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3M™ Double Coated Tape 9731

Product Description

3M™ Double Coated Tapes 9731 has 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.

Product 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.

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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		Notes
Total Tape Thickness without liner	0.14 mm	5.5 mil	
Faceside Adhesive Thickness	0.041 mm	1.6 mil	Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.
Backside Adhesive Thickness	0.07 mm	2.9 mil	Backside adhesive is on the exterior of the roll, exposed when liner is removed.
Carrier Thickness	0.025 mm	1 mil	
Faceside Adhesive Type	350 Acrylic Adhesive		Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.
Backside Adhesive Type	Silicone Adhesive		Backside adhesive is on the exterior of the roll, exposed when liner is removed.
Adhesive Carrier	Clear PET (Polyester)		
Primary Liner Type	58# Polycoated Kraft		Inner liner is primary(stays with die-cut part); Outer liner is secondary (removed first)
Primary Liner Color	Tan		
Primary Liner Print	No Print		
Secondary Liner Type	Fluoropolymer non-Silicone		Inner liner is primary(stays with die-cut part); Outer liner is secondary (removed first)
Secondary Liner Color	Clear		
Secondary Liner Print	PET		
Primary Liner Thickness	0.17 mm	4.2 mil	
Secondary Liner Thickness	0.07 mm	2.9 mil	

Typical Performance Characteristics

350 Acrylic Adhesive Peel Adhesion		Substrate	Dwell/Cure Time
8.1 N/cm	74 oz/in	ABS	
6.5 N/cm	60 oz/in	Polycarbonate (PC)	
4.8 N/cm	44 oz/in	Polypropylene (PP)	
4.4 N/cm	40 oz/in	Stainless Steel	15 min @ Room Temperature
4.5 N/cm	42 oz/in	Stainless Steel	72 hr @ Room Temperature
5.2 N/cm	48 oz/in	Stainless Steel	72 hr @ 158°F(70°C)

Property: 350 Acrylic Adhesive Peel Adhesion
Method: ASTM D3330

Silicone Adhesive Peel Adhesion		Substrate	Dwell/Cure Time
4.3 N/cm	39 oz/in	ABS	
4.5 N/cm	42 oz/in	Polycarbonate (PC)	
4.4 N/cm	40 oz/in	Polypropylene (PP)	
7.7 N/cm	71 oz/in	Stainless Steel	15 min @ Room Temperature
10.1 N/cm	93 oz/in	Stainless Steel	72 hr @ Room Temperature
13.2 N/cm	121 oz/in	Stainless Steel	72 hr @ 158°F(70°C)

Property: Silicone Adhesive Peel Adhesion
Method: ASTM D3330

Relative High Temperature Operating Ranges		Test Condition
177 °C	350 °F	Short Term (minutes, hours)
121 °C	250 °F	Long Term (days, weeks)

Property: Relative High Temperature Operating Ranges

Property	Values	Method	Test Condition	Notes
Static Shear (faceside)	6090 min	ASTM D3654	1000 g @ Room Temperature	0.5 in² sample size
Static Shear (backside)	>10,000 min	ASTM D3654	1000 g @ Room Temperature	0.5 in² sample size
Static Shear (faceside)	>10,000 min	ASTM D3654	500 g @ 70°C (158°F)	0.5 in² sample size
Static Shear (backside)	>10,000 min	ASTM D3654	500 g @ 70°C (158°F)	0.5 in² sample size

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Available Sizes

Property	Values	
Note	Subject to Minimum Order Requirements	
Minimum Available Width	6.35 mm	1/4 in
Maximum Available Width	965 mm	38 in
Normal Slitting Tolerance	±0.8 mm	±1/32 in
Core Size (ID)	76.2 mm	3 in

Maximum Length		Width
32.9 m	36 yd	1/4 in to 3/8 in widths
98.9 mm	108 yd	1 to 38 in

Property: Maximum Length

Electrical and Thermal Properties

Property	Values	Method	Notes	Test Condition
Dielectric Strength	8000 V	ASTM D1000	RMS Voltage/Thickness	
Volume Resistivity	3.4 × 10^15 Ω-cm	ASTM D257		Room Temperature
350 Acrylic Adhesive Surface Resistivity	7.4 × 10^15 Ω-cm	ASTM D257		Room Temperature
Silicone Adhesive Surface Resistivity	2.6 × 10^15 Ω-cm	ASTM D257		Room Temperature

Handling/Application Information

Application Ideas

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

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.
*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 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 18 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-9731?N=5002385+3293242257&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=9731

Family Group

	9731	9731RW
Relative High Temperature Operating Ranges (°C) Test Condition: Long Term (days, weeks)	121	121
Relative High Temperature Operating Ranges (°C) Test Condition: Short Term (minutes, hours)	177	121
Total Tape Thickness without liner (mm)	0.14	0.14

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Family Group (continued)

	9731	9731RW
Faceside Adhesive Thickness (mm)	0.041	0.07
Backside Adhesive Thickness (mm)	0.07	0.041
Carrier Thickness (mm)	0.025	0.025
Faceside Adhesive Type	350 Acrylic Adhesive	Silicone Adhesive
Backside Adhesive Type	Silicone Adhesive	350 Acrylic Adhesive
Adhesive Carrier	Clear PET (Polyester)	Clear PET (Polyester)
Primary Liner Type	58# Polycoated Kraft	Fluoropolymer non-Silicone
Primary Liner Color	Tan	Clear
Primary Liner Print	No Print	PET
Secondary Liner Type	Fluoropolymer non-Silicone	Polycoated Kraft
Secondary Liner Color	Clear	Tan
Secondary Liner Print	PET	No Print
Primary Liner Thickness (mm)	0.17	0.07
Secondary Liner Thickness (mm)	0.07	0.17

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, 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.

Information

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3M United States
3M Center
St. Paul, MN 55144-1000
800-362-3550
www.3M.com

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