



# Conductive High Shear Pressure Sensitive Cover Tape 2668

Technical Data – December, 2004

## Product Description

3M™ Conductive High Shear Pressure Sensitive Cover Tape 2668 is a transparent, conductive polyester film tape with a synthetic, room temperature, pressure sensitive adhesive (PSA) zone along each edge. 3M Cover Tape 2668 has been designed to seal electrical and electronic components into 3M's family of polycarbonate carriers.



## Construction

### Backing

Transparent polyester film

### Adhesive

Pressure-sensitive, synthetic polymer

### Inner Face

Transparent, conductive, polyester film

## Available Widths

Cover Tape 2668 is available in the narrow widths listed below, with adhesive exposed only along the edges. Cover Tape 2668 is supplied in 200 meter, splice-free rolls.

| Standard Sizes                        | Widths (mm) |     |      |      |      |      |      |
|---------------------------------------|-------------|-----|------|------|------|------|------|
| Carrier                               | 8           | 12  | 16   | 24   | 32   | 44   | 56   |
| Cover Tape                            | 5.4         | 9.3 | 13.3 | 21.3 | 25.5 | 37.4 | 49.4 |
| Adhesive Exposure<br><i>each edge</i> | 0.67        | 0.8 | 1    | 1    | 1    | 1    | 1    |
| Roll Length<br>(meters)               | 200         | 200 | 200  | 200  | 200  | 200  | 200  |

## Typical Adhesive Properties

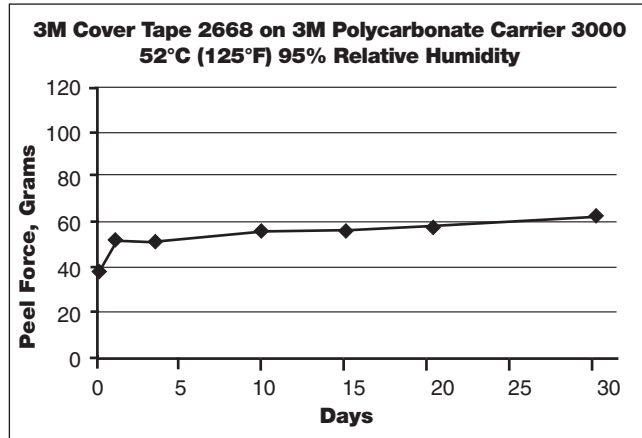
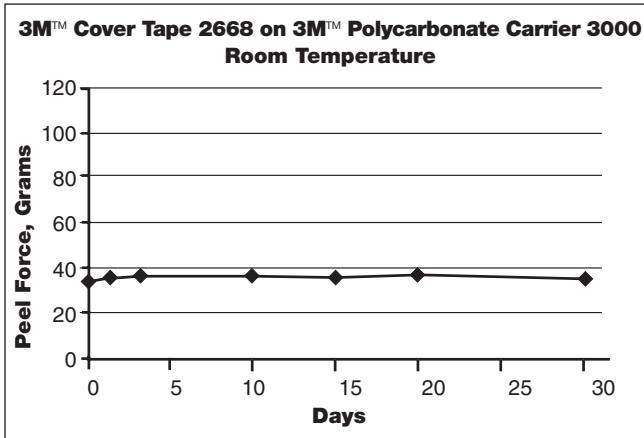
Cover Tape 2668 has a simple process window. Desirable initial peel force values can be achieved through the application of adequate pressure to the non-adhesive surface of the cover tape over the adhesive stripes with a reciprocating shoe, or compliant roller mechanism. The charts on the following page depict the typical room temperature and aging characteristics of Cover Tape 2668 after sealing to 3M™ Conductive Polycarbonate Carrier 3000 and 3M™ Non-Conductive Polycarbonate Carrier 2703.

## Packaging Options

3M Cover Tape 2668 is available in standard or cleanroom-compatible packaging.

**Standard:** Product is provided on a plastic core, packaged with high density paper wafer inserts and a centering core in a single polyethylene bag and is placed between two end-caps in a cardboard carton.

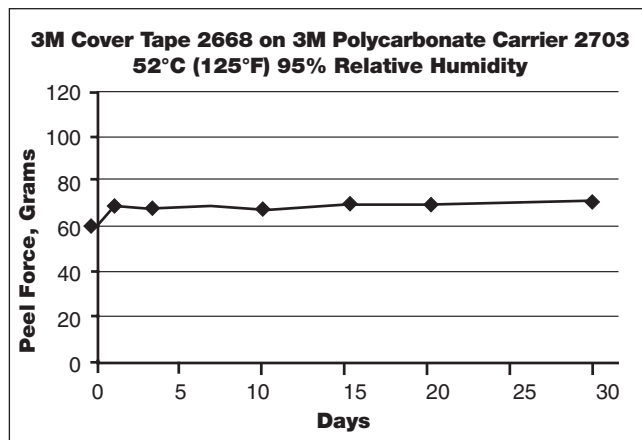
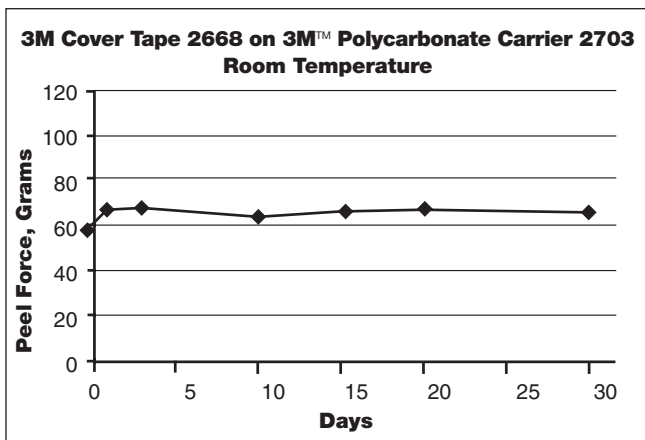
**Cleanroom-Compatible:** Product is standard but packaged in two polyethylene bags as opposed to one. This format allows the cover tape to be used and stored in a cleanroom environment in a bag that has not had direct contact with the cardboard carton.



