 95% RH/ 185°F (85°C)/	SR (milliohms)*	CHO-TP-57***	N/A	N/A	N/A	<2	N/A	N/A	<100	<100
	TR (milliohms)*	CHO-TP-57***	N/A	N/A	N/A	<2	<115****	<150****	<150	<150
	Peel, oz./in. [ppi] (N/m) **	ASTM D1000	N/A	N/A	N/A	78.4 [4.9] (858)	78.4 [4.9] (858)	84.8 [5.3] (928)	46.4 [2.9] (508)	46.4 [2.9] (508)
Salt fog corrosion/ 168 hrs.	SR (milliohms)*	CHO-TP-57***	N/A	N/A	N/A	<2	N/A	N/A	<100	<100
	TR (milliohms)*	CHO-TP-57***	N/A	N/A	N/A	<2	<275****	<600****	<1000	<1000
	Peel, oz./in. [ppi] (N/m) **	ASTM D1000	N/A	N/A	N/A	76.8 [4.8] (840)	62.4 [3.9] (683)	80 [5] (875)	33.6 [2.1] (368)	33.6 [2.1] (368)
Taber abrasion 500 gramweight, CS-10 wheel, 500 cycles	SR (milliohms)*	CHO-TP-57***	<3	<5	<2	<6	N/A	N/A	<175	<175

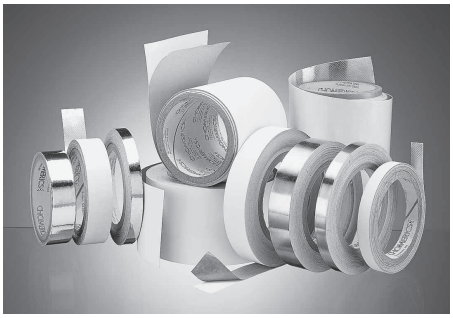
N/A = Not Applicable

* All measurements of surface resistivity and through resistivity made at ambient temperature with tapes mounted on tinned coppe substrate, except for taber abrasion where a plastic substrate was used.

** 90° peel strength tests were done on an Instron at 2 inches per minute with tapes on a 2024 aluminum substrate.

*** CHO-TP-57 available from Chomerics on request.

**** Through resistivity measurement of double sided adhesive tapes done with tapes flanged between 2024 aluminum substrates.



Contact our Applications Engineering Department to discuss your requirements.

TB 1015 EN 04/06

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