

# 3M™ Electronic Double Sided Tape 82310 • 82315 • 82320 • 82320B

## Product Description

3M™ Electronic Double Sided Tapes 82310, 82315, 82320 and 82320B with 3M™ Flexible Adhesive provides both high performance at a wide temperature range and excellent adhesion to many substrates.

## Construction

Product Number	Faceside <sup>1</sup> Adhesive Type Thickness	Carrier Type Thickness	Backside <sup>2</sup> Adhesive Type Thickness	Liner Color, Print Type, Thickness	Total Tape Thickness w/o Liner
3M™ Electronic Double Sided Tape 82310	Flexible Acrylic 0.044 mm (1.75 mil)	Clear Polyester 0.012 mm (0.5 mil)	Flexible Acrylic 0.044 mm (1.75 mil)	White, 3M Electronics Polycoated Kraft 0.133 mm (5.2 mil)	0.10 mm (4 mil)
3M™ Electronic Double Sided Tape 82315	Flexible Acrylic 0.069 mm (2.75 mil)	Clear Polyester 0.012 mm (0.5 mil)	Flexible Acrylic 0.069 mm (2.75 mil)	White, 3M Electronics Polycoated Kraft 0.133 mm (5.2 mil)	0.15 mm (6 mil)
3M™ Electronic Double Sided Tape 82320 and 82320B	Flexible Acrylic 0.095 mm (3.75 mil)	Clear/ Black Polyester 0.012 mm (0.5 mil)	Flexible Acrylic 0.095 mm (3.75 mil)	White, 3M Electronics Polycoated Kraft 0.133 mm (5.2 mil)	0.20 mm (8 mil)

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

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

## Features

- A polyester carrier in the products provides dimensional stability and improved handling with ease of die-cutting and lamination compared to adhesive transfer tapes.
- 3M™ High Tack Flexible Adhesive provides good temperature and chemical resistance and withstands tough application environments.
- 3M™ Electronic Double Sided Tape 82320B is provided with black polyester film carrier for added opacity.

## Application Ideas

- Lens Bonding Applications
- Drop Resistance Applications



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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™ Electronic Double Sided Tape 82310				3M™ Electronic Double Sided Tape 82315				3M™ Electronic Double Sided Tape 82320, 82320B			
Adhesive	Acrylic				Acrylic				Acrylic			
Tape Thickness	0.10 mm				0.15 mm				0.20 mm			
Breakdown Voltage	N/A				5500 volts				7400 volts			
Dielectric Strength	N/A				900 volts/mil				900 volts/mil			
Adhesion 15 min dwell @ RT	oz/in	N/cm	kg/25.4mm		oz/in	N/cm	kg/25.4mm		oz/in	N/cm	kg/25.4mm	
Modified ASTM D-3330	SS	40	4.4	1.1	SS	45	4.9	1.3	SS	65	7.1	1.8
180 degree peel	PC	45	4.9	1.3	PC	55	6.0	1.6	PC	75	8.2	2.1
2 mil Al foil backing	ABS	40	4.4	1.1	ABS	50	5.5	1.4	ABS	65	7.1	1.8
	PP	25	2.7	0.7	PP	30	3.3	0.9	PP	45	4.9	1.3
Adhesion 72 hr dwell @ RT	oz/in	N/cm	kg/25.4mm		oz/in	N/cm	kg/25.4mm		oz/in	N/cm	kg/25.4mm	
Modified ASTM D-3330	SS	50	5.5	1.4	SS	70	7.7	2.0	SS	85	9.4	2.4
180 degree peel	PC	60	6.6	1.7	PC	70	7.7	2.0	PC	80	8.8	2.3
2 mil Al foil backing	ABS	50	5.5	1.4	ABS	65	7.1	1.8	ABS	75	8.2	2.1
	PP	30	3.3	0.9	PP	40	4.4	1.1	PP	45	4.9	1.3
Shear Strength at RT Modified ASTM D-3654 1000 grams	10,000 Minutes				10,000 Minutes				10,000 Minutes			
Shear Strength at 158°F (70°C) Modified ASTM D-3654 500 grams	10,000 Minutes				10,000 Minutes				10,000 Minutes			
Temperature Resistance: Long Term (days, weeks): Short Term (minutes, hours):	250°F (120°C) 300°F (149°C)											
Humidity Resistance:	No adverse effect on the bond line after exposed to 100% relative humidity at 100°F (38°C)											
Resistance:	Adhesive is resistant to oxidation and ozone when exposed to air or ultraviolet light.											

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## Application Techniques

Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure helps develop better adhesive contact and improve 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 using 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.

## Environmental Performance

**Humidity Resistance:** High humidity has minimal effect on adhesive performance. No significant reduction in bond strength is observed after exposure for seven days at 90°F (32°C) and 90% relative humidity.

**UV Resistance:** When properly applied, nameplates and decorative trim parts are not adversely affected by exposure to direct sunlight.

**Water Resistance:** Immersion in water has no appreciable effect on the bond strength. After 100 hours at room temperature, the high bond strength is maintained.

**Temperature Cycling Resistance:** High bond strength is maintained after cycling four times through:

- 4 hours at 158°F (70°C)
- 4 hours at -20°F (-29°C)
- 4 hours at 73°F (22°C)

**Chemical Resistance:** When properly applied, nameplate and decorative trim parts will hold securely after exposure to numerous chemicals including oil, mild acids and alkalis.

## Storage

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

## Shelf Life

If stored under proper conditions, these products retain their performance and properties for two years from date of manufacture.

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## Certification/Recognition

**MSDS:** 3M has not prepared a MSDS for this product which is 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, the product should not present a health and safety hazard. However, use or processing of the product in a manner not in accordance with the directions for use may affect its performance and present potential health and safety hazards.

**TSCA:** This product is defined as an article under the Toxic Substances Control Act and therefore, it is exempt from inventory listing requirements.

## For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-251-8634. Address correspondence to: 3M, Electronics Markets Materials Division, 3M Center, Building 225-3S-06, St. Paul, MN 55144-1000. Our fax number is 651-778-4244 or 1-877-369-2923. In Canada, phone: 1-800-364-3577. In Puerto Rico, phone: 1-787-750-3000. In Mexico, phone: 52-70-04-00.

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