

3M

Double Coated Tapes

with Adhesive 700 Series

9443NP • 9589

Technical Data

July, 2006

Product Description 3M™ Double Coated Tapes with 3M™ Adhesive 700 Series feature a high tack synthetic rubber adhesive which provides excellent quick stick or initial adhesion and bonds together a wide variety of materials such as metals, papers, paints and most plastics. These tapes have a film carrier, which can add dimensional stability for aid in removal and also provides easier handling during slitting and die-cutting.

Construction	Product	Faceside ¹ Adhesive Type/ Thickness	Carrier Type/ Thickness	Backside ² Adhesive Type/ Thickness	Liner Color/ Type/Print	Tape Caliper	Liner Caliper	Tape Color
	3M™ Double Coated Tape 9443NP	760/ 0.002 in. (0.051 mm)	0.002 in. (0.051 mm) HDPE ³	760/ 0.002 in. (0.051 mm)	Green plaid, 60# Densified Kraft, no print	0.006 in. (0.15 mm)	0.004 in. (0.10 mm)	Clear
	3M™ Double Coated Tape 9589	760/ 0.003 in. (0.076 mm)	0.003 in. (0.076 mm) HDPE ³	760/ 0.003 in. (0.076 mm)	Green plaid, 60# Densified Kraft, no print	0.009 in. (0.23 mm)	0.004 in. (0.10 mm)	White

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: HDPE (High Density Polyethylene).

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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.	
	3M™ Double Coated Tape 9443NP	3M™ Double Coated Tape 9589
Adhesion to stainless steel ASTM D3330 - 90 degree, 2 mil Al foil	Oz./in. (N/100 mm)	Oz./in. (N/100 mm)
- 15 minute RT	93 (101)	81 (88)
- 72 hour RT	97 (106)	84 (92)
- 72 hour 158°F (70°C)	126 (137)	87 (94)
ASTM D3330 - 180 degree, 2 mil Al foil		
- 72 hour RT	206 (224)	117 (127)
Adhesion to other surfaces ASTM D3330 - 90 degree, 2 mil Al foil, 72 hour RT		
Polyester	89 (97)	82 (89)
Polypropylene	85 (93)	62 (67)
Polycarbonate	101 (110)	101 (110)
Shear Strength - ASTM D3654 modified - (0.5 inch ² sample size)		
1000 grams at 72°F (22°C)	10,000 min.	10,000 min.
500 grams at 158°F (70°C)	17 min.	1773 min.
Relative High Temperature Operating Ranges:		
Long Term (days, weeks)	120°F (49°C)	120°F (49°C)
Short Term (minutes, hours)	158°F (70°C)	158°F (70°C)
Available Sizes	Roll length, width, slitting tolerance, core size.	
	Available Lengths (Subject to Minimum order requirements)	
	3M tapes 9443NP and 9589	
Standard	36 yds. (33 m)	
Maximum Length		
1/4 in. to 7/16 in.	180 yds. (165 m)	
1/2 in. and greater	360 yds. (329 m)	
Available Widths		
Minimum	1/4 in. (6.35 mm)	
Maximum	26 in. (660 mm)	
Normal Slitting Tolerance	± 1/32 in. (0.8 mm)	
Core Size	3.0 in. (76.2 mm)	

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Features

- The high density polyethylene carrier in these products is hand-tearable, and provides dimensional stability and improved handling with ease of die-cutting and lamination compared to adhesive transfer tapes.
- 3M™ Adhesive 760 provides high tack adhesion to a variety of substrates, including metals, plastics and glass.
- 3M adhesive 760 provides clean removal from many surfaces.
- Tape components are in compliance with Title 21 of the code of Federal Regulations (21 CFR) as indirect food additives.

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.*

***Note:** Carefully read and follow the manufacturer's precautions and directions for use when working with solvents.

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.

Application Ideas

- Miscellaneous joining and holding uses where high initial tack is required.
- Quick and easy tacking of carpet edges.
- General industrial mounting, joining and splicing.

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

Store in original cartons at 70°F (21°C) and 50% relative humidity.

Shelf Life

When stored under proper conditions, product retains its performance and properties for 18 months from date of manufacture.

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Certification/ Recognition

FDA

The components in 3M™ Double Coated Tapes 9443NP and 9589 are in compliance with the requirements for use as indirect food additives under Title 21 of the Code of Federal Regulations (21 CFR). The carrier material is regulated under 21 CFR 177.1520 (c) (3.1) and (3.2) (Olefin polymers). All of the adhesive components are regulated under 21 CFR 175.105 (Adhesives). As found in 21 CFR 175.105, there are usage restrictions associated with all adhesives used around food. As indicated in this regulation, the adhesive must either be separated from the food by a functional barrier or used subject to the following:

- (1) In dry foods: used such that the quantity of adhesive that contacts the packaged dry food does not exceed the limits of good manufacturing practice.
- (2) In fatty and aqueous foods: the quantity of adhesive that contacts the packaged fatty and aqueous food does not exceed the trace amount at the seams and at the edge exposure between packaging laminates that may occur within the limits of good manufacturing practice.

It is the responsibility of the end user to ensure that his or her application is in compliance with these usage restrictions.

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.

Warranty and Limited Remedy

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ISO 9001:2000

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001:2000 standards.



Industrial Business Industrial Adhesives and Tapes Division

3M Center, Building 21-1W-10, 900 Bush Avenue
St. Paul, MN 55144-1000
800-362-3550 • 877-369-2923 (fax)
www.3M.com/industrial



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Printed in U.S.A.
©3M 2006 70-0705-7589-2 (7/06)