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Double Coated Tapes with Adhesive 300

444 • 444PC • 9009 • 9019 • 9039

Technical Data

September, 2008

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.

Construction

Product Number	Faceside ¹ Adhesive Type/ Thickness	Carrier Type/ Thickness	Backside ² Adhesive Type/ Thickness	Liner Color, Type, Print	Liner Caliper	Total Tape Thickness (w/o liner)
3M™ Double Coated Tape 444	300/ 0.002" (0.051mm)	Clear PET ³ 0.0005" (0.013mm)	300/ 0.0014" (0.036mm)	White, 55#, Densified Kraft, No print	0.003" (0.076mm)	0.0039" (0.10mm)
3M™ Double Coated Tape 444PC	300/ 0.002" (0.051mm)	Clear PET ³ 0.0005" (0.013mm)	300/ 0.0014" (0.036mm)	Tan, 58#, Polycoated Kraft, No print	0.004" (0.10mm)	0.0039" (0.10mm)
3M™ Double Coated Tape 9009	300/ 0.0008" (0.020mm)	Clear PET ³ 0.0005" (0.013mm)	300/ 0.0008" (0.020mm)	White, 55#, Densified Kraft, No print	0.003" (0.076mm)	0.0021" (0.05mm)
3M™ Double Coated Tape 9019	300/ 0.0003" (0.0084mm)	Clear PET ³ 0.0005" (0.013mm)	300/ 0.0003" (0.0084mm)	White, 55#, Densified Kraft, No print	0.003" (0.076mm)	0.0011" (0.03mm)
3M™ Double Coated Tape 9039	300/ 0.0015" (0.038mm)	PET ³ 0.0005" (0.013mm)	300/ 0.0015" (0.038mm)	Clear, 55#, Densified Kraft, No print	3.0 mils (0.076mm)	0.0035" (0.09mm)

Note 1: Faceside adhesive is on the interior of the roll, exposed when unwound.

Note 2: Backside adhesive is on the exterior of the roll, exposed when liner is removed.

Note 3: PET (Polyester).

The caliper listed is based on a calculation from manufacturing controlled adhesive coat weights using a density of 1.012 g/cc.

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Typical Physical Properties and Performance Characteristics

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Product Number	3M™ Double Coated Tapes 444, 444PC	3M™ Double Coated Tape 9009	3M™ Double Coated Tape 9019	3M™ Double Coated Tape 9039
Adhesion to stainless steel ASTM D3330 - 90 degree	Oz/in (N/100mm)	Oz/in (N/100mm)	Oz/in (N/100mm)	Oz/in (N/100mm)
- 15 minute RT	32 (35)	54 (59)	22 (24)	67 (73)
- 72 hour RT	61 (66)	61 (66)	27 (29)	82 (90)
- 72 hour 158°F (70°C)	86 (94)	76 (83)	36 (39)	98 (107)
ASTM D3330 - 180 degree, 2 mil al foil				
- 72 hour RT	115 (125)	82 (89)	33 (36)	129 (141)
3) Adhesion to other surfaces* ASTM D3330 - 90 degree, 2 mil al foil, 72 hour RT				
ABS	55 (60)	59 (64)	24 (26)	73 (80)
Polycarbonate	64 (70)	61 (66)	26 (28)	80 (88)
Polyester	61 (66)	—	—	77 (84)
Polypropylene	43 (47)	—	—	—
Shear Strength - ASTM D3654 modified - (.5 inch ² sample size)				
1000 grams at 72°F (22°C)	813 minutes	1593 minutes	885 minutes	924 minutes
500 grams at 158°F (70°C)	3 minutes	7 minutes	3 minutes	4 minutes
Relative Solvent Resistance	Medium-Low	Medium-Low	Medium-Low	Medium-Low
UV Resistance	Medium	Medium	Medium	Medium
Relative High Temperature Operating Ranges:				
Long Term (days, weeks)	180°F (82°C)	180°F (82°C)	180°F (82°C)	180°F (82°C)
Short Term (minutes, hours)	250°F (121°C)	250°F (121°C)	250°F (121°C)	250°F (121°C)

Available Sizes

Product Number	3M double coated tapes 444, 444PC	3M double coated tape 9009	3M double coated tape 9019	3M double coated tape 9039
Available Lengths (Subject to Minimum order requirements)				
Standard	36 yd (33 m)	36 yd (33 m)	36 yd (33 m)	36 yd (33 m)
Maximum Length				
1/4" to 1/2"	180 yd (165 m)	180 yd (165 m)	180 yd (165 m)	180 yd (165 m)
1/2" to 48"	360 yd (329 m)	360 yd (329 m)	360 yd (329 m)	360 yd (329 m)
Available Widths				
Minimum	1/4" (6.35 mm)	1/4" (6.35 mm)	1/4" (6.35 mm)	1/4" (6.35 mm)
Maximum	48" (1219 mm)	54" (1372 mm)	54" (1372 mm)	54" (1372 mm)
Normal Slitting Tolerance	± 1/32" (0.8 mm)	± 1/32" (0.8 mm)	± 1/32" (0.8 mm)	± 1/32" (0.8 mm)
Core Size	3.0" (76.2 mm)	3.0" (76.2 mm)	3.0" (76.2 mm)	3.0" (76.2 mm)

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Features

- 3M™ Double Coated Tape 444PC is provided on a polycoated kraft liner that provides moisture stability for large part converting.
- 3M™ Adhesive 300 is a medium-firm acrylic adhesive system featuring both high initial adhesion and good high temperature holding power.

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 Ideas

- 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

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-lined
Thermoforming	HDPE (High density Polyethylene)
Part inspection	HDPE, PET
Embossed metal parts	White PP (polypropylene), HDPE
Metal parts (punch press)	PET

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.

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Storage	Store in original carton at 70°F (21°C) and 50% relative humidity.
Shelf Life	If stored under proper conditions, product retains its performance and properties for two years from date of manufacture.
Product Use	All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method of application.
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This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001:2000 standards.



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