



# Conductive Tapes Catalog

## THINK SCHLEGEL® FOR SHIELDING.

As the originator of the fabric-clad foam EMI shielding technology, Schlegel is the industry's most trusted name. We continue to set the standard for quality and innovation, designing advanced solutions for a wide range of applications. And our worldwide locations ensure that you get what you need, when and where you need it.

### EMI Shielding Products



## Schlegel Conductive Tapes

### MORE FLEXIBILITY, HIGHER CONDUCTIVITY, AND EASIER INSTALLATION

Schlegel's expanded line of Conductive Tapes meets the customer needs for flexibility, higher conductivity, and easier installation. Schlegel Conductive Tapes feature superior shear strength, 7.6 kPa (72+ hours @ 1.1 psi) in accordance to (PSTC #7) ASTM D 3654, and peel strength, from 10.2 N/2.5 cm (36.07 oz/inch width) to 20.3N/2.5 cm.(71.8 oz/inch width) in accordance to (PSTC #1) ASTM D 3330, when compared to other EMI shielding tapes. This is made possible by a unique, cross-linking acrylic based, conductive Pressure Sensitive Adhesive (PSA) that also allows the tapes to be designed into higher temperature applications. Low temp application is possible down to 10°F (-12°C), and excessive pressure is not required for application to the end unit. We also have PSA that are fire-rated to UL 510. There is now an easy-to-apply tape to fit most every EMI shielding design need.

## Conductive Silver Tape (CST)

### HIGHER CONDUCTIVITY WITHOUT THE SHARP EDGES

The foundation of Schlegel's tape products is Conductive Silver Fabric Tape. CST offers superb conductivity and ease of installation for a wide range of applications. The smooth, soft-edged tape will not crack after repeated flexing, or cause injuries. Schlegel CST achieves total coverage, even on irregular surfaces and experiences no significant shrinkage at temperatures up to 180°C (356°F). A unique, conductive Pressure Sensitive Adhesive (PSA) allows the tapes to be designed into higher temperature applications. The PSA is fire rate to UL 510, and excessive pressure is not required for application to the end unit.

CST tape has an average shielding effectiveness of 70 dB in the range of 20 MHz to 10 GHz. CST's protective C2 coating lowers the cathodic potential of the silver to make it galvanically compatible with a variety of EMI gaskets and cabinet surfaces. A superior alternative to sharp, non-conforming foil tapes, Schlegel's lightweight Conductive Silver Tape is ideal for grounding and for sealing small apertures in frames. It achieves total coverage, and experiences no significant shrinkage at temperatures up to 180°C (356°F).

For assemblers, the CST's soft fabric is safe and easy to work with, and it stays firmly in place with Schlegel's strong, high-tack conductive adhesive. The conductive fabric base also allows the tape to be custom-cut in virtually any unique shape with simple, inexpensive tooling.

#### Shielding Effectiveness (MIL-STD-285modified):

Frequency	Attenuation
100 MHz	79 db
400 MHz	64 db
1 GHz	68 db



#### Sizes

Tape Width	Tape Length	Part Number
0.315" (8mm)	18 yard (16.45m) roll	5941-0031-0
0.500" (12.7mm)	18 yard (16.45m) roll	5941-0050-6
0.788" (20mm)	18 yard (16.45m) roll	5941-0079-8
1.000" (25.4mm)	18 yard (16.45m) roll	5941-0100-3
1.118" (30mm)	18 yard (16.45m) roll	5941-0118-2
2.000" (50.8mm)	18 yard (16.45m) roll	5941-0200-5

#### Specifications

- Fabric: Silver woven nylon ripstop fabric with C2 anti-corrosion coating
- Adhesive: High-tack, conductive adhesive system
- Surface Resistivity: less than 0.5  $\Omega$  Test Method: ASTM F390 modified
- Volume Resistance: 0.20  $\Omega$ -cm Test Method: LP 3007
- Low Temperature Application: 40°F (4°C)
- Abrasion Resistance: No change in surface resistivity and no fabric degradation after more than 800,000 wear cycles
- Shrinkage: <4% at 180°C (356°F) temperature
- Peel Strength Test Method ASTM D3330:
  - 45.80 oz per inch (1.62g per mm) @ 1 hour dwell initial
  - 47.47 oz per inch (1.67g per mm) @24 hour dwell initial

## Conductive Mask & Peel Tape (CMP)

### SHIELD ENCLOSURES SAFELY AND EFFICIENTLY

Schlegel's Conductive Mask & Peel (CMP) tape simplifies the manufacture of painted enclosures. CMP is constructed of impenetrable, heat-release mask, highly conductive nickel copper fabric and strong high-tack, conductive adhesive, which secures the tape to the metal for superior EMI shielding. The tape employs Press, Paint, and Peel application and provides total coverage. The CMP tape's volume resistance is in the range of 0.8  $\Omega$ -cm [average]. When CMP is used with Schlegel EMI shielding gaskets, a highly conductive pathway is obtained, and provides excellent galvanic capability between mating surfaces. Typical applications include large cabinets, factory automation equipment and data storage units.

