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# 3M™ Electronic Double Sided Tapes 82600 • 82601 • 82603 • 82605 • 82610 • 82620

## Product Description

3M™ Electronic Double Sided Tapes 82600, 82601, 82603, 82605, 82610 and 82620 have high tack acrylic adhesive on both sides of a thin polyester film. The high tack adhesive provides high initial adhesion and good shear holding power to a variety of substrates.

## Features and Benefits

- Our standard adhesive provides high initial adhesion and good shear holding power to a variety of surfaces.
- The film carrier adds dimensional stability to foams and other substrates making it easier to handle during slitting and die cutting.

## Product Construction

| Product Number | Faceside[1] Adhesive Type Thickness | Carrier Type Thickness | Backside[2] Adhesive Type Thickness | Faceside Liner Color, Print Type, Thickness | Backside Liner Color, Print Type, Thickness | Total Tape Thickness without Liner |
|---|---|---|---|---|---|---|
| 3M™ Electronic Double Sided Tape 82600 | Standard Acrylic 0.002 mm (0.08 mil) | Clear Polyester 0.001 mm (0.04 mil) | Standard Acrylic 0.002 mm (0.08 mil) | Clear Polyester 0.023 mm (0.91 mil) | Clear Polyester 0.050 mm (1.97 mil) | 0.005 mm (0.20 mil) |
| 3M™ Electronic Double Sided Tape 82601 | Standard Acrylic 0.0035 mm (0.14 mil) | Clear Polyester 0.003 mm (0.12 mil) | Standard Acrylic 0.0035 mm (0.14 mil) | Clear Polyester 0.023 mm (0.91 mil) | Clear Polyester 0.050 mm (1.97 mil) | 0.01 mm (0.40 mil) |
| 3M™ Electronic Double Sided Tape 82603 | Standard Acrylic 0.012 mm (0.48 mil) | Clear Polyester 0.006 mm (0.24 mil) | Standard Acrylic 0.012 mm (0.48 mil) | Clear Polyester 0.050 mm (1.97 mil) | Clear Polyester 0.035 mm (1.38 mil) | 0.03 mm (1.20 mil) |
| 3M™ Electronic Double Sided Tape 82605 | Standard Acrylic 0.019 mm (0.75 mil) | Clear Polyester 0.012 mm (0.5 mil) | Standard Acrylic 0.019 mm (0.75 mil) | | White, 3M Electronics Polycoated Kraft 0.133 mm (5.2 mil) | 0.05 mm (2 mil) |
| 3M™ Electronic Double Sided Tape 82610 | Standard Acrylic 0.044 mm (1.75 mil) | Clear Polyester 0.012 mm (0.5 mil) | Standard 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 82620 | Standard Acrylic 0.095 mm (3.75 mil) | Clear Polyester 0.012 mm (0.5 mil) | Standard 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.

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## Application Ideas

- General use for applications in the electronics industry in need of excellent initial tack, good adhesion and easy die-cuttability
- Mobile or table lens attachment
- Foam attachment or lamination
- Graphite attachment or lamination
- Antenna bonding

## 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 82600 | 3M™ Electronic Double Sided Tape 82601 | 3M™ Electronic Double Sided Tape 82603 |
|---|---|---|---|
| Adhesive | Standard Acrylic | Standard Acrylic | Standard Acrylic |
| Tape Thickness | 0.005 mm | 0.01 mm | 0.03 mm |
| Breakdown Voltage | 2600 volts | 3000 volts | 3000 volts |
| Dielectric Strength | 13000 volts/mil | 7500 volts/mil | 2500 volts/mil |
| Adhesion 20 min dwell @ RT<br>Tested in accordance with a modified ASTM D-3330<br>180 degree peel<br>1 mil PET backing | oz/in N/cm kg/25.4mm<br>SS 28 3.1 0.8<br>PC 28 3.1 0.8<br>ABS 28 3.1 0.8<br>PP 15 1.6 0.4<br>Glass 25 2.7 0.7 | oz/in N/cm kg/25.4mm<br>SS 40 4.4 1.1<br>PC 40 4.4 1.1<br>ABS 31 3.4 0.9<br>PP 21 2.3 0.6<br>Glass 35 3.8 1.0 | oz/in N/cm kg/25.4mm<br>SS 60 6.6 1.7<br>PC 50 5.5 1.4<br>ABS 45 4.9 1.3<br>PP 40 4.4 1.1<br>Glass 50 5.5 1.4 |
| Adhesion 72 hr dwell @ RT<br>Tested in accordance with a modified ASTM D-3330<br>180 degree peel<br>1 mil PET backing | oz/in N/cm kg/25.4mm<br>SS 35 3.8 1.0<br>PC 32 3.5 0.9<br>ABS 32 3.5 0.9<br>PP 18 2.0 0.5<br>Glass 32 3.5 0.9 | oz/in N/cm kg/25.4mm<br>SS 46 5.0 1.3<br>PC 42 4.6 1.2<br>ABS 32 3.5 0.9<br>PP 25 2.7 0.7<br>Glass 39 4.3 1.1 | oz/in N/cm kg/25.4mm<br>SS 60 6.6 1.7<br>PC 60 6.6 1.7<br>ABS 55 6.0 1.6<br>PP 40 4.4 1.1<br>Glass 60 6.6 1.7 |
| Shear Strength at RT<br>Tested in accordance with a modified ASTM D-3654<br>1000 grams | >10,000 Minutes | >10,000 Minutes | >10,000 Minutes |
| Shear Strength at 70°C (158°F)<br>Tested in accordance with a modified ASTM D-3654<br>500 grams | >10,000 Minutes | >10,000 Minutes | >10,000 Minutes |
| Temperature Resistance:<br>Long Term (days, weeks):<br>Short Term (minutes, hours): | Long term: 120°C (250°F)<br>Short term: 149°C (302°F) | Long term: 120°C (250°F)<br>Short term: 149°C (302°F) | Long term: 120°C (250°F)<br>Short term: 149°C (302°F) |
| Humidity Resistance: | High humidity has minimal effect on adhesive performance. | | |
| Resistance: | When parts are properly applied together the adhesive will not be adversely affected by outdoor exposure. | | |

