

English-US

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Technical Data Sheet

3M™ Double Coated Tape 96042

Product Description

3M™ Double Coated Tape 96042 with 3M™ Silicone Adhesive provide high bond strength to most silicones and difficult-to-bond to substrates, including many low surface energy plastics and select varnished leathers.

Product Features

- Single liner tapes with a stable differential release.
- Good initial quick stick and adhesion build over time.
- Adhesion to silicone rubbers and silicone foams.
- Excellent solvent resistance.
- Superior temperature performance.

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			Silicone
Adhesive Carrier			Clear PET (Polyester)
Adhesive Thickness		Faceside	0.05 mm (2 mil) [1]
Carrier Thickness			0.025 mm (1 mil)
Adhesive Thickness		Backside	0.05 mm (2 mil) [2]
Total Tape Thickness	ASTM D3652		0.13 mm (5 mil)
Liner			PET
Liner Thickness			0.05 mm (2 mil)
Primary Liner Color			White

[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.

Typical Performance Characteristics

90° Peel Adhesion

Temperature: 23 °C (73 °F)
Dwell Time: 24 h
Test Method: ASTM D3330

Substrate	Value
ABS	4.4 N/cm (40 oz/in) [1]
Polycarbonate (PC)	4.4 N/cm (40 oz/in) [1]
Polypropylene (PP)	3.8 N/cm (35 oz/in) [1]
Silicone Rubber	3.8 N/cm (35 oz/in) [1]
Stainless Steel	4.4 N/cm (40 oz/in) [1]

[1] 304 mm/min (12 in/min)

Static Shear

Test Method: ASTM D3654

Temperature	Test Condition	Value
23 °C (73 °F)	1000 g	>10,000 min [1]
70 °C (158 °F)	500 g	>10,000 min [1]

[1] 25 x 25 mm (1 in x 1 in) sample area, test terminated after 10,000 minutes

Attribute Name	Value
Short Term Temperature Resistance	149 °C (300 °F) [1]
Long Term Temperature Resistance	93 °C (200 °F) [2]
Temperature Use Range note	PET carrier is the limiting temperature factor

[1] Short Term (minutes, hour)

[2] Long Term (day, weeks)

Typical Environmental Performance

Attribute Name	Value
Solvent Resistance	Excellent

Typical Environmental Characteristics

Environmental Resistance

Humidity Resistance: High humidity has minimal effect on adhesive performance.
No significant reduction in bond strength is observed after exposure for 7 days at 90°F (32°C) and 90% relative humidity.

UV Resistance: When properly applied, nameplates and decorative trim parts are not adversely affected by exposure.

Water Resistance: Immersion in water has no appreciable effect on the bond strength. After 100 hours at room temperature, the high bond strength is maintained.

Temperature Cycling Resistance: High bond strength is maintained after cycling four times through:
8 hours at 194°F (90°C)
16 hours at -40°F (-40°C)
8 hours at 100.4°F (38°C/100% RH)
16 hours at -40°F (-40°C)

Chemical Resistance: When properly applied, nameplate and decorative trim parts will hold securely after exposure to numerous chemicals including oil, mild acids and alkalis.

Handling/Application Information

Application Examples

• General purpose silicone bonding.
• Vibration damping.
• High temperature applications.
• Ideal for single liner applications.

Application Techniques

Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure and moderate heat, from 100°F (38°C) to 130°F (54°C), will assist the adhesive in developing intimate contact with the bonding surface.

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.

*Carefully read and follow the manufacturer's precautions and directions for use when working with solvents. These cleaning recommendations may not be compliant 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 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 12 months from date of manufacture.

Available Sizes

Attribute Name	Width	Value
Core Size (ID)		76.2 mm (3 in)
Maximum Available Width		48 in
Maximum Length	1/2 in to 1 in widths	66 m (72 yd)
Maximum Length	3 in and wider	329 m (360 yd)
Normal Slitting Tolerance		±0.8 mm (±1/32 in)
Note		Subject to Minimum Order Requirements

Automotive Disclaimer

Select Automotive Applications:
This product is an industrial product and has not been designed or tested for use in certain automotive applications, such as automotive electric powertrain battery or high voltage applications, which may require the product to be manufactured in a IATF certified facility, meet a Ppk of 1.33 for all properties, undergo an automotive production part approval process (PPAP), or fully adhere to automotive design or quality system requirements (e.g., IATF 16949 or VDA 6.3). Customer assumes all responsibility and risk if customer chooses to use this product in these applications.

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ISO Statement

This product was manufactured under a 3M quality system registered to ISO 9001 standards.

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