BONDING SOLUTIONS

tesa Double-Sided Tapes
**TAPE CONSTRUCTION**

**Features of Our Double-Sided Tapes**

**Transfer Tapes**
Transfer tapes differ from other double-sided tapes in that they have no backing. They are transparent and extremely conformable, however cannot be repositioned once in place.

**Tissue Tapes**
Double-sided tissue tapes are hand-tearable, making them ideal for manual applications, and their low total thickness means they can conform to slightly irregular surfaces.

**Cloth Tapes**
Due to their high strength and high tack adhesive system, double-sided cloth tapes allow objects to be quickly and easily bonded to a wide range of differing surfaces.

**Filmic Tapes**
Double-sided filmic tapes are relatively thin, dimensionally stable and are ideal for bonding to flat, smooth surfaces such as glass, metal and non-embossed plastics.

**Polyethylene Foam Tapes**
Double-sided foam tapes can be used to compensate for gaps, bond different substrates, and dampen unwanted noises or vibrations. They also feature shock absorbing properties. They are resistant to UV, moisture and humidity, making them perfect for outdoor use.

**tesa® ACXplus Acrylic Core Tapes**
The strongest adhesive tape class on the market. Due to its viscoelastic properties, stresses can be dissipated to ensure a secure and powerful long term bond.

**Construction of Our Double-Sided Tapes**

Our double-sided tapes consist of three main components:

1. **Backing**
The backing is particularly critical when choosing a double-sided tape. Factors such as substrate characteristics and environmental conditions should be taken into account. For critical applications, tesa® ACXplus tapes are able to dissipate stresses, thanks to their viscoelastic nature.

2. **Adhesive system**
The proper choice of the adhesive system depends on how the double-sided tape is to be used: the kinds of surfaces which are to be bonded, how long the bond is required to last, and whether it is an indoor or an outdoor application.

3. **Liner**
The liner covers the adhesive system and is an important element for the application and removal process.

**Our Double-Sided Adhesive Systems**

**Pure Acrylic - High temperature performance**
Pure acrylic adhesive is especially suitable for outdoor applications and applications at elevated temperatures.
- Good adhesive strength on polar and pretreated non-polar surfaces
- Resistance against ageing and environmental conditions (e.g. UV and humidity)

**Modified (Tackified) Acrylic - High initial adhesion power**
Modified acrylic is a versatile adhesive with a well-balanced performance on a wide variety of surfaces.
- Very good adhesive strength on polar surfaces, good on low surface energy (adhesive rejecting) surfaces
- Resistance against ageing and environmental conditions (e.g. UV and humidity)

**Synthetic Rubber - Immediate adhesive bonding**
Synthetic rubber adhesive is suitable for a variety of surfaces but offers limited ageing and temperature resistance.
- Good shear resistance
- Very good bonding on polar and non-polar surfaces

**Natural Rubber - Immediate bonding on non-polar surfaces**
Natural rubber adhesive has very high tack and is ideal for use on rough surfaces.
- Very good bonding on polar and non-polar surfaces
- Preferred for use in indoor applications
## Technical Guide

### Double-Sided Tape Specifications

<table>
<thead>
<tr>
<th>Product Feature</th>
<th>TRANSFER</th>
<th>TISSUE</th>
<th>CLOTH</th>
<th>FILMIC</th>
<th>POLYETHYLENE FOAM</th>
<th>TESA® ACX™&lt;sup&gt;®&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Backing Material</strong></td>
<td>None</td>
<td>Tissue</td>
<td>Cloth</td>
<td>PP Film</td>
<td>PE Foam</td>
<td>PE Foam</td>
</tr>
<tr>
<td><strong>Adhesive</strong></td>
<td>Pure Acrylic</td>
<td>Modified Acrylic</td>
<td>Modified Acrylic</td>
<td>Modified Acrylic</td>
<td>Modified Acrylic</td>
<td>Modified Acrylic</td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td>Transparent</td>
<td>Translucent</td>
<td>Translucent</td>
<td>Transparent</td>
<td>White</td>
<td>White</td>
</tr>
<tr>
<td><strong>Thickness Without Liner</strong></td>
<td>50 µm</td>
<td>100 µm</td>
<td>130 µm</td>
<td>160 µm</td>
<td>195 µm</td>
<td>220 µm</td>
</tr>
<tr>
<td><strong>Ultimate Adhesion to Steel (N/cm)</strong></td>
<td>3.8</td>
<td>10</td>
<td>14.5</td>
<td>11.5</td>
<td>11</td>
<td>13.5</td>
</tr>
<tr>
<td><strong>Temperature Resistance (Short/Long Term)</strong></td>
<td>200°C / 80°C</td>
<td>200°C / 100°C</td>
<td>110°C / 30°C</td>
<td>130°C / 80°C</td>
<td>130°C / 100°C</td>
<td>80°C / 80°C</td>
</tr>
<tr>
<td><strong>Outdoor Suitability</strong></td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td><strong>Bond Strength (&gt;24hrs)</strong></td>
<td>***</td>
<td>**</td>
<td>****</td>
<td>****</td>
<td>****</td>
<td>****</td>
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<tr>
<td><strong>Initial Tack</strong></td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td><strong>Bonding Rough Surfaces</strong></td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td><strong>Bonding Low Surface Energy Substrates</strong></td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td><strong>Ageing Resistance</strong></td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>***</td>
</tr>
</tbody>
</table>

