

July, 2006

3M™ Double Coated Tape 9443NP

Product Description

3M™ Double Coated Tapes with 3M™ Synthetic Rubber 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.

Product 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 700 provides high tack adhesion to a variety of substrates, including metals, plastics and glass.
- 3M™ Adhesive 700 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.



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

Property	Values		Notes
Color	Clear		
Tape Thickness	0.15 mm	6 mil	
Faceside Adhesive Thickness	0.051 mm	2 mil	Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.
Backside Adhesive Thickness	0.051 mm	2 mil	Backside adhesive is on the exterior of the roll, exposed when liner is removed.
Carrier Thickness	0.051 mm	2 mil	
Faceside Adhesive Type	700 Synthetic Rubber		Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.
Backside Adhesive Type	700 Synthetic Rubber		Backside adhesive is on the exterior of the roll, exposed when liner is removed.
Adhesive Carrier	HDPE (High Density Polyethylene)		
Liner	60# Densified Kraft		
Liner Thickness	0.1 mm	4 mil	
Liner Color	Green Plaid, no print		

Typical Performance Characteristics

90° Peel Adhesion		Dwell/Cure Time	Substrate
10.1 N/cm	93 oz/in	15 min @ Room Temperature	Stainless Steel
10.6 N/cm	97 oz/in	72 hr @ Room Temperature	Stainless Steel
13.7 N/cm	126 oz/in	72 hr @ 158°F(70°C)	Stainless Steel
9.3 N/cm	85 oz/in	72 hr @ Room Temperature	Polypropylene (PP)
11 N/cm	101 oz/in	72 hr @ Room Temperature	Polycarbonate (PC)

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Typical Performance Characteristics (continued)

90° Peel Adhesion		Dwell/Cure Time	Substrate
9.7 N/cm	89 oz/in	72 hr @ Room Temperature	Polyester (PET)

Property: 90° Peel Adhesion
 Method: ASTM D3330
 Backing: Aluminum Foil

Relative High Temperature Operating Ranges		Test Condition
70 °C	158 °F	Short Term (minutes, hours)
49 °C	120 °F	Long Term (days, weeks)

Property: Relative High Temperature Operating Ranges

Property	Values		Method	Test Condition	Notes	Dwell/Cure Time	Substrate	Backing
Static Shear	10000 min		ASTM D3654	1000 g @ Room Temperature	0.5 in² sample size			
Static Shear	17 min		ASTM D3654	500 g @ 70°C (158°F)	0.5 in² sample size			
180° Peel Adhesion	22.4 N/cm	206 oz/in	ASTM D3330			72 hr @ Room Temperature	Stainless Steel	Aluminum Foil

Available Sizes

Property	Values	
Standard Length	33 m	36 yd
Minimum Available Width	6.35 mm	1/4 in
Maximum Available Width	660 mm	26 in
Normal Slitting Tolerance	±0.8 mm	±1/32 in
Core Size (ID)	76.2 mm	3 in

Maximum Length		Width
329 m	360 yd	1/2 in(12.7mm) and wider
165 mm	180 yd	1/4 to 7/16 in

Property: Maximum Length

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Handling/Application Information

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

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

Industry Specifications

Title 21 of the code of Federal Regulations (21 CFR)

References

Property	Values
3m.com Product Page	https://www.3m.com/3M/en_US/company-us/all-3m-products/-/3M-Double-Coated-Tape-9443NP?N=5002385+3293240979&rt=rud
Safety Data Sheet (SDS)	https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=9443NP

Family Group

	9443NP	9589	9579
Relative High Temperature Operating Ranges (°C) Test Condition: Short Term (minutes, hours)	70	70	66

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Family Group (continued)

	9443NP	9589	9579
Relative High Temperature Operating Ranges (°C) Test Condition: Long Term (days, weeks)	49	49	49
Color	Clear	White	White
Tape Thickness (mm)	0.15	0.23	0.127
Faceside Adhesive Thickness (mm)	0.051	0.076	0.076
Backside Adhesive Thickness (mm)	0.051	0.076	0.076
Carrier Thickness (mm)	0.051	0.076	0.076
Faceside Adhesive Type	700 Synthetic Rubber	760 Synthetic Rubber	760 Synthetic Rubber
Backside Adhesive Type	700 Synthetic Rubber	760 Synthetic Rubber	760 Synthetic Rubber
Adhesive Carrier	HDPE (High Density Polyethylene)	HDPE (High Density Polyethylene)	HDPE (High Density Polyethylene)
Liner	60# Densified Kraft	60# Densified Kraft	White 62# Densified Kraft
Liner Thickness (mm)	0.1	0.1	0.1
Liner Color	Green Plaid, no print	Green Plaid, no print	White, no print

ISO Statement

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

Recognition/Certification

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.

Information

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