**3M™ EMI Copper Foil Shielding Tape 1181**

**with Electrically Conductive Acrylic Adhesive**

**Data Sheet**

June 2021

**Properties**

**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

**Physical Properties**

<table>
<thead>
<tr>
<th>Physical Properties</th>
<th>Value Imperial (Metric)</th>
<th>Electrical Properties</th>
<th>Value Imperial (Metric)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color - Visual</td>
<td>Copper</td>
<td>Electrical Resistance(^a) - Maximum</td>
<td>0.005 Ω/in(^2)</td>
</tr>
<tr>
<td>Adhesive</td>
<td>Electrically Conductive Acrylic</td>
<td>Shielding Effectiveness(^b) - Average 300 kHz – 2.5 GHz</td>
<td>66 dB</td>
</tr>
<tr>
<td>Backing</td>
<td>Copper Foil - Flat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flame Retardant(^2)</td>
<td>Pass</td>
<td></td>
<td></td>
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</tbody>
</table>

**Mechanical Properties**

<table>
<thead>
<tr>
<th>Mechanical Properties</th>
<th>Value Imperial (Metric)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backing Thickness - Nominal</td>
<td>1.4 mil (0.036 mm)</td>
</tr>
<tr>
<td>Total Thickness(^1)</td>
<td>2.6 +/- 0.2 mils (0.066 +/- 0.005 mm)</td>
</tr>
<tr>
<td>Adhesion to Steel(^1) - Minimum</td>
<td>25 oz/in (2.7 N/cm)</td>
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<tr>
<td>Breaking Strength(^1) - Minimum</td>
<td>22 lb/in (39 N/cm)</td>
</tr>
</tbody>
</table>

**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](http://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](http://3M.com/oem) or call 1.800.245.3573.
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