

3M™ Charge-Collection Solar Tape 3011 and 3011B

Product Description

3M™ Charge-Collection Solar Tape 3011 and 3011B consist of a 1-ounce tin-plated deadsoft copper foil backing and an electrically conductive pressure-sensitive adhesive. 3011 is laminated with 3M Dielectric Tape 1506S and 3011B is laminated with 3M Aesthetic Solar Tape 1306. The addition of a cover tape can provide improved electrical performance and/or improved cosmetic appearance in many vacuum lamination processes used in solar module manufacturing. This single-coated foil tape features:

- Excellent conductivity
- Deadsoft copper with corrosion resistant tin-plating
- Excellent high-temperature adhesive shear properties
- PET release liner

3M Charge-Collection Solar Tape 3011 and 3011B are available in standard and custom widths and lengths:

- **Standard widths:** 4 mm (0.157"), 5.84 mm (0.23"), 194 mm (7.64")
- **Standard lengths:** 66 m (216 ft)

Please contact your local 3M Representative regarding availability of custom product sizes.

Applications

3M Charge-Collection Solar Tape 3011 and 3011B are designed for use as a charge collector or bus within a thin-film solar module. 3M Charge-Collection Tape 3011B is designed for applications that require the bus on the front side of the module. The adhesive was formulated to undergo the vacuum lamination process typically used in the manufacture of solar modules.

Typical Physical Properties

(Data not for specification purposes)

Properties	Typical Values
Conductive Adhesive	0.9 mil (0.023 mm) Acrylic
Backing Thickness	1.4 mil (0.035 mm) Tin-Plated Copper
Adhesive (1506S and 1306)	1.5 mil (0.038 mm) Acrylic
Backing (1506S and 1306)	1.0 mil (0.025 mm)
Total Thickness (Backings and Adhesives)	4.8 mil (0.122 mm)
Release Liner	1.3 mil (0.050 mm) 1-side si-coated PET
Color	Silver (3011) Black (3011B)
Temperature Process (short term vacuum lamination)	320°F (160°C)

Adhesion Properties:

Adhesion to Steel ¹	1.61 lb/in (0.28 N/mm)
Liner Release	11 g/in

Mechanical Properties:

Breaking Strength ¹	52 lb/in (91 N/cm)
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Electrical Properties:

Electrical resistance through adhesive ²	<0.002 ohm
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¹ Test Method ASTM D-1000

² Mil-Std 202 Method 307 (5 psi over 1 in² surface area).

This product is not on the Qualified Product Listing under the Defense Standardization Program and has not been tested for military use.

Shelf Life

To obtain best performance, use this product within 24 months from date of manufacture.

Storage Conditions

Store under normal conditions of 50°F to 80°F (10°C to 27°C) and less than 75% relative humidity in the original carton.

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65 6450 8888

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South Korea

82 2 3771 4043

India

91 80 22231414

Canada

800 364 3577

Brazil

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52 55 52702250

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81 3 3709 8283

Malaysia

603 78062888

Other Areas

800 755 2654

For more information on our solar manufacturing product line, contact 3M Renewable Energy at 800-755-2654 or visit us at www.3M.com/solar.

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