English-US

Last Revision Date: September, 2024

Supersedes: June, 2024

Technical Data Sheet

3M™ Double Coated Tape 444

Product Details

Regulatory Info/SDS

Product Description

3M™ Double Coated Tapes with 3M™ Adhesive 300 feature a thin polyester film for dimensional stability and improved handling with ease of die cutting and laminating. The high tack adhesive provides relatively high initial adhesion and good shear holding power to a variety of surfaces. The carrier also provides easier handling during slitting and die cutting.

Product Features

3M™Adhesive 300 is a medium-firm acrylic adhesive system featuring both high initial adhesion and good high temperature holding power.

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			Acrylic
Adhesive Carrier			Clear PET (Polyester)
Adhesive Thickness		Faceside	0.051 (2 mil) [1]
Carrier Thickness			0.013 mm (0.5 mil)
Adhesive Thickness		Backside	0.036 mm (1.4 mil) [2]
Total Tape Thickness	ASTM D3652		0.1 mm (3.9 mil)
Liner			55# Densified Kraft
Liner Thickness			0.076 mm (3 mil)
Primary Liner Color			White

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

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

Typical Performance Characteristics

Substrate: Stainless Steel
Temperature: 23 °C (73 °F)
Dwell Time: 72 h
Backing: 2 mil Aluminum Foil

Attribute Name	Test Method	Value
180° Peel Adhesion	ASTM D3330	12.5 N/cm (115 oz/in) [1]

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

90° Peel Adhesion

Backing: 2 mil Aluminum Foil
Test Method: ASTM D3330

Dwell Time	Temperature	Substrate	Value
15 min	23 °C (73 °F)	Stainless Steel	3.5 N/cm (32 oz/in) [1]
72 h	23 °C (73 °F)	ABS	6 N/cm (55 oz/in) [1]

Dwell Time	Temperature	Substrate	Value
72 h	23 °C (73 °F)	Polycarbonate (PC)	7 N/cm (64 oz/in) [1]
72 h	23 °C (73 °F)	Polyester (PET)	6.6 N/cm (61 oz/in) [1]
72 h	23 °C (73 °F)	Polypropylene (PP)	4.7 N/cm (43 oz/in) [1]
72 h	23 °C (73 °F)	Stainless Steel	6.6 N/cm (61 oz/in) [1]
72 h	70 °C (158 °F)	Stainless Steel	9.4 N/cm (86 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	813 min [1]
70 °C (158 °F)		3 min [1]

[1] 13 x 25 mm (0.5 x 1 in) sample area, test terminated at 10,000 minutes

Attribute Name	Value
Short Term Temperature Resistance	121 °C (250 °F) [1]
Long Term Temperature Resistance	82 °C (180 °F) [2]

[1] Short Term (minutes, hour)

[2] Long Term (day, weeks)

Typical Environmental Performance

Attribute Name	Value
Solvent Resistance	Medium-Low
UV Resistance	Medium

Handling/Application Information

Application Examples

- Medical/non-medical diagnostic test strips
- Plastic film lamination/bonding
- Splicing
- Foam lamination
- Cell phone lens attachment
- Gasket attachment in hand held devices and laptops

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.

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.

Industry Specifications

FDA Statement

This product might be suitable for use in indirect food contact applications. Please see the applicable Regulatory Data Sheet for more information relating to FDA compliance.

Liner Configure Guide

General purpose steel rule die cutting 58# PCK (Polycoated Kraft)
Steel rule cutting many nameplates on common sheet 86# PCK
Kiss cutting, steel rule 86# PCK
Rotary die-cutting Densified Kraft, PET
Selective die-cutting (cut adhesive before laminate) Double-linered
Thermoforming HDPE (High density Polyethylene)
Part inspection HDPE, PET
Embossed metal parts White PP (polypropylene), HDPE
Metal parts (punch press) PET

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 24 months from date of manufacture.

Available Sizes

Attribute Name	Width	Value
Core Size (ID)		76.2 mm (3 in)
Maximum Available Width		1219 mm (48 in)
Maximum Length	1/4in - 1/2in	165 m (180 yd)
Maximum Length	1/2 in to 48 in	329 m (360 yd)
Minimum Available Width		6.35 mm (1/4 in)
Normal Slitting Tolerance		± 0.8 mm (± 1/32 in)
Note		Subject to Minimum Order Requirements
Standard Roll Length		33 m (36 yd)

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.

Information

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ISO Statement

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

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