

July, 2011

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		Test Name	Notes
Total Tape Thickness without liner	0.14 mm	5.5 mil		
Carrier Thickness	0.025 mm	1 mil		
Adhesive Type	350 Acrylic Adhesive		Faceside	Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.
Adhesive Type	Silicone Adhesive		Backside	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)
Liner Color	Tan		Primary	
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)
Liner Color	Clear		Secondary	
Secondary Liner Print	PET			
Primary Liner Thickness	0.17 mm	4.2 mil		
Secondary Liner Thickness	0.07 mm	2.9 mil		

Typical Physical Properties (continued)

Adhesive Thickness		Test Name	Notes
0.07 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.
2.9 mil		Backside	Backside adhesive is on the exterior of the roll, exposed when liner is removed.
0.041 mm	1.6 mil	Faceside	Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.

Property: Adhesive Thickness

Typical Performance Characteristics

180° Peel Adhesion		Test Name	Substrate	Dwell/Cure Time	Dwell Time Units	Temp C	Temp F
8.1 N/cm	74 oz/in	350 Acrylic	ABS				
6.5 N/cm	60 oz/in	350 Acrylic	Polycarbonate (PC)				
4.8 N/cm	44 oz/in	350 Acrylic	Polypropylene (PP)				
4.3 N/cm	39 oz/in	Silicone	ABS				
4.5 N/cm	42 oz/in	Silicone	Polycarbonate (PC)				
4.4 N/cm	40 oz/in	Silicone	Polypropylene (PP)				
4.4 N/cm	40 oz/in	Silicone	Stainless Steel	15	min	23C	73F
4.5 N/cm	42 oz/in	Silicone	Stainless Steel	72	hr	23C	73F
5.2 N/cm	48 oz/in	Silicone	Stainless Steel	72	hr	70C	158F
7.7 N/cm	71 oz/in	350 Acrylic	Stainless Steel	15	min	23C	73F
10.1 N/cm	93 oz/in	350 Acrylic	Stainless Steel	72	hr	23C	73F
13.2 N/cm	121 oz/in	350 Acrylic	Stainless Steel	72	hr	70C	158F

Property: 180° Peel Adhesion
Method: ASTM D3330

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

Property: Relative High Temperature Operating Ranges

Typical Performance Characteristics (continued)

Static Shear	Test Name	Test Condition
6090 min	Faceside	1000 g @ Room Temperature
>10,000 min	Backside	1000 g @ Room Temperature
>10,000 min	Faceside	500 g @ 70°C (158°F)
>10,000 min	Backside	500 g @ 70°C (158°F)

Property: Static Shear
Method: ASTM D3654
notes: 0.5 in² sample size

Available Sizes

Property	Values	Values	Test Name
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	76.2 mm	3 in	ID

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

Property: Maximum Length

Electrical and Thermal Properties

Property	Values	Method	Notes	Test Condition	Test Name
Dielectric Strength	8000 V	ASTM D1000	RMS Voltage/Thickness		
Volume Resistivity	$3.4 \times 10^{15} \Omega\text{-cm}$	ASTM D257		Room Temperature	
Surface Resistivity	$7.4 \times 10^{15} \Omega\text{-cm}$	ASTM D257		Room Temperature	350 Acrylic Adhesive side
Surface Resistivity	$2.6 \times 10^{15} \Omega\text{-cm}$	ASTM D257		Room Temperature	Silicone Adhesive side

Handling/Application Information

Application Ideas

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

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 24 months from date of manufacture.

Trademarks

3M is a trademark of 3M Company.

References

Property	Values	Method
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=rudmil	ASTM D3652
Safety Data Sheet (SDS)	https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=9731in	ASTM D3652

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.

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