



## Re-tape® Technical Data Sheet

(version 1.0825)

Re-tape® is a 0.045 inch (1.1 mm) thick black double-sided acrylic foam tape with a paper film release liner. It has modified acrylic adhesive on both sides, enabling it to effectively bond to a broad range of surfaces, high, medium and medium/low surface energy substrates, including metals with powder-coated paints.

Its conformable foam provides good contact between substrates even when they are slightly mismatched.

### Product Features:

- Fast and easy-to-use permanent bonding method provides high strength and long-term durability
- Virtually invisible fastening keeps surfaces smooth
- Can replace mechanical fasteners (rivets, welding, screws) or liquid adhesives
- Black, 0.045 in (1.1 mm), modified acrylic adhesive and very conformable acrylic foam core bonds to a wide variety of substrates including powder coated paints and irregular surfaces
- Eliminate drilling, grinding, refinishing, screwing, welding and clean-up
- Creates a permanent seal against water, moisture and more by offering better gap-filling capabilities
- Pressure-sensitive adhesive bonds on contact to provide immediate handling strength
- Allows the use of thinner, lighter-weight and dissimilar materials

**This technical information and data are typical or representative in nature and should not be used as specifications.**

Attribute Name	Test Method	Value
Colour		Black
Adhesive Type		Modified Acrylic
Density	ASTM D3574	Very Conformable Acrylic Foam
Total Tape thickness	ASTM D3652	590 kg/m <sup>3</sup> <sup>1</sup>
Thickness Tolerance		±10 %

<sup>1</sup> Foam with adhesive

Attribute Name	Value
Liner	Paper Liner
Liner thickness	0.35mm
Primary Liner Colour	White (printed green/black)

## Typical Performance Characteristics:

Temperature: 23 °C Dwell Time: 72 h

Attribute Name	Test Method	Substrate	Backing	Value
90-degree peel adhesion	ASTM D3330	Stainless Steel	5 mm Aluminium Foil	39 N/cm <sup>1</sup>
Normal Tensile	ASTM D897	Aluminium		480 kPa <sup>2</sup>
Overlap Shear Strength	ASTM D1002, ISO 4587	Stainless Steel		550 kPa <sup>3</sup>

<sup>1</sup> 304 mm/min (12 in/min)

<sup>2</sup> 6.45 cm<sup>2</sup> (1 in<sup>2</sup>), Jaw Speed 51 mm/min (2 in/min)

<sup>3</sup> 6.45 cm<sup>2</sup> (1 in<sup>2</sup>), Jaw Speed 12.7 mm/min (0.5 in/min)

## Static Shear Substrate:

Stainless Steel Test Method: ASTM D3654

Temperature	Value
23 °C	1,000 g <sup>1</sup>
66 °C	500 g <sup>1</sup>
93 °C	250 g <sup>1</sup>

<sup>1</sup> Tested at various temperatures and gram loadings. 3.23 cm<sup>2</sup> (0.5 in<sup>2</sup>). Will hold the listed weight for 10,000 minutes (approximately 7 days).

Attribute	Value
Minimum Application Temperature	10 °C
Short Term Temp. Resistance	149 °C <sup>1</sup>
Long Term Temp. Resistance	93 °C <sup>2</sup>

<sup>1</sup> No change in room temperature dynamic shear properties following 4-hour conditioning at indicated temperature with 100 g/static load. (Represents minutes, hour in a process type temperature exposure).

<sup>2</sup> Maximum temperature where tape supports at least 78g/cm<sup>2</sup> (500 g/in<sup>2</sup>) in static shear for 10,000 minutes. (Represents continuous exposure for day or weeks).

## Handling/Application Information:

Surface Preparation Clean: Surface should be cleaned with a 70/30 mixture of Isopropyl Alcohol/Water before Re-tape® badge application.

Exceptions that may require additional surface preparation include:

- Heavy Oils: A degreaser or solvent-based cleaner may be required to remove heavy oil or grease from a surface and should be followed by cleaning with IPA/water.

- Abrasion: Abrading a surface, followed by cleaning with IPA/water, can remove heavy dirt or oxidation and can increase surface area to improve adhesion.
- Adhesion Promoters: Priming a surface can significantly improve initial and ultimate adhesion to many materials such as plastics and paints.

**When using solvents, ensure you follow the manufacturer's precautions and directions for use.**

#### **Application Techniques Initial and Final Pressure Application:**

Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure develops better adhesive contact and helps improve bond strength. Typically, good surface contact can be attained by applying enough pressure to ensure that the tape experiences approximately 100 kPa (15 psi) of pressure. Either roller or platen pressure can be used. When bonding two rigid parts, additional final pressure is often required to ensure that the bond line experiences 100 kPa (15 psi).

Re-tape® Application Temperature: The ideal temperature range is generally between 21°C and 38°C (70°F to 100°F). Pressure-sensitive adhesives use viscous flow to achieve substrate contact area. The minimum suggested application temperature for Re-tape® is between 10°C and 15°C (50°F to 60°F).

\*Note: Initial Re-tape® application to surfaces at temperatures below these suggested minimums is not suggested because the adhesive becomes too firm to adhere readily. Ideally, all substrates and Re-tape® should be conditioned above the minimum application temperature in covered, weatherproof conditions until it is verified that the substrates are at or above the minimum temperature. Once properly applied, low-temperature holding is generally satisfactory.

Bond Build Rate: After application, the bond strength will gradually increase as the adhesive flows onto the surface (also referred to as "wet out"). The bond build rate will depend on the substrate, but generally, at room temperature, approximately 50% of ultimate bond strength will be achieved after 20 minutes, 90% after 24 hours, and 100% after 72 hours. Adhesive flow is faster at higher temperatures and slower at lower temperatures. Ultimate bond strength can be accelerated (and in some cases bond strength can be increased) by exposure to elevated temperature (e.g. 66°C [150°F] for 1 hour). This can provide better adhesive wet out onto the substrates. Abrasion (~180 grit), or the use of primers/adhesion promoters can also increase both bond strength as well as the bond build rate.

#### **Storage and Shelf Life:**

Re-tape® has a shelf life of 24 months from the date of manufacture (order invoice date) when stored at 4°C to 38°C (40°F to 100°F) and 0-95% relative humidity. The optimum storage conditions are 22°C (72°F) and 50% relative humidity. Performance of Re-tape® is not projected to change even after shelf life expires; however, we do suggest that Re-tape® is used prior to the shelf life date whenever possible.