Double Coated Tapes

9731 • 9731B • 9731RW

Technical Data **October, 2008**

Product Description

3M™ Double Coated Tapes 9731, 9731B and 9731RW have a firm, silicone pressure sensitive adhesive coated on one side of a polyester film carrier and a high performance acrylic adhesive coated on the other side of the carrier.

Construction

Product Number	Faceside[1,4] Adhesive Type/ Thickness	Carrier Type/ Thickness	Backside[2,4] Adhesive Type/ Thickness	Liner Color, Type, Print	Liner Caliper	Total Tape Thickness (w/o liner)
3M tape 9731	350/ 0.0016" (0.041mm)	Clear PET 0.001" (0.025mm)	Silicone Adhesive/ 0.0029" (0.07mm)	Faceside liner – Tan, Polycoated Kraft, no print Backside liner – Fluoropolymer non-silicone clear, PET	0.005" (0.13mm)/ 0.0029" (0.07mm)	0.0055" (0.14mm)
3M tape 9731B	350/ 0.0016" (0.041mm)	Black PET[3] 0.001" (0.025mm)	Silicone Adhesive/ 0.0029" (0.07mm)	Faceside liner – Tan, Polycoated Kraft, no print Backside liner – Fluoropolymer non-silicone clear, PET	0.005" (0.13mm)/ 0.0029" (0.07mm)	0.0055" (0.14mm)
3M tape 9731RW	Silicone Adhesive/ 0.0029" (0.07mm)	Clear PET[3] 0.001" (0.025mm)	350/ 0.0016" (0.041mm)	Faceside liner – Fluoropolymer non-silicone clear, PET Backside liner – Tan, Polycoated Kraft, no print	0.0029" (0.07mm)/ 0.005" (0.13mm)	0.0055" (0.14mm)

Note 1: Faceside adhesive is on the interior of the roll, exposed when unwound.

Note 2: Backside adhesive is on the exterior of the roll, exposed when liner is removed.

Note 3: PET (Polyester).

Note 4: The caliper listed is based on a calculation from manufacturing controlled adhesive coat weights using a density of 1.012 g/cc.

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Typical Physical Properties and Performance Characteristics

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

Product Number	3M™ Double Coated Tapes 9731/9731B/9731RW Silicone Adhesive	3M Double Coated Tapes 9731/9731B/9731RW Acrylic Adhesive
Adhesion to stainless steel ASTM D3330 - 90 degree	Oz/in (N/100 mm)	Oz/in (N/100 mm)
- 15 minute RT	40 (44)	71 (77)
- 72 hour RT	42 (45)	93 (101)
- 72 hour 158°F	48 (52)	121 (132)
Adhesion to other surfaces ASTM D3330 - 90 degree, 2 mil al foil, 72 hour RT	Oz/in (N/100 mm)	Oz/in (N/100 mm)
ABS	39 (43)	74 (81)
Polycarbonate	42 (45)	60 (65)
Polypropylene	40 (44)	44 (48)
Shear Strength ASTM D3654 modified - (.5 inch^2 sample size)	minutes	minutes
1000 grams at 72°F	+10,000	6090
500 grams at 158°F	+10,000	+10,000
Dielectric Strength ASTM D1000 RMS Voltage/Thickness	8000 Volts	
Resistivity (ASTM D257) @ 70°F, 50% RH		
Volume	3.4 x 10^{15} Ω-cm	
Silicone Adhesive Surface	2.6 x 10^{15} Ω-cm	
Acrylic Adhesive Surface	7.4 x 10^{15} Ω-cm	
Relative High Temperature Operating Ranges		
Long Term (days, weeks)	250°F (121°C)	
Short Term (minutes, hours)	350°F (177°C)	

Available Sizes

(Subject to Minimum order requirements)	
Maximum Length	
1/4" to 3/8"	36 yds. (32.9 m)
1" to 38"	108 yds. (98.9 m)
Available Widths	
Minimum	1/4" (6.35 mm)
Maximum	38" (965 mm)
Normal Slitting Tolerance	± 1/32 in. (0.08 mm)
Core Size	3.0 in. (76.2 mm)

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Features

- Silicone adhesive provides good bond to silicone rubber, strong holding power to various silicone surfaces, good temperature performance and good solvent resistance.
- 3M™ Adhesive 350 provides very high adhesion to a wide variety of materials, excellent shear holding power, high temperature resistance and excellent UV resistance.
- A thin polyester carrier provides dimensional stability and improved handling with ease of die cutting and lamination compared to adhesive transfer tapes.

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.

***Note:** Carefully read and follow the manufacturer's precautions and directions for use when working with solvents. These cleaning recommendations may not be in compliance with the rules of certain air quality management districts in California; consult applicable rules before use.

Application Ideas

- Applications where bonding silicone rubber to high surface energy materials is necessary.

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.

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Storage

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

Shelf Life

If stored under proper conditions, product retains its performance and properties for 18 months from date of manufacture.

Certification/ Recognition

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, these products should not present a health and safety hazard. However, use or processing of these products in a manner not in accordance with the directions for use may affect their performance and present potential health and safety hazards.

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ISO 9001:2000

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001:2000 standards.

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