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## Typical Physical Properties and Performance Characteristics (continued)

**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 82605 | 3M™ Electronic Double Sided Tape 82606 | 3M™ Electronic Double Sided Tape 8262- |
|---|---|---|---|
| Adhesive | Standard Acrylic | Standard Acrylic | Standard Acrylic |
| Tape Thickness | 0.05 mm | 0.10 mm | 0.20 mm |
| Breakdown Voltage | 4000 volts | 4600 volts | 6000 volts |
| Dielectric Strength | 2000 volts/mil | 1200 volts/mil | 750 volts/mil |
| Adhesion 20 min dwell @ RT<br>Tested in accordance with<br>a modified ASTM D-3330<br>180 degree peel<br>1 mil PET backing | oz/in N/cm kg/25.4mm<br>SS 60 6.6 1.7<br>PC 55 6.0 1.6<br>ABS 45 4.9 1.3<br>PP 45 4.9 1.3<br>Glass 50 5.5 1.4 | oz/in N/cm kg/25.4mm<br>SS 80 8.8 2.3<br>PC 75 8.2 2.1<br>ABS 70 7.7 2.0<br>PP 50 5.5 1.4<br>Glass 35 3.8 1.0 | oz/in N/cm kg/25.4mm<br>SS 80 8.8 2.3<br>PC 95 10.4 2.7<br>ABS 70 7.7 2.0<br>PP 50 5.5 1.4<br>Glass 90 9.9 2.6 |
| Adhesion 72 hr dwell @ RT<br>Tested in accordance with<br>a modified ASTM D-3330<br>180 degree peel<br>1 mil PET backing | oz/in N/cm kg/25.4mm<br>SS 60 6.6 1.7<br>PC 60 6.6 1.7<br>ABS 55 6.0 1.6<br>PP 45 4.9 1.3<br>Glass 60 6.6 1.7 | oz/in N/cm kg/25.4mm<br>SS 80 8.8 2.3<br>PC 80 8.8 2.3<br>ABS 75 8.2 2.1<br>PP 65 7.1 1.8<br>Glass 75 8.2 2.1 | oz/in N/cm kg/25.4mm<br>SS 95 10.4 2.7<br>PC 100 10.9 2.8<br>ABS 80 8.8 2.3<br>PP 65 7.1 1.8<br>Glass 90 9.9 2.6 |
| Shear Strength at RT<br>Tested in accordance with<br>a modified ASTM D-3654<br>1000 grams | >10,000 Minutes | >10,000 Minutes | >10,000 Minutes |
| Shear Strength at 70°C (158°F)<br>Tested in accordance with<br>a modified ASTM D-3654<br>500 grams | >10,000 Minutes | >10,000 Minutes | >10,000 Minutes |
| Temperature Resistance:<br>Long Term (days, weeks):<br>Short Term (minutes, hours): | Long term: 120°C (250°F)<br>Short term: 149°C (302°F) | Long term: 120°C (250°F)<br>Short term: 149°C (302°F) | Long term: 120°C (250°F)<br>Short term: 149°C (302°F) |
| Humidity Resistance: | High humidity has minimal effect on adhesive performance. | | |
| Resistance: | When parts are properly applied together the adhesive will not be adversely affected by outdoor exposure. | | |

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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 21°C to 38°C (70°F to 100°F). Initial tape application to surfaces at temperatures below 10°C (50°F) 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 32°C (90°F) 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 70°C (158°F)
- 4 hours at -29°C (-20°F)
- 4 hours at 22°C (73°F)

**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 and Shelf Life

The shelf life of 3M™ Electronic Double Sided Tapes 82600, 82601, 82603, 82605, 82610 and 82620 is 24 months from the date of manufacture when stored in the original packaging materials at 16°C to 27°C (60° to 80°F) and 40 to 60% relative humidity.

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

**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.

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