

November, 2008

3M™ Double Coated Tape 9500PC

Product Description

Finite Element Analysis (FEA) data is available for this product at: 3m.com/FEA

3M™ Double Coated Tape 9500PC features a thin polyester film for dimensional stability and improved handling with ease of die-cutting and laminating. 3M™ Adhesive 350 is a medium-firm acrylic adhesive that provides a combination of high wet grab and initial adhesion and good shear holding power to a wide variety of materials, including many plastics.

Product Features

- 3M™ Adhesive 350 is a firm acrylic adhesive that provides very high adhesion to a wide variety of materials, excellent shear holding power, high temperature resistance and excellent UV resistance.
- 3M adhesive 350 provides exceptional temperature and chemical resistance and withstands tough application environment.
- 3M™ Double Coated Tape 9500PC has a moisture resistant liner which can withstand high humidity conditions with minimal cockling or wrinkling.
- This tape has a film carrier, which can add dimensional stability to substrates. The carrier also provides easier handling during slitting and die-cutting.



Technical Information Note

The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Typical Physical Properties

| Property | Values | | Method | Test Name |
|----------------------|-----------------------|---------|------------|-----------|
| Total Tape Thickness | 0.14 mm | 5.6 mil | ASTM D3652 | |
| Carrier Thickness | 0.025 mm | 1 mil | | |
| Adhesive Carrier | Clear PET (Polyester) | | | |
| Liner | Polycoated Kraft | | | |
| Liner Print | None | | | |
| Liner Color | Natural | | | Primary |
| Liner Thickness | 0.11 mm | 4.5 mil | | |

| Adhesive Thickness | | Test Name | Notes |
|--------------------|---------|-----------|--|
| 0.058 mm | | Backside | The caliper listed is based on a calculation from manufacturing controlled adhesive coat weight. While past data pages have listed nominal thicknesses of 1 and 2 mils, the coat weight (and theoretical caliper) has not changed. |
| 2.3 mil | | Backside | Backside adhesive is on the exterior of the roll, exposed when liner is removed. |
| 0.058 mm | 2.3 mil | Faceside | Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed. |

Property: Adhesive Thickness

| Adhesive Type | Test Name | Notes |
|---------------|-----------|---|
| Acrylic | | |
| 350 | Faceside | Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed. |
| 350 | Backside | Backside adhesive is on the exterior of the roll, exposed when liner is removed. |

Property: Adhesive Type

Typical Performance Characteristics

| 90° Peel Adhesion | | Dwell/Cure Time | Dwell Time Units | Temp C | Temp F | Substrate | Backing | Notes |
|-------------------|-----------|-----------------|------------------|--------|--------|----------------------------------|---------------------|------------------------|
| 7.7 N/cm | | 15 | min | 23C | 72F | Stainless Steel | 2 mil Aluminum Foil | |
| 71 oz/in | 10.1 N/cm | 15 | min | 23C | 72F | Stainless Steel | 2 mil Aluminum Foil | 12 in/min (300 mm/min) |
| 93 oz/in | | 72 | hr | 23C | 72F | Stainless Steel | 2 mil Aluminum Foil | 12 in/min (300 mm/min) |
| 13.2 N/cm | 121 oz/in | 72 | hr | 70C | 158F | Stainless Steel | 2 mil Aluminum Foil | 12 in/min (300 mm/min) |
| 8.1 N/cm | 74 oz/in | 72 | hr | 23C | 72F | ABS | 2 mil Aluminum Foil | 12 in/min (300 mm/min) |
| 4.8 N/cm | 44 oz/in | 72 | hr | 23C | 72F | Polypropylene (PP) | 2 mil Aluminum Foil | 12 in/min (300 mm/min) |
| 6.5 N/cm | 60 oz/in | 72 | hr | 23C | 72F | Polycarbonate (PC) | 2 mil Aluminum Foil | 12 in/min (300 mm/min) |
| 8.4 N/cm | 77 oz/in | 72 | hr | 23C | 72F | Polyester (PET) | Aluminum Foil | |
| 3.6 N/cm | 33 oz/in | 72 | hr | 23C | 72F | High Density Polyethylene (HDPE) | 2 mil Aluminum Foil | 12 in/min (300 mm/min) |

Property: 90° Peel Adhesion
 Method: ASTM D3330
 Environmental Condition: 50%RH

| Property Values | | | Test Condition | Method | Notes | Dwell/ Cure Time | Dwell Time Units | Temp C | Temp F | Environmental Condition | Substrate | Backing |
|-----------------------------------|--------|--------|----------------------------|--------|-------|------------------|------------------|--------|--------|-------------------------|-----------|---------|
| Short Term Temperature Resistance | 177 °C | 350 °F | Short Term (minutes, hour) | | | | | | | | | |
| Long Term Temperature Resistance | 93 °C | 200 °F | Long Term (day, weeks) | | | | | | | | | |

