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Technical Data | May 2019

3M™ Double Coated Tapes 442F, 442KW, 442W, 442DL

Product Description

3M™ Double Coated Tape 442F, 442KW, 442W, and 442DL with 3M™ Adhesive 830. 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 high shear strength, good temperature performance, good solvent resistance and good quick stick to a wide variety of materials as well as clean removability from many surfaces.

Key Features

- The polyester liner offers moisture stability.
- The polyester film carrier enhances the workability when laminating to various types of surfaces.
- The film carrier also enhances the die cutability of the finished product.
- Provides clean removability from many surfaces.

Product Construction/Material Description

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 442F, 442KW, 442W, 442DL				
Property	**Value**			
	3M™ tape 442F	**3M™ tape 442KW**	**3M™ tape 442W**	**3M™ tape 442DL**
Adhesive	3M™ Adhesive 830			
Adhesive Thickness (Face side)	0.038mm (1.5 mil)			
Adhesive PET Carrier	0.025mm (1.0 mil)			
Adhesive Thickness (Back side)	0.038mm (1.5 mil)			
Adhesive Thickness (without liner)	0.10mm (4.0 mil)			
Release Liner Primary Liner Thickness	Polyester Film 0.07mm (3.0 mil)	Polycoated Paper 0.11mm (4.5 mil)	Polycoated Paper 0.11mm (4.5 mil)	Polycoated Paper 0.11mm (4.5 mil)
Release Liner Secondary Liner Thickness	NA	NA	NA	Polyester Film 0.05mm (2.0 mil)
Release Liner Color	Translucent	Off-White	Off-White	Off-White/Translucent

Applications

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 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.

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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.

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 for good adhesion. However, once properly applied, low temperature holding is generally satisfactory.

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. Final product specifications and testing methods will be outlined in the products Certificate of Analysis (COA) that is shipped with the commercialized product.

3M™ Double Coated Tape 442F, 442KW, 442W, 442DL					
Property	**Method[1]**	**Value**			
180 Degree Peel Adhesion @ 72-hour dwell[2]	Test Method ASTM D3330		oz/in	N/mm	kg/25.4mm
		SS	70	0.78	1.96
90 Degree Peel Adhesion @ 15-minute dwell[2]	Test Method ASTM D3330		oz/in	N/mm	kg/25.4mm
		SS	53	0.59	1.49
90 Degree Peel Adhesion @ 72-hour dwell[2]	Test Method ASTM D3330		oz/in	N/mm	kg/25.4mm
		SS	56	0.63	1.57
		PC	53	0.59	1.49
		ABS	52	0.58	1.46
		PP	40	0.45	1.12
Static Shear	Test Method ASTM D3654				
1000g RT		<10,000 Minutes			
500g at 70C		<10,000 Minutes			
Relative High Temperature Operating Range	3M Test Method				
	Long Term	150F (66C)			
	Short Term	180F (82C)			

[1]Methods listed as ASTM are tested in accordance with the ASTM method noted
[2]Peel tests were completed with 2 mil Al foil backing

Storage and Shelf Life

The self-life of 3M™ Double Coated Tapes 442F, 442KW, 442W, and 442DL is 18 months from date of manufacture when stored in original packaging materials and stored at 70°F (21°C) and 50% relative humidity.

Certificate of Analysis (COA)

The 3M Certificate of Analysis (COA) for this product is established when the product is commercially available from 3M. The commercially available product will have a COA specification established. The COA contains the 3M specifications and test methods for the products performance limits that the product will be supplied against. The 3M product is supplied to 3M COA test specifications and the COA test methods. Contact your local 3M representative for this product's COA.

This technical data sheet may contain preliminary data and may not match the COA specification limits and/or test methods that may be used for COA purposes.

Final product specifications and testing methods will be outlined in the products Certificate of Analysis (COA) that is shipped with the commercialized product.

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Regulatory: For regulatory information about this product, contact your 3M representative.

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