Double Coated Polyester Tapes with Adhesive 830

442F • 442KW • 442W • 442DL

Technical Data **April, 2010**

Product Description

These double coated film tapes feature a thin polyester film carrier for dimensional stability and improved handling with ease of die cutting and laminating. 3M™ Adhesive 830 is a firm rubber adhesive system that provides a combination of good adhesion, good temperature performance, good solvent resistance and good quick stick to a wide variety of materials as well as clean removability from many surfaces.

Construction

Products	3M™ Double Coated Polyester Tape			
	442F	442KW	442W	442DL
Adhesive Family:	830 Adhesive Family			
Tape Thickness: (Without liners)	4.0 mils (0.1 mm)			
Tape Thickness: (With liner/liners)	7.0 mils (0.18 mm)	8.5 mils (0.22 mm)	8.5 mils (0.22 mm)	9.5 mils (0.24 mm)
Adhesive Thickness: (Face Side-nonliner side)	1.5 mils (0.038 mm)			
Adhesive Carrier:	1.0 mil (0.025 mm) clear polyester film			
Adhesive Thickness: (Back Side-liner side)	1.5 mils (0.038 mm)			
Release Liner Type: (Primary Liner)	Polyester Film	Polycoated Paper-72 lb. basis weight	Polycoated Paper-72 lb. basis weight	Polycoated Paper-72 lb. basis weight
Release Liner Type: (Second liner-inside of roll)	NA	NA	NA	Polyester Film
Release Liner Color:	Translucent	White	White	White/Translucent
Liner Thickness: (Primary/secondary)	3.0 mils (0.07 mm)	4.5 mils (0.11 mm)	4.5 mils (0.11 mm)	4.5/2.0 mils (0.11 mm/0.050 mm)

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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.

Products	3M™ Double Coated Polyester Tape 442F	442KW	442W	442DL
Adhesion to stainless steel ASTM D3330 - 90 degree	Oz/in (N/100 mm)			
- 15 minute RT	53 (58)			
- 72 hour RT	56 (61)			
- 72 hour 158°F	70 (76)			
ASTM D3330 - 180 degree, 2 mil Al foil, 72 hour RT	70 (76)			
Adhesion to other surfaces ASTM D3330 - 90 degree, 2 mil Al foil, 72 hour RT				
ABS	52 (57)			
Polycarbonate	53 (58)			
Polypropylene	40 (44)			
Relative High Temperature Operating Ranges:				
Long Term (days, weeks)	150°F (66°C)			
Short Term (minutes, hours)	180°F (82°C)			

Available Sizes

Available Lengths (Subject to Minimum order requirements)

Products	3M™ Double Coated Polyester Tape 442F	442KW	442W	442DL
*Standard Sizes:	36 yd (33 m)	36 yd (33 m)	216 yd (198 m)	36 yd (33 m)
Maximum Length				
1/4" to 1/2":	144 yd (132 m)	144 yd (132 m)	NA	NA
1/2" to 54":	360 yd (329 m)	360 yd (329 m)	NA	216 yd (198 m)
Available Widths				
Minimum:	*1/4" (6.35 mm)	1/4" (6.35 mm)	*65" (1651 mm)	*6" (152 mm)
Maximum:	*54" (1372 mm)	54" (1372 mm)	*Call	54" (1372 mm)
Normal Slitting Tolerance:	± 1/32 in. (0.08 mm)	± 1/32 in. (0.08 mm)	± 1/16 in. (0.16 mm)	± 1/32 in. (0.08 mm)
Core Size (ID):	3.0 in. (76.2 mm)	3.0 in. (76.2 mm)	3.0 in. (76.2 mm)	3.0 in. (76.2 mm)

*Questions on minimum shipping quantities and other possible sizes (widths and lengths) should be directed to your local 3M Sales Representative or 3M's Customer Service Department at 1-800-362-3550.

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Features

- Polycoated paper liners and the polyester liners offer moisture stability
- 3M™ Double Coated Polyester Tapes 442F and 442DL (double linered) also offer an extended shelf life of an additional six months.
- Polyester film carrier at its center core which enhances the workability when laminating to various types of surfaces.
- Film also enhances the die cutability of the finished product.
- Provides clean removability from many surfaces.

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. These cleaning recommendations may not be in compliance with the rules of certain Air Quality Management Districts in California; consult applicable rules before use.

IMPORTANT: For optimum liner clarity on 3M™ Double Coated Polyester Tape 442F and 442DL products, it is recommended the tape product be processed from supplied roll format into converted product with-in six months of the manufacturing date. After six months the liner clarity may be reduced due to a haze effect. This liner clarity does not impact adhesive or liner performance over the shelf life of the product.

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

These tapes are ideal for bonding together a wide variety of similar and dissimilar materials such as rubbers, metals, glass, papers, paints and many plastics. Some application ideas include:

- – Splicing of films, foils, papers, fabrics.
- – Holding objects where high shear forces are encountered.
- – Holding grinding and polishing pads.
- – Miscellaneous joining and holding uses.

Application Equipment

Wide web lamination

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 assistance in helping you determine the best dispenser for your application, 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 cartons at 70°F (21°C) and 50% relative humidity.

Shelf Life

To obtain best performance, use 3M™ Double Coated Polyester Tapes 442F and 442DL within 18 months from date of manufacture, and 3M™ Double Coated Polyester Tapes 442K and 442KW within 12 months from date of manufacture. Shelf life may be extended by keeping tape poly bagged and refrigerated at or below 50°F (10°C).

Certification/ Recognition

MSDS: 3M has not prepared a MSDS for these products which are not subject to the MSDS requirements of the Occupational Safety and Health Administration's Hazard Communication Standard, 29 C.F.R. 1910.1200(b)(6)(v). When used under reasonable conditions or in accordance with the 3M directions for use, these products should not present a health and safety hazard. However, use or processing of these products in a manner not in accordance with the directions for use may affect their performance and present potential health and safety hazards.

TSCA: These products are defined as articles under the Toxic Substances Control Act and therefore, are exempt from inventory listing requirements.

Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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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.

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Printed in U.S.A.
©3M 2010 70-0709-3912-2 (4/10)