Press, Paint and Peel application is simple, safe, and secure. The operator removes the release liner from the back of the fabric tape and applies it to the prepared bare metal surface. No sharp edges exist that could lead to injuries. The 2-mil polyimide mask prevents infiltration of paint during the spraying or powder-coat process. Enclosures with CMP can be baked at temperatures up to 180°C (356°F) for up to 30 minutes. The low-tack mask releases during baking so it can easily be removed to reveal the highly conductive fabric surface.

#### Shielding Effectiveness (MIL-STD-285modified):

Frequency	Attenuation
100 MHz	96 db
400 MHz	87 db
1 GHz	84 db



#### Sizes

Tape Width	Tape Length	Part Number
0.320" (8.0 mm)	36 yard (33m) rolls	5935-0031-4
0.500" (12.7 mm)	36 yard (33m) rolls	5935-0050-0
0.790" (20.0 mm)	36 yard (33m) rolls	5935-0079-4
1.000" (25.4 mm)	36 yard (33m) rolls	5935-0100-7
1.118" (30.0 mm)	36 yard (33m) rolls	5935-0118-8
1.157" (40.0 mm)	36 yard (33m) rolls	5935-0157-6
2.000" (50.8 mm)	36 yard (33m) rolls	5935-0200-9
2.500" (63.5 mm)	36 yard (33m) rolls	5935-0250-4

#### Specifications

- Fabric: Woven copper nickel fabric
- Adhesive: High-tack, aggressive conductive adhesive system
- Removable Mask: 2-mil thick removable polyimide liner
- Volume Resistance: 0.8  $\Omega$ -cm [average] Test method: LP-3007
- Abrasion Resistance: No change in surface resistivity after more than 100,000 wear cycles. Test method: ASTM D3886
- Shrinkage: <1% @ 180°C (356°F) for 30 minutes. Test Method: LP-3012
- Peel Strength: 50 oz. Per inch minimum initial. Test Method: ASTM D3330

## Conductive NiCu Fabric Tape (CFT)

Schlegel's CFT is made from the same woven copper nickel fabric as its CMP and has the same conductive and galvanic capabilities. The nickel copper fabric, along with Schlegel's aggressive high temperature resistant conductive PSA, is designed specifically for applications that do not require a mask, i.e., cabinets that are not going to be painted or powder coated.

#### Shielding Effectiveness (MIL-STD-285modified):

Frequency	Attenuation
100 MHz	96 db
400 MHz	87 db
1 GHz	84 db



#### Sizes

Tape Width	Tape Length	Part Number
0.320" (8.0 mm)	36 yard (33m) rolls	5927-0031-0
0.500" (12.7 mm)	36 yard (33m) rolls	5927-0050-6
0.790" (20.0 mm)	36 yard (33m) rolls	5927-0079-2
1.000" (25.4 mm)	36 yard (33m) rolls	5927-0100-3
1.118" (30.0 mm)	36 yard (33m) rolls	5927-0118-8
1.157" (40.0 mm)	36 yard (33m) rolls	5927-0157-2
2.000" (50.8 mm)	36 yard (33m) rolls	5927-0200-5

#### Specifications

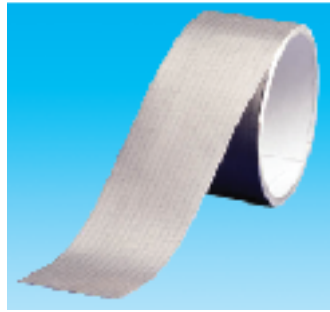
- Fabric: Woven copper nickel fabric
- Adhesive: High-tack, aggressive conductive adhesive system
- Volume Resistance: 0.8  $\Omega$ -cm [average]. Test Method: LP-3007
- Abrasion Resistance: No change in surface resistivity after more than 100,000 wear cycles. Test Method: LP-3012
- Peel Strength: 50 oz. Per inch minimum initial. Test Method: ASTM D3330

## Conductive Nickel Silver Nylon Tape (NiAgNT)

Schlegel's silver metalized ripstop nylon fabric is topcoated with nickel for corrosion resistance and superior conductivity. This excellent shielding tape provides extremely low surface resistance and uses the aggressive acrylic conductive PSA as well as a flame retardant.