Table continued on next page

Typical Performance Characteristics (continued)

| Property | Values | Test Condition | Method | Notes | Dwell Time | Dwell Units | Temp C | Temp F | Environmental Condition | Substrate | Backing |
|--------------------|------------------------|---------------------------|------------|------------------------|------------|-------------|--------|--------|-------------------------|-----------------|---------------|
| Static Shear | 10000 min | 1000 g @ Room Temperature | ASTM D3654 | 0.5 in² sample size | | | | | | | |
| Static Shear | 10000 min | 500 g @ Room Temperature | ASTM D3654 | 0.5 in² sample size | | | | | | | |
| 180° Peel Adhesion | 15.3 N/cm 140 oz/in | | ASTM D3330 | 12 in/min (300 mm/min) | 72 | hr | 23C | 72F | 50%RH | Stainless Steel | Aluminum Foil |

Available Sizes

| Property | Values | Test Name |
|---------------------------|---------------------------------------|-----------|
| Note | Subject to Minimum Order Requirements | |
| Standard Roll Length | 33 m 36 yd | |
| Minimum Available Width | 6.35 mm 2021-01-04 00:00:00 in | |
| Maximum Available Width | 1220 mm 48 in | |
| Normal Slitting Tolerance | 0.8 mm ±1/32 in | |
| Core Size | 76.2 mm 3 in | ID |

| Maximum Length | Width |
|----------------|---------------------------|
| 132 m | 144 yd 1/4in - 1/2in |
| 329 m | 360 yd 1/2 in to 48 in |

Property: Maximum Length

Handling/Application Information

Application Examples

- Dissimilar materials joining, such as metal to plastic.
- High performance joining and bonding.

Handling/Application Information (continued)

Application Techniques

Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure helps develop better adhesive contact and improves bond strength.

To obtain optimum adhesion, the bonding surfaces must be clean, dry and well unified. Some typical surface cleaning solvents are isopropyl alcohol or heptane.* Ideal tape application temperature range is 70°F to 100°F (21°C to 38°C). Initial tape application to surfaces at temperatures below 50°F (10°C) is not recommended because the adhesive becomes too firm to adhere readily. However, once properly applied, low temperature holding is generally satisfactory.

*Carefully read and follow the manufacturer’s precautions and directions for use when working with solvents.

Application Equipment

To apply adhesives in a wide web format, lamination equipment is required to ensure acceptable quality. To learn more about working with pressure-sensitive adhesives please refer to technical bulletin, Lamination Techniques for Converters of Laminating Adhesives (70-0704-1430-8).

For additional dispenser information, contact your local 3M sales representative, or the toll free 3M sales assistance number at 1-800-362-3550.

Storage and Shelf Life

Store in original cartons at 70°F (21°C) and 50% relative humidity.

If stored under proper conditions, product retains its performance and properties for 24 months from date of manufacture.

Trademarks

3M is a trademark of 3M Company.

References

| Property | Values |
|-----------------------|---|
| 3m.com Product Page | https://www.3m.com/3M/en_US/company-us/all-3m-products/~/3M-Double-Coated-Tape-9500PC/?N=5002385+3293241557&rt=rud |
| Safety Data Sheet SDS | https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=9500PC |

Family Group

| | 9500PC | 9500B | 9593 | 3028EK |
|--|---------|---------|-------|--------|
| Liner Color Test Name: Primary | Natural | Natural | White | White |
| Adhesive Type Test Name: Backside | 350 | 350 | 350 | 350 |
| Adhesive Type Test Name: Faceside | 350 | 350 | 350 | 350 |
| Short Term Temperature Resistance (°C) Test Condition: Short Term (minutes, hour) | 177 | 177 | 177 | 177 |

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3M™ Double Coated Tape 9500PC

Family Group (continued)

| | 9500PC | 9500B | 9593 | 3028EK |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| Long Term Temperature Resistance (°C) Test Condition: Long Term (day, weeks) | 93 | 93 | 93 | 93 |
| Adhesive Thickness (mm) Test Name: Backside | 0.058 | 0.058 | 0.038 | 0.058 |
| Adhesive Thickness (mm) Test Name: Faceside | 0.058 | 0.058 | 0.038 | 0.058 |
| Total Tape Thickness (mm) | 0.14 | 0.14 | 0.089 | 0.14 |
| Carrier Thickness (mm) | 0.025 | 0.025 | 0.013 | 0.025 |
| Adhesive Type | Acrylic | Acrylic | Acrylic | Acrylic |
| Adhesive Carrier | Clear PET (Polyester) | Black PET (Polyester) | Clear PET (Polyester) | Clear PET (Polyester) |
| Liner | Polycoated Kraft | Polycoated Kraft | 55# Densified Kraft | Extensible Kraft |
| Liner Thickness (mm) | 0.11 | 0.11 | 0.081 | 0.14 |

ISO Statement

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001 standards.

Recognition/Certification

MSDS: 3M has not prepared a MSDS for these products which are not subject 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, the products should not present a health and safety hazard. However, use or processing of the products in a manner not in accordance with the directions for use may affect their performance and present potential health and safety hazards.

TSCA: These products are defined as articles under the Toxic Substances Control Act and therefore, are exempt from inventory listing requirements.

Information

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