3M™ Tin-Plated Copper Foil with Conductive Adhesive Tape 1183

Data Sheet **January 2014**

Description	3M™ Tin-Plated Copper Foil Tape 1183 consists of a 1-ounce dead soft tin-plated copper foil backing and an electrically conductive, pressure-sensitive acrylic adhesive. This tape is supplied on a removable liner for easy handling and die-cutting. It has excellent solderability.
Agency Approvals & Self Certifications	Meets flame retardant requirements of UL510, Product Category OANZ2, and 3M File No. 17385 RoHS 2011/65/EC "**RoHS** 2011/65/EU" means that the product or part does not contain any of the substances in excess of the maximum concentration values ("MCVs") in EU RoHS Directive 2011/65/EU. The MCVs are by weight in homogeneous materials. This information represents 3M's knowledge and belief, which may be based in whole or in part on information provided by third party suppliers to 3M.
Applications	Tin-Plated Copper Foil Tape 1183 is typically used for applications requiring excellent electrical conductivity from the application substrate through the adhesive to the foil backing. Common uses include grounding and EMI shielding in equipment, components, shielded rooms, etc. The tin plating facilitates soldering to the backing and resists oxidation and corrosion.
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, strength and frequency of the EMI signal, etc. However, using standard tests and fixtures, it is possible to determine a value for the attenuation. For 3M 1183 tape, typical shielding effectiveness (far field) is in the range of 70dB to 85dB (30 MHz to 1 GHz).
Specifications	Tin-Plated Copper Foil Tape 1183 is a tin-plated copper foil tape with acrylic conductive pressure-sensitive adhesive. The tape shall be coated on one side with pressure-sensitive adhesive, which shall not require heat, moisture or other preparation prior to or subsequent to application. The adhesive coating shall be smooth and uniform and be free of lumps and bare spots. There shall be no separator between adjacent layers of the roll. The tape shall perform at a temperature of -40F° (-40°C) to 266°F (130°C) without substantial loss of tensile or electrical properties.

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Typical Properties

Not for specifications. Values are typical, not to be considered minimum or maximum. Properties measured at room temperature 73°F (~23°C) unless otherwise stated.

Property (Test Method)	Typical Value US units (metric)
Color	Tin (foil may have a slight color variation)
Adhesive	Acrylic Conductive
Type of Backing	Tin–Plated Copper
Backing Thickness	1.4 mil (0.04mm)
Total Thickness (ASTM D1000)	2.6 mils (0.066mm)
Electrical Resistance[1]	0.005 Ω
Flame Retardancy[2]	Pass
Breaking Strength (ASTM D3759)	25 lbs/in (44N/10mm)
Adhesion Strength (ASTM D3330)	35 oz/in (3.8N/10mm)
Temperature Range	-40ºC to +130ºC
Shielding Effectiveness (ASTM 4935)	70dB to 85 dB, 30 MHz to 1 GHz

1. Mil-STD-202 Method 303 maintained at 5 psi (3.4N/cm^2) measured over 1 in^2 surface area. Conductive particles in the adhesive provide the electrical path between the application substrate and the foil backing.
2. UL Recognized for flame retardancy per UL 510, Product Category OANZ2, File E17385

Shelf Life & Storage

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

Availability

This 1183 Tape is available in 1/4” to 23” widths, standard length is 18 yards, longer lengths are available. Check with Customer Service

Please contact your local distributor; available from 3M.com/electrical [Where to Buy] or call 1-866-357-2737 or call 1-800-245-3573.

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