



Silicone /Acrylic Double Coated Tape 9699

Technical Data

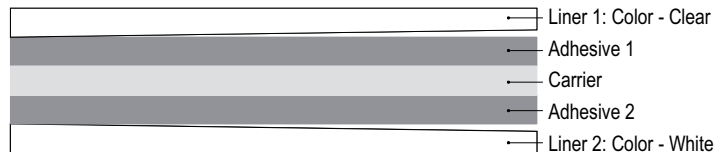
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Product Description

3M™ Differential Double Coated Tape 9699 features a firm, silicone pressure sensitive adhesive coated on one side of a polyester film carrier and a high performance acrylic pressure sensitive adhesive coated on the other side of the carrier. The silicone adhesive provides good bond to silicone rubber and strong holding power to various silicone surfaces. The acrylic adhesive offers good shear resistance and adhesion to a variety of surfaces. The polyester carrier provides dimensional stability and improved handling with ease of die cutting and lamination.

This double coated differential adhesive tape product offers a unique solution for wide web lamination of silicone materials (e.g. foams, rubber, films, etc.) to many other surfaces, including low surface energy materials.

Construction Information



Adhesive 1 Type: Silicone

Adhesive 2 Type: Acrylic

| Product | Adhesive 1 Silicone Thickness mils (mm) | Carrier PET Thickness mils (mm) | Adhesive 2 Acrylic Thickness mils (mm) | Liner 1 Liner Thickness mils (mm) | Liner 2 Liner Thickness mils (mm) |
|---------|---|---|--|--|---|
| 9699 | 1.6 mil (0.04 mm) | Carrier Type 1 mil (0.025 mm) | 2 mils (0.05 mm) | PET 2 mils (0.05 mm) | Polycoated Kraft 3.5 mils (0.09 mm) |

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Typical Physical Properties and Performance Characteristics

I. Adhesion Peel: ASTM D-3330 (Modified: 2 mil aluminum foil backing)

a. Metal (Stainless Steel)

| | 20 minute dwell | 72 hour dwell | 72 hour dwell @ 158°F (70°C) |
|------------------------|------------------------|------------------------|------------------------------|
| Product | 90° | 90° | 90° |
| 9699 Silicone Adhesive | 40 oz/in 11 N/25 mm | 49 oz/in 13 N/25 mm | 51 oz/in 14 N/25 mm |
| 9699 Acrylic Adhesive | 75 oz/in 21 N/25 mm | 87 oz/in 24 N/25 mm | 102 oz/in 28 N/25 mm |

b. Silicone Rubber: ASTM D-3330 modified (90° peel, 2 mil aluminum foil backing)

| | 20 minute dwell | 72 hour dwell | 72 hour dwell @ 158°F (70°C) |
|------------------------|------------------------|------------------------|------------------------------|
| Product | 90° | 90° | 90° |
| 9699 Silicone Adhesive | 35 oz/in 10 N/25 mm | 42 oz/in 11 N/25 mm | 52 oz/in 14 N/25 mm |

c. Plastics: ASTM D-3330 modified (90° peel, 2 mil aluminum foil backing with 72 hour dwell)

| Substrate | 9699 Silicone Adhesive | | 9699 Acrylic Adhesive | |
|---------------|------------------------|---------|-----------------------|---------|
| | oz/in | N/25 mm | oz/in | N/25 mm |
| ABS | 38 | 10 | 70 | 19 |
| Polycarbonate | 43 | 12 | 105 | 29 |
| Polypropylene | 45 | 12 | 45 | 12 |

II. Static Shear Strength: ASTM D-3654 (modified – 10 minute dwell)

| Temperature | Size | Weight | Minutes |
|--------------------|---------|------------|---------|
| 72°F (23°C) 50% RH | 1" x 1" | 1000 grams | 10,000 |
| 158°F (70°C) | 1" x 1" | 500 grams | 10,000 |

*Test terminated at 10,000 minutes

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Environmental Performance

UV Resistance: When properly applied, nameplates and decorative trim parts are not adversely affected by outdoor exposure.

Chemical Resistance: When properly applied, nameplate and decorative trim parts will hold securely after exposure to numerous chemicals including oil, mild acids and alkalis.

Bond Build-up: The bond strength of 3M™ Adhesive 9699 increases as a function of time and temperature.

Temperature/Heat Resistance: Adhesive 9699 is usable for short periods (minutes, hours) at temperatures up to 350°F (177°C) and for intermittent longer periods (days, weeks) up to 250°F (121°C).

Lower Temperature Service Limit: -40°F (-40°C).

Application Ideas

- Silicone gasket bonding
- Attaching silicone rubber to other substrates.
- Attaching silicone foam to other substrates
- Bonding dissimilar materials

Available Sizes

| Product | Available Sizes |
|---------|-----------------|
| 9699 | 36" x 60 yds |
| | 36" x 180 yds |
| | 38" x 180 yds |

3 inch ID plastic core

Subject to minimum order requirements

Storage

It is suggested that products are stored at room temperature conditions of 70°F (21°C) and 50% relative humidity.

Shelf Life

If stored properly, product retains its performance and properties for 6 months from date of shipment.

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Recognition/Certification

TSCA: This product is defined as an article under the Toxic Substances Control Act and therefore, it is exempt from inventory listing requirements

MSDS: 3M has not prepared a MSDS for this product which is not subjected to the MSDS requirements of the Occupational Safety and Health Administration's Hazard Communication Standard, 29 C.F.R.1910.1200(b)(6)(v). When used under reasonable conditions or in accordance with the 3M directions for use, this product should not present a health and safety hazard. However, use or processing of the product in a manner not in accordance with the directions for use may affect its performance and present potential health and safety hazards.

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ISO 9001

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For more information contact your local 3M representative or call 800-223-7427



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