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**Notes:**
- **Very good**
- **Good**
- **Medium**
- **Low**
- **(With Adhesion Promoter)**

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[tesa® 49000 mounting warning sign]
[tesa® ACX™ 7048 being applied to fire engine body subframe]
[tesa® 4952 mounting bathroom mirror to wall]
[tesa® 4974 laying temporary tradeshow flooring]
### APPLICATION IDEAS

#### Our Core Double-Sided Assortment

<table>
<thead>
<tr>
<th>Product</th>
<th>Application Ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>tesa® 4900</td>
<td>Transfer tape ideal for light-weight bonding applications such as assembling POS displays, mounting displays and posters and laminating textile swatches.</td>
</tr>
<tr>
<td>tesa® 60985</td>
<td>Tissue tape well suited for the lamination of foam and felt materials. Also used for mounting metallic and plastic nameplates and control panels, particularly where hard to adhere to materials are involved.</td>
</tr>
<tr>
<td>tesa® 4934</td>
<td>Cloth tape for the light-duty mounting of rough fibrous surfaces such as carpet, fabric and textiles. Particularly effective for hard to adhere to surfaces indoors.</td>
</tr>
<tr>
<td>tesa® 4874</td>
<td>Premium grade removable cloth tape ideal for temporary laying of carpets and flooring in trade shows and events. Allows for residue free removal.</td>
</tr>
<tr>
<td>tesa® 5970</td>
<td>Transparent filmic tape for mounting of lightweight decorative trims and profiles, displays and signage on smooth and slightly irregular surfaces. Also ideal for use in the blinds industry.</td>
</tr>
<tr>
<td>tesa® 4965</td>
<td>Premium filmic tape for general mounting applications on smooth surfaces. Ideal for assembling lightbox signage and bonding transparent materials without shadowing.</td>
</tr>
<tr>
<td>tesa® 62508</td>
<td>PE foam ideal for general mounting applications, particularly where shock absorption or compensation of uneven surfaces is required.</td>
</tr>
<tr>
<td>tesa® 4952</td>
<td>PE foam tape recommended for mirror mounting. Also suitable for constructive mounting applications on flat surfaces such as functional trims and profiles, decorative panels and glass splashbacks.</td>
</tr>
<tr>
<td>tesa® 7044</td>
<td>ACXplus high bond tape (1mm) is intended for permanent mounting applications such as in the signage industry. Also suitable for mounting small fixtures, trims and profiles in vehicles.</td>
</tr>
<tr>
<td>tesa® 7048</td>
<td>ACXplus high bond tape (2mm) is suitable for mounting panels and cladding on vehicle sub-frames in trucks, buses, caravans and emergency vehicles. Ideal for mounting dissimilar materials.</td>
</tr>
</tbody>
</table>

#### Exclusive application testing

In our application laboratories, we analyse the customers’ materials in combination with several adhesive tape solutions. Depending on customer-specific demands, our analysis includes tests on resistance to UV light, high and low temperatures, peel adhesion, shock and tension absorption, and much more. The result: adhesive tape solutions that perfectly suit any technical application. For more information on our exclusive application testing contact us on 1800 226 851 (Australia) or 0800 037 269 (New Zealand).

### APPLICATION GUIDE

#### For Optimal Adhesive Tape Performance

**Application Instructions**

**Surface preparation**

The surface should be free of dust, grease, oil, moisture, and other contaminants as they will decrease the level of bonding power significantly.

**Temperature**

Recommended optimal application temperature is from 20°C to 30°C in dry rooms. If possible, tapes should not be applied at temperatures below 10°C unless the tape is designed for application at low temperatures.

**Application**

The tape should be applied to the surface at constant speed and pressure. For optimal results we recommend a uniform pressure, applied with an automatic or manual roller.

**Bond build rate**

The bond strength will increase over time until full strength is reached after approximately 72 hours.

**tesa® tape Supplements for Enhanced Performance**

**tesa® 60040 Industry Cleaner Spray**

A versatile spray for fast and effective cleaning of machine and plastic parts as well as glass and metal surfaces. Cleaned surfaces allow for optimum bonding with tesa® adhesive tapes.

**tesa® 60150 Adhesion Promoter**

Used to improve the adhesion of tesa® tapes on different substrates, including PP/EPDM, zinc, steel and powder coated surfaces. Our Adhesion Promoter is UV traceable, because of UV pigments contained in the solution.

Due to the multitude of available lacquers and surface formulation in the marketplace we recommend to test our Adhesion Promoter prior to usage.
tesa® products prove their impressive quality day in, day out in demanding conditions and are regularly subjected to strict controls. All information and recommendations are provided to the best of our knowledge on the basis of our practical experience. Nevertheless tesa SE can make no warranties, express or implied, including, but not limited to any implied warranty of merchantability or fitness for a particular purpose. Therefore, the user is responsible for determining whether the tesa® product is fit for a particular purpose and suitable for the user’s method of application. If you are in any doubt, our technical support staff will be glad to support you.

For more information on our industry solutions, visit our website www.tesatape.com.au