### Shielding Effectiveness (MIL-STD-285modified):

Frequency	Attenuation
100 MHz	69 db
400 MHz	70 db
1 GHz	75 db



### Standard Widths

Tape Width	Tape Length	Part Number
.250" (6.35 mm)	36 yard (33m) rolls	WFR-1009861
.500" (12.7 mm)	36 yard (33m) rolls	WFR-2009861
.750" (19.1 mm)	36 yard (33m) rolls	WFR-3009861
1.0" (25.4 mm)	36 yard (33m) rolls	WFR-4009861
1.5" (38.1 mm)	36 yard (33m) rolls	WFR-5009861
2.0" (50.8 mm)	36 yard (33m) rolls	WFR-6009861
4.0" (101.6 mm)	36 yard (33m) rolls	WFR-7009861

### Specifications

- Fabric: Silver metalized ripstop nylon, topcoated with nickel
- Adhesive: Conductive acrylic PSA
- Total Thickness: 6.0 mils (.006" or 0.1520mm)
- Low Temperature Application: 40°F (4°C)

- Volume Resistance: 1.87 Ω-cm per ASTM-D-2739
- High Temperature Resistance: -46°C to 205°C (-50°F to 400°F)
- Peel Strength: 71.8 oz per inch width. Test Method: ASTM D3330

## Conductive Foil Mask and Peel Tape (CFMP)

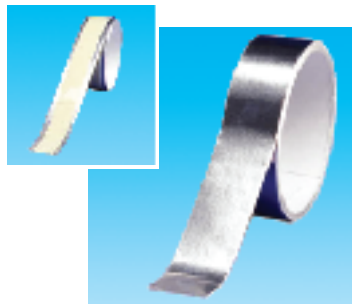
Schlegel's CFMP tape is a high tensile tin-clad copper foil tape coated with the aggressive, conductive acrylic PSA. CFMP features a top mask consisting of a 2-mil nylon film coated with a moderate peel-and-remove adhesive.

Designed for high temperature and tack applications, CFMP has excellent corrosion resistance, high z-axis conductivity and is ideal for high temperature painting or powder coating.

Schlegel's CFMP comes in six standard widths at a standard length of 36 yards (33m). The high temperature mask is also available as a stand-alone product and has a moderate strength peel-and-remove adhesive.

### Shielding Effectiveness (MIL-STD-285modified):

Frequency	Attenuation
100 MHz	141 db
400 MHz	102 db
1 GHz	116 db



### Standard Widths

Tape Width	Tape Length	Part Number
.430" (10.92 mm)	36 yard (33m) rolls	WOM-1004961
.500" (12.7 mm)	36 yard (33m) rolls	WOM-2004961
.625" (15.87 mm)	36 yard (33m) rolls	WOM-3004961
.750" (19.1 mm)	36 yard (33m) rolls	WOM-4004961
1.0" (25.4 mm)	36 yard (33m) rolls	WOM-5004961
1.5" (38.1 mm)	36 yard (33m) rolls	WOM-6004961

### Specifications

- Fabric: Copper foil tape
- Adhesive: Conductive acrylic PSA
- Total Thickness: 7.75 mils (.00775" or 0.1960 mm)

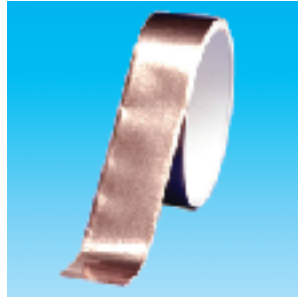
- Volume Resistance: 2.45 Ω-cm. Test Method: ASTM-D-2739
- High Temperature Resistance: 206°C (400°F)
- Peel Strength: 60 oz per inch width. Test Method: ASTM D3330

## Conductive Double Coated Copper Foil Tape (CDC)

Schlegel's CDC tape is a high tensile copper foil tape coated on both sides with the unique conductive PSA. With its low surface resistance, this tape can be used in applications which need both throughput conductivity, in addition to an effective shield between surfaces.

### Shielding Effectiveness (MIL-STD-285modified):

Frequency	Attenuation
100 MHz	101.5 db
400 MHz	102 db
1 GHz	116 db



### Standard Widths

Tape Width	Tape Length	Part Number
.250" (6.35 mm)	36 yard (33m) rolls	WOO-1009961
.500" (12.7 mm)	36 yard (33m) rolls	WOO-2009961
.750" (19.1 mm)	36 yard (33m) rolls	WOO-3009961
1.0" (25.4 mm)	36 yard (33m) rolls	WOO-4009961
1.5" (38.1 mm)	36 yard (33m) rolls	WOO-5009961
2.0" (50.8 mm)	36 yard (33m) rolls	WOO-6009961
4.0" (101.6 mm)	36 yard (33m) rolls	WOO-7009961

