English-US

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Technical Data Sheet

3M™ Double Coated Tape 9731-100

Regulatory Info/SDS

Product Description

3M™ Double Coated Tape 9731-100 features 3M™ High Performance Acrylic Adhesive 350 on the acrylic adhesive side which provides a combination of high wet grab and initial adhesion to a wide variety of materials including LSE plastics. This tape features a silicone adhesive on the other side which provides adhesion to many difficult to bond to substrates including silicone rubbers and low surface energy(LSE) plastics.

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.

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

Attribute Name	Test Method	Test Condition	Value
Adhesive Type		Faceside	350 Acrylic Adhesive [1]
Adhesive Type		Backside	Silicone Adhesive [2]
Adhesive Carrier			Clear PET (Polyester)
Adhesive Thickness		Faceside	0.053 mm (2.1 mil) [1]
Adhesive Thickness		Backside	0.033 mm (1.3 mil) [2]
Total Tape Thickness	ASTM D3652		0.1 mm (4 mil)
Carrier Thickness			0.014 mm (0.56 mil)

[1] Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.

[2] Backside adhesive is on the exterior of the roll, exposed when liner is removed.

Attribute Name	Value
Primary Liner Type	58# Polycoated Kraft [1]
Secondary Liner Type	Fluoropolymer non-Silicone [1]
Primary Liner Thickness	0.074 mm (2.9 mil)
Secondary Liner Thickness	0.107 mm (4.2 mil)
Primary Liner Color	Tan
Secondary Liner Color	Clear

[1] Inner liner is primary (stays with die-cut part); Outer liner is secondary (removed first)

Typical Performance Characteristics

180° Peel Adhesion

Backing: 2 mil Aluminum Foil
Test Method: ASTM D3330

Dwell Time	Temperature	Test Condition	Substrate	Value
15 min	22 °C (72 °F)	Silicone Side	Stainless Steel	3,59 N/cm (32.8 oz/in) [1]
15 min	22 °C (72 °F)	Acrylic Side	Stainless Steel	7,56 N/cm (69.1 oz/in) [1]
72 h	22 °C (72 °F)	Acrylic Side	ABS	7,38 N/cm (67.4 oz/in) [1]
72 h	22 °C (72 °F)	Acrylic Side	Polycarbonate (PC)	7,76 N/cm (70.9 oz/in) [1]
72 h	22 °C (72 °F)	Acrylic Side	Polypropylene (PP)	7,02 N/cm (64.1 oz/in) [1]
72 h	22 °C (72 °F)	Silicone Side	Stainless Steel	3,74 N/cm (34.2 oz/in) [1]
72 h	22 °C (72 °F)	Acrylic Side	Stainless Steel	7,91 N/cm (72.3 oz/in) [1]
72 h	22 °C (72 °F)	Silicone Side	ABS	3,57 N/cm (32.6 oz/in) [1]
72 h	22 °C (72 °F)	Silicone Side	Polycarbonate (PC)	3,61 N/cm (33 oz/in) [1]
72 h	22 °C (72 °F)	Silicone Side	Polypropylene (PP)	3.71 N/cm (33.9 oz/in) [1]
72 h	70 °C (158 °F)	Silicone Side	Stainless Steel	4,02 N/cm (36.7 oz/in) [1]
72 h	70 °C (158 °F)	Acrylic Side	Stainless Steel	8,61 N/cm (78.7 oz/in) [1]

[1] 12 in/min (300 mm/min)

Attribute Name	Value
Short Term Temperature Resistance	177 °C (350 °F) [1]
Long Term Temperature Resistance	93 °C (200 °F) [2]

[1] Short Term (minutes, hour)
[2] Long Term (day, weeks)

Electrical and Thermal Properties

Attribute Name	Test Method	Temperature	Value
Dielectric Strength	ASTM D1000		8,000 V [1]
Surface Resistivity (350 Acrylic)	ASTM D257	22 °C (72 °F)	7.4 x 10^{15} Ω-cm [2]
Surface Resistivity (Silicone)	ASTM D257	22 °C (72 °F)	2.6 x 10^{15} Ω-cm [3]
Volume Resistivity	ASTM D257	22 °C (72 °F)	3.4 x 10^{15} Ω-cm

[1] RMS Voltage/Thickness
[2] 350 Acrylic
[3] Silicone

Handling/Application Information

Application Examples

- Bonding dissimilar materials.
- Silicone gasket bonding.
- Bond silicone rubber materials to other substrates.

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 acetone.

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.

Storage and Shelf Life

Store under normal conditions of 16° to 27°C (60° to 80°F) and 40 to 60% relative humidity in the original packaging, out of direct sunlight. For best performance, use this product within 18 months from date of manufacture.

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ISO Statement

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