3M™ EMI Copper Foil Shielding Tape 1181 with Electrically Conductive Acrylic Adhesive

Data Sheet **June 2021**

Product Description

3M™ EMI Copper Foil Shielding Tape 1181 is a 2.6-mil (0.066 mm) thick tape composed of a 1.4-mil (0.036 mm) flat copper foil backing coated on one side with a non-corrosive, electrically conductive acrylic pressure-sensitive adhesive supplied on a removeable liner.

- Commonly used for EMI/RFI shielding applications in the electronics industry and for static charge draining, seaming shielded rooms, cable wrapping and surface contact to non-solderable materials
- Can be die-cut, is solderable and offers a multitude of uses in electrical design and test laboratories for prototyping, design and troubleshooting
- Adhesive requires no moisture, solvents, heat or other manner of preparation to affect application
- Flame Retardant per UL-510A Standard

Properties

Physical Properties	*Value Imperial (Metric)*
Color - Visual	Copper
Adhesive	Electrically Conductive Acrylic
Backing	Copper Foil - Flat
Flame Retardant[2]	Pass
Mechanical Properties	***Value Imperial (Metric)***
Backing Thickness - Nominal	1.4 mil (0.036 mm)
Total Thickness[1]	2.6 +/- 0.2 mils (0.066 +/- 0.005mm)
Adhesion to Steel[1] *- Minimum*	25 oz/in (2.7 N/cm)
Breaking Strength[1] *- Minimum*	22 lb/in (39 N/cm)

Electrical Properties	*Value Imperial (Metric)*
Electrical Resistance[4] *- Maximum*	0.005 Ω/in^2
Shielding Effectiveness[3] *- Average 300 kHz – 2.5 GHz*	66 dB

Notes:

1. ASTM D1000 Test Method - properties measured at room temperature 73°F (23°C) unless otherwise stated
2. UL Recognized Flame Retardant per UL510A Standard, Category OARC2, File No. E17385
3. ASTM D4935 Test Method - properties measured at room temperature 73°F (23°C) unless otherwise stated
4. Test Method: MIL-STD-202 Method 307 maintained at 5 psi (3.4 N/cm^2) measured over a 1 in^2 surface area
   a. Silver coated glass beads embedded in acrylic adhesive provide the electrical path between application substrate and foil backing

Shielding Effectiveness

Many factors determine the true shielding effectiveness of a shielding tape, including type and thickness of foil, adhesive type, intimacy of contact, smoothness of application surface, frequency of the EMI signal, etc.

Agency Approvals & Self Certifications

- UL Component Recognized: UL510A Standard, Category OARC2, File No. E17385
- For Regulatory information including RoHS, REACH, please visit www.3M.com/regs

Shelf Life & Storage

This product has a 5-year shelf life (from date of manufacture) when stored in humidity-controlled storage (50°F/10°C to 80°F/27°C and <75% relative humidity).

Availability

3M™ EMI Copper Foil Shielding Tape 1181 available from 3M authorized distributors / converters

Also available from 3M.com/oem or call 1.800.245.3573.

3M™ EMI Copper Foil Shielding Tape 1181 with Electrically Conductive Acrylic Adhesive

TECHNICAL STATEMENT

Technical Information: The technical information, guidance, and other statements contained in this document or otherwise provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any 3M or third party intellectual property rights is granted or implied with this information.

Product Selection and Use: Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards (*e.g.*, OSHA, ANSI, etc.). Failure to properly evaluate, select, and use a 3M product in accordance with all applicable instructions and with appropriate safety equipment, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property.

Warranty, Limited Remedy, and Disclaimer: Unless a different warranty is specifically stated on the applicable 3M product packaging or product literature (in which case such warranty governs), 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. If a 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement or repair of the 3M product or refund of the purchase price. Warranty claims must be made within one (1) year from the date of 3M's shipment.

Limitation of Liability: Except for the limited remedy stated above, and except to the extent prohibited by applicable law, 3M will not be liable for any loss or damage arising from or related to the 3M product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability.

Disclaimer: 3M industrial and occupational products are intended, labeled, and packaged for sale to trained industrial and occupational customers for workplace use. Unless specifically stated otherwise on the applicable product packaging or literature, these products are not intended, labeled, or packaged for sale to or use by consumers (e.g., for home, personal, primary or secondary school, recreational/sporting, or other uses not described in the applicable product packaging or literature), and must be selected and used in compliance with applicable health and safety regulations and standards (e.g., U.S. OSHA, ANSI), as well as all product literature, user instructions, warnings, and limitations, and the user must take any action required under any recall, field action or other product use notice. Misuse of 3M industrial and occupational products may result in injury, sickness, or death. For help with product selection and use, consult your on-site safety professional, industrial hygienist, or other subject matter expert. For additional product information, visit www.3M.com

3M is a trademarks of 3M Company.

3M
Electrical Markets Division
13011 McCallen Pass, Bldg. C
Austin, TX 78753
Phone: 800.676.8381
www.3M.com/oem

Please Recycle. Printed in USA.
© 3M 2021. All Rights Reserved.
78-8127-9953-0 Rev B