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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 toSilicone 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.

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	Notes	Test Name
Total Tape Thickness	0.14 mm	5.5 mil	ASTM D3652		
Carrier Thickness	0.025 mm	1 mil			
Adhesive Carrier	Clear PET (Polyester)				
Liner Print	None				
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
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
Liner Thickness	0.17 mm	4.2 mil			
Primary Liner Thickness	0.17 mm	4.2 mil			
Secondary Liner Thickness	0.07 mm	2.9 mil			

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 Physical Properties (continued)

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

Property: Adhesive Type

Adhesive Type

Silicone
Acrylic

Liner

PCK
PET

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

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

Property	Values		Test Condition
Short Term Temperature Resistance	177 °C	350 °F	Short Term (minutes, hour)
Long Term Temperature Resistance	121 °C	250 °F	Long Term (day, weeks)

Available Sizes

Property	Values	
Note	Subject to Minimum Order Requirements	
Minimum Available Width	6.35 mm	2021-01-04 00:00:00 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	Test Name
Dielectric Strength	8000 V	ASTM D1000	RMS Voltage/Thickness		
Volume Resistivity	3.4 × 10^15 Ω-cm	ASTM D257		Room Temperature	

Table continued on next page

Electrical and Thermal Properties (continued)

Property	Values	Method	Notes	Test Condition	Test Name
Surface Resistivity	7.4 × 10^15 Ω-cm	ASTM D257		Room Temperature	350 Acrylic
Surface Resistivity	2.6 × 10^15 Ω-cm	ASTM D257		Room Temperature	Silicone

Handling/Application Information

Application Examples

• Applications where bondingSilicone 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

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

3M™ Double Coated Tape 9731

Family Group

	9731	9731RW
Adhesive Thickness (mm) Test Name: Faceside	0.041	0.07
Adhesive Type Test Name: Backside	Silicone Adhesive	350 Acrylic Adhesive
Short Term Temperature Resistance (°C) Test Condition: Short Term (minutes, hour)	177	177
Long Term Temperature Resistance (°C) Test Condition: Long Term (day, weeks)	121	121
Liner Color Test Name: Primary	Tan	Clear
Adhesive Thickness (mm) Test Name: Backside	0.07	0.041
Adhesive Type Test Name: Faceside	350 Acrylic Adhesive	Silicone Adhesive
Liner Color Test Name: Secondary	Clear	Tan
Total Tape Thickness (mm)	0.14	0.14
Carrier Thickness (mm)	0.025	0.025
Adhesive Type	Silicone	Silicone
Adhesive Carrier	Clear PET (Polyester)	Clear PET (Polyester)
Liner	PCK	PCK
Primary Liner Type	58# Polycoated Kraft	Fluoropolymer non-Silicone
Secondary Liner Type	Fluoropolymer non-Silicone	Polycoated Kraft
Liner Thickness (mm)	0.17	0.07
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.

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