Note: The technical information and data presented here should be considered representative or typical only, and should not be used for specification purposes.

### Sealing Parameters:

Cover Tape: 3M Conductive High Shear Pressure Sensitive Cover Tape 2668, 5.4 mm  
 Carrier: 3M Conductive Polycarbonate Carrier 3000, 8.0 mm  
 Sealing Mode: Continuous (Rubber Pressure Roller)  
 Pressure: 60 psig  
 Speed: 1.5 linear meters/minute  
 Temperature: Room Temperature ≈ 23°C (73°F)



Note: The technical information and data presented here should be considered representative or typical only, and should not be used for specification purposes.

### Sealing Parameters:

Cover Tape: 3M Conductive High Shear Pressure Sensitive Cover Tape 2668, 5.4 mm  
 Carrier: 3M Non-Conductive Polycarbonate Carrier 2703, 8.0 mm  
 Sealing Mode: Continuous (Rubber Pressure Roller)  
 Pressure: 30 psig  
 Speed: 1.5 linear meters/minute  
 Temperature: Room Temperature ≈ 23°C (73°F)

### Graph Notes

Notes: The graphs in this document represent sealing performance attained under the conditions specifically stated in the sealing parameters section of the charts. Pressure is the indicated gauge pressure used to achieve the seals, and may vary among sealing equipment manufacturers. The use of a different sealing mechanism, i.e., reciprocating vs. roller, may have an effect upon the performance obtained under otherwise identical conditions due to differences in pressure or pressure distribution. The use of heat is specifically not recommended.

All data presented are representative of peeling studies conducted according to the requirements of the current ANSI/EIA-481-C Standard. Sealed samples used in these studies were stored under the conditions noted, wound on 180 mm diameter reels to simulate typical production use. Samples being tested at elevated temperature and humidity were permitted a minimum equilibration period of four hours at room temperature prior to testing to simulate actual use conditions.

## Adhesive Properties

The synthetic adhesive used in the construction of 3M™ Conductive High Shear Pressure Sensitive Cover Tape 2668 has been engineered to provide long term resistance to thermal degradation, even when exposed to environmental extremes such as the storage conditions depicted in the charts in this publication.

## Storage Conditions

3M Cover Tape 2668 should be stored indoors, in its original packaging, in a controlled climate environment not exceeding 35°C (95°F) and 70% relative humidity. The product should be protected from direct sunlight and should be used on a “first-in, first-out” basis.

## Shelf Life

It is recommended that Cover Tape 2668 be used within two years from the date of manufacture when stored according to the recommended storage conditions.

## 3M Conductive High-Shear Pressure Sensitive Cover Tape 2668

| Description                   | Units      | Typical Performance | Test Notes | Test Method |
|-------------------------------|------------|---------------------|------------|-------------|
| <b>Material Properties</b>    |            |                     |            |             |
| Backing Type                  |            | Polyester           |            |             |
| Adhesive Type                 |            | PSA                 |            |             |
| Sealing Temp                  | °C         | Room Ambient        | 1          |             |
| <b>Physical Properties</b>    |            |                     |            |             |
| Tensile Strength              | N/mm Width | 7.0                 | 2          | ASTM-D3759  |
| Elongation                    | %          | 150                 |            | ASTM-D3759  |
| Transmission                  | %          | 78.4                | 3          | ASTM-D1003  |
| Haze                          | %          | 5.8                 | 3          | ASTM-D1003  |
| Clarity                       | %          | 92.3                | 3          | ASTM-D1003  |
| Thickness                     | mm (in)    | .061 (.0024)        |            | ASTM-D3652  |
| Shear Strength @ 50°C minutes |            | >100                | 4          | ASTM-D3654  |
| Shear Strength @ 40°C minutes |            | >1,000              | 4          | ASTM-D3654  |
| Shear Strength @ 23°C minutes |            | >10,000             | 4          | ASTM-D3654  |
| <b>Electrical Properties</b>  |            |                     |            |             |
| Resistivity (Back Side)       | Ohms/sq    | Non-Conductive      | 5          | ASTM-D257   |
| Resistivity (Component Side)  | Ohms/sq    | 10 <sup>5</sup>     | 5          | ASTM-D257   |
| <b>Product Format</b>         |            |                     |            |             |
| Core Type                     | Material   | Plastic             |            |             |
| Core Inner Diameter           | mm (in)    | 76.2 (3.0)          |            |             |
| Roll Diameter                 | mm (in)    | 152 (6.0)           |            |             |
| Roll Length                   | m (yd)     | 200 (218)           |            |             |

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## Test Notes

1. The application of heat to seal PSA cover tapes is specifically not recommended. Pressure in the range of 10 to 50 psig is sufficient to seal PSA adhesives.
2. Tensile tests are conducted at 21°C (70°F), 50% RH, in the machine direction of the polyester film.
3. Optical properties are measured using the BYK-Gardner Haze-Gard Plus Transmission Meter, Model 4725.
4. 0.5" x 0.5" adhesive secured to polycarbonate substrate with 1,000 gm load.
5. Resistivity is measured at room ambient temperature. Component side resistivity specification  $1.0 \times 10^4 \leq R_s \leq 1.0 \times 10^6$  Ohms/sq. Measurement technique: 4-bar probe with Keithley 237 Source Measuring Unit or Prostat PRS 801.

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