### Specifications

- Fabric: Conductive double coated copper foil
- Adhesive: Conductive acrylic PSA
- Total Thickness: 4.3 mils (.0043" or 0.1090 mm)

- Volume Resistance: 2.75  $\Omega$ -cm per ASTM-D-2739
- High Temperature Resistance: 121°C (250°F)
- Peel Strength: 36 oz per inch width. Test Method: ASTM D3330

## Conductive Anti-Tarnish Copper Foil Tape (CAT)

Using an anti-corrosion topcoat, Schlegel's CAT resists surface oxidation while retaining its conductive properties. CAT also has low surface resistance along with high shielding effectiveness.

### Shielding Effectiveness (MIL-STD-285modified):

Frequency	Attenuation
100 MHz	141 db
400 MHz	102 db
1 GHz	116 db



### Standard Widths

Tape Width	Tape Length	Part Number
.250" (6.35 mm)	36 yard (33m) rolls	WAT-1007961
.500" (12.7 mm)	36 yard (33m) rolls	WAT-2007961
.750" (19.1 mm)	36 yard (33m) rolls	WAT-3007961
1.0" (25.4 mm)	36 yard (33m) rolls	WAT-4007961
1.5" (38.1 mm)	36 yard (33m) rolls	WAT-5007961
2.0" (50.8 mm)	36 yard (33m) rolls	WAT-6007961
4.0" (101.6 mm)	36 yard (33m) rolls	WAT-7007961

### Specifications

- Fabric: Conductive copper foil
- Adhesive: Conductive acrylic PSA
- Total Thickness: 3.0 mils (.003" or 0.0760 mm)

- Volume Resistance: 2.68  $\Omega$ -cm per ASTM D3330
- High Temperature Resistance: 121°C (250°F)
- Peel Strength: 36 oz per inch width. Test Method: ASTM D3330

## **NORTH AMERICA**

**Schlegel Systems, Inc.**  
1555 Jefferson Road  
P.O. Box 23197  
Rochester, New York 14692  
Tel: 585-427-7200  
Fax: 585-427-7216  
Toll Free: 1-800-204-0863

**Schlegel Systems, Inc.**  
Texas Facility  
338 North Cliff Drive  
Graham, Texas 76450  
Tel: 940-549-9630  
Fax: 940-549-9633

## **UNITED KINGDOM**

**Schlegel UK**  
Henlow Industrial Estate  
Henlow Camp  
Bedfordshire, SG16 6DS  
Tel: + 44 (0)1462 815500  
Fax: +44 (0)1462 811963

## **JAPAN**

**Schlegel Engineering K.K**  
4th Floor, Iwanami, Shoton Annex 3-1  
Kanda Jinbo-Cho 2 Chrome Chiyoda-Ka  
Tokyo 101  
Japan  
Tel: +81 3 3263 9621  
Fax: +81 3 3234 5370

## **SINGAPORE**

**Schlegel Pty. Ltd.**  
Singapore Branch  
No. 1 Marine Parade Central  
#04-04 Parkway Builders Centre  
Singapore 1544  
Tel: +65 6344 9288  
Fax: +65 6344 8333

## **AUSTRALIA**

**Schlegel Pty. Ltd.**  
44-48 Riverside Road  
Chipping Norton  
New South Wales  
2170 Australia  
Tel: +61 2 8707 2000  
Fax: +61 2 8707 2080

## **FAR EAST**

**Schlegel Far East Ltd.**  
Unit 303, 3/F Block A  
New Trade Plaza  
No. 6 On Ping Street  
Shatin, N.T.  
Hong Kong  
Tel: +852 2686 9872  
Fax: +852 2686 9728

## **BELGIUM**

**Schlegel Bvba**  
Rochesterlaan 4  
B-8470 Gistel  
Belgium  
Tel: +32 486 11 70 70  
Fax: +32 59 270 346

## **GERMANY**

**Schlegel Germany GmbH**  
Bredowstrasse 33  
22113 Hamburg  
Germany  
Tel: + 44 (0) 7971 477 128  
Fax: +49 40 733 29 219

## **ITALY**

**Schlegel Srl**  
Via Miglioli, 9  
20090 Segrate  
Milano  
Italy  
Tel: +39 (335) 76 03 576  
Fax: +39 02 213 1087

## **SPAIN**

**Schlegel Taliana, S.L**  
C/. Anoaia, 9 P.I. Santa Margarida  
08220 Terrasse, Barcelona  
Spain  
Tel: +32 486 11 70 70  
Fax: +34 93 783 66 46

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[www.schlegel.com](http://www.schlegel.com)