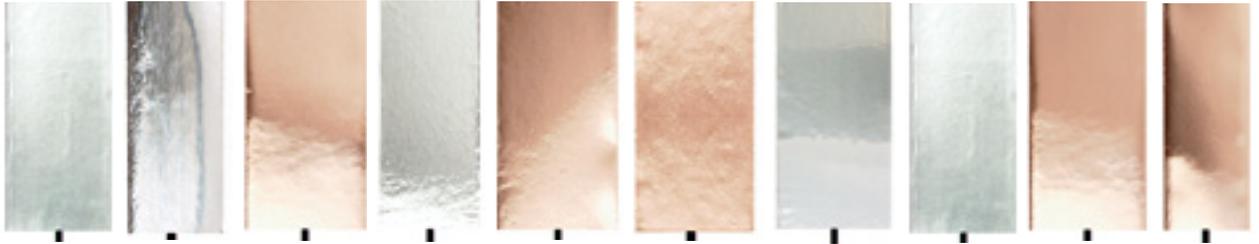


3M™ Conductive and EMI Shielding Tapes

3M™ EMI Shielding Tapes are designed for applications requiring reliable point-to-point electrical contact, particularly EMI/RFI shielding, grounding and static charge draining. The tapes are easily die-cut and have a multitude of uses in electrical design and test laboratories for prototyping, design and troubleshooting.

Available in copper, aluminum, embossed, and tin-plated materials and with two (2) adhesive systems: solvent-resistant acrylic and conductive acrylic.



	Conductive adhesive							Nonconductive adhesive			
3M™ Conductive/ Shielding Tape	1115B SDS DS ⚡	1120 SDS DS ⚡ 🔥	1126 SDS DS ⚡ 🔥	1170 SDS DS ⚡ 🔥	1181 SDS DS ⚡ 🔥	1182 SDS DS ⚡ 🔥	1183 SDS DS ⚡ 🔥	425 SDS DS	1125 SDS DS ⚡ 🔥	1194 SDS DS ⚡ 🔥	
Features	Aluminum foil, acrylic adhesive.	Aluminum foil, acrylic adhesive.	Copper foil, acrylic adhesive.	Aluminum foil, acrylic adhesive.	Copper foil, acrylic adhesive. ¹	Copper foil, acrylic adhesive ¹ on both sides.	Tin-plated copper foil, acrylic adhesive. ¹	Aluminum foil, acrylic adhesive.	Copper foil, acrylic adhesive.	Copper foil, non-conductive adhesive.	
Roll Length³	60 yds	36 yds	36 yds	18 yds	18 yds	18 yds	18 yds	60 yds	36 yds	36 yds	
Backing Thickness (mils)(mm)	4.5 mil (0,114 mm)	2.0 mil (0,05 mm)	1.4 mil (0,04 mm)	2.0 mil (0,05 mm)	1.4 (0,04 mm)	1.4 mil (0,05 mm)	1.4 mil (0,04 mm)	2.8 mil (0,07 mm)	1.4 mil (0,04 mm)	1.4 mil (0,04 mm)	
Total Thickness (mils)(mm)	6.0 mil (0,152 mm)	3.8 mil (0,10 mm)	3.5 mil (0,088 mm)	3.2 mil (0,08 mm)	2.6 mil (0,07 mm)	3.5 mil (0,09 mm)	2.6 mil (0,07 mm)	4.6 mil (0,12 mm)	3.5 mil (0,088 mm)	2.6 mil (0,07 mm)	
Breaking Strength (lb/in)(N/10 mm)	40 lb/in (70 N/10 mm)	20 lbs/in (35 N/10 mm)	25 lb/in (44 N/10 mm)	20 lb/in (35 N/10 mm)	25 lb/in (44 N/10 mm)	25 lb/in (44 N/10 mm)	25 lb/in (44 N/10 mm)	28 lb/in (4,9 N/10 mm)	25 lb/in (44 N/10 mm)	25 lb/in (44 N/10 mm)	
Adhesion to Steel⁴ (oz/in) (N/10 mm)	52 oz/in (5,6 N/10 mm)	35 lbs/in (3,8 N/10 mm)	35 oz/in (3,8 N/10 mm)	35 oz/in (3,8 N/10 mm)	35 oz/in (3,8 N/10 mm)	35 oz/in (3,8 N/10 mm)	35 oz/in (3,8 N/10 mm)	47 lb/in (5,1 N/10 mm)	40 oz/in (4,4 N/10 mm)	40 oz/in (4,4 N/10 mm)	
Electrical Resistance⁶ (Ohms)	0.0065	0.0010	0.005	0.010	0.005	0.010	0.005	–	N/A	N/A	

¹ Conductive particles in the adhesive provide the electrically conductive path between the substrate and the backing.

² The embossed pattern provides the electrically conductive path through the adhesive.

³ Multiple-length rolls and custom slit widths are available by special order.

Test methods:

⁴ ASTM D1000

⁵ Most foil shielding tapes from 3M are UL Recognized (⚡) for flame retardancy per UL 510, Product Category OANZ 2, File E17385.

⁶ Resistance measured through the adhesive. MIL-STD-202 Method 307 maintained at 5 PSI (3,4 N/sq cm) measured over 1 sq in. surface area.

🔥 = Flame retardant. See page 16 for product specifications.



	Conductive-through-adhesive			Conductive adhesive		
3M™ Conductive/ Shielding Tape	1245 SDS DS ⓇⓁ Ⓢ	1267 SDS DS ⓇⓁ Ⓢ	1345 SDS DS ⓇⓁ Ⓢ	CN-3190 SDS DS	X-7001 SDS DS ⓇⓁ Ⓢ	2191FR SDS DS
Features	Embossed copper foil, acrylic adhesive. ²	Embossed aluminum foil, acrylic adhesive. ²	Embossed tin-plated foil, acrylic adhesive. ²	Anti-corrosion metallized polyester rip-stop fabric, acrylic adhesive.	Anti-corrosion, metallized rip-stop polyester fabric, acrylic adhesive both sides.	Anti-corrosion, metallized nonwoven rip-stop fabric, acrylic adhesive.
Roll Length³	18 yds	18 yds	18 yds	54.5 yds	10.9 yds	-
Backing Thickness (mils)(mm)	1.4 mil (0,04 mm)	2.0 mil (0,05 mm)	1.4 mil (0,04 mm)	4.3 mil (0,11 mm)	2.0 mil (0,05 mm)	5.2 mil (0,13 mm)
Total Thickness (mils)(mm)	4.0 mil (0,10 mm)	5.0 mil (0,13 mm)	4.0 mil (0,10 mm)	5.8 mil (0,14 mm)	5.0 mil (0,13 mm)	5.3 mil (0,14 mm)
Breaking Strength (lb/in)(N/10 mm)	25 lb/in (44 N/10 mm)	20 lb/in (35 N/10 mm)	25 lb/in (44 N/10 mm)	40 lb/in (70 N/10 mm)	35 lbs/in (61 N/10 mm)	5.5 lbs/in (108 N/ 10 mm)
Adhesion to Steel⁴ (oz/in)(N/10 mm)	35 oz/in (3.8 N/10 mm)	35 oz/in (3.8 N/10 mm)	45 oz/in (5.0 N/10 mm)	30 oz/in (3.3 N/10 mm)	58 oz/in (6.4 N/10 mm)	20 oz/in (2,1 N/10 mm)
Electrical Resistance⁶ (Ohms)	0.001	0.005	0.001	0.05	0.015 (over a 25×25 mm area)	0.003 (over a 25×25 mm area)

¹ Conductive particles in the adhesive provide the electrically conductive path between the substrate and the backing.
² The embossed pattern provides the electrically conductive path through the adhesive.
³ Multiple-length rolls and custom slit widths are available by special order.

Test methods:
⁴ ASTM D 1000
⁵ Most foil shielding tapes from 3M are UL Recognized (ⓇⓁ) for flame retardancy per UL 510, Product Category OANZ 2, File E17385.
⁶ Resistance measured through the adhesive. MIL-STD-202 Method 307 maintained at 5 PSI (3,4 N/sq cm) measured over 1 sq in. surface area.
 ⓇⓁ = Flame retardant. See page 16 for product specifications.

Tape Construction

Smooth foil backings with conductive adhesive

3M™ EMI Shielding Tapes 1170 (aluminum), 1181 (copper) and 1183 (tin-plated copper) are smooth-backed foil tapes that establish secure electrical contact with the application surface by means of a unique adhesive. Broadly distributed conductive particles in the adhesive provide a multitude of low-resistance paths between the backing and the substrate. (Figure 1)

Embossed foil backings

The backings of 3M Shielding Tapes 1245 (copper), 1267 (aluminum) and 1345 (tin-plated copper) are impressed with an embossed pattern (Figure 2) that protrudes through the acrylic adhesive to make direct electrical contact with the application surface. This reliable “through-the-adhesive” conductivity system provides stable contact resistance and a high level of shielding effectiveness.

Tin-plated foil backings

The copper used in 3M EMI Shielding Tapes 1183 (smooth backing) and 1345 (embossed backing) is plated on both sides with tin to provide excellent solderability and resistance to corrosion and oxidation. The tapes are designed to remain conductive even after oxidation.

Conductive adhesive on both sides

3M Shielding Tape 1182 is a copper foil tape coated on both sides with conductive acrylic adhesive. This unique construction offers an excellent method of grounding and bonding conductive surfaces. It also exhibits low thermal resistance. 3M tape 1182 is supplied with a removable liner on each side for ease of handling.

Smooth foil backing with nonconductive adhesive

3M Shielding Tape 1194 is a smooth-backed copper tape that features the same high quality solvent-resistant, acrylic adhesive as other 3M foil tapes. Good solderability makes it an economical choice for applications like connector and cable shielding, grounding, electrostatic shielding between transformer windings, outer wrap for coils, and attachment of connector tabs on rolled film-and-foil capacitors.

Conductive fabric tape

3M Fabric Tape CN-3190 is an anti-corrosion polyester ripstop fabric backing with an electrically conductive acrylic adhesive. It provides effective copper-nickel shielding with excellent flexibility and conformability as well as light weight and high strength.

Adhesive

Both the conductive and nonconductive versions use the same acid-free, corrosion-resistant acrylic resin.

Figure 1 Smooth Backing with Conductive Adhesive

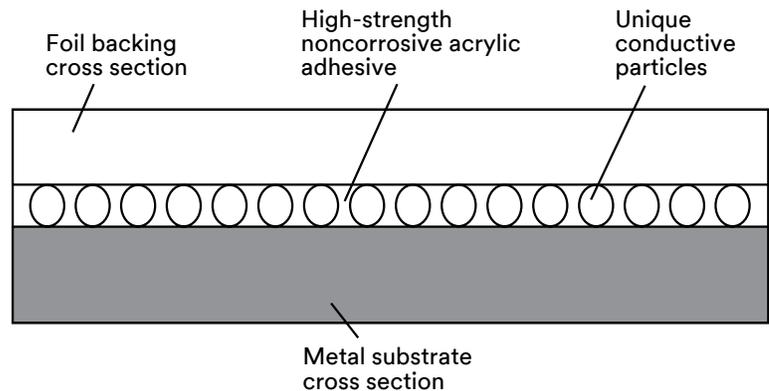


Figure 2 Embossed Backing with “Through-the-Adhesive” Contact

