Repositionable Tapes
665 • 666 • 9415PC • 9416 • 9425 • 9425HT • 9449S

Technical Data January, 2011

Product Description
3M™ Repositionable Tapes are double coated tapes that are ideal for applications where one or both parts need to be repositioned or removed easily.

<table>
<thead>
<tr>
<th>Product</th>
<th>3M™ Repositionable Tape 665</th>
<th>3M™ Repositionable Tape 666</th>
<th>3M™ Repositionable Tape 9415PC</th>
<th>3M™ Repositionable Tape 9416</th>
<th>3M™ Repositionable Tape 9425</th>
<th>3M™ Repositionable Tape 9425HT</th>
<th>3M™ Repositionable Tape 9449S</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adhesive Type:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faceside¹</td>
<td>400</td>
<td>1070</td>
<td>400</td>
<td>400</td>
<td>420</td>
<td>420</td>
<td>1000</td>
</tr>
<tr>
<td>Backside²</td>
<td>1070</td>
<td>400</td>
<td>1000</td>
<td>1000</td>
<td>1050</td>
<td>1050</td>
<td>—</td>
</tr>
<tr>
<td><strong>Carrier:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UPVC</td>
<td>0.0014 in. (0.035 mm)</td>
<td>0.0014 in. (0.035 mm)</td>
<td>0.001 in. (0.025 mm)</td>
<td>Clear Polyester</td>
<td>Tissue</td>
<td>0.0014 in. (0.035 mm)</td>
<td>Clear Polyester</td>
</tr>
<tr>
<td></td>
<td>UPVC</td>
<td>Clear Polyester</td>
<td>Tissue</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Release Liner:</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>White Polyethylene</td>
<td>70# White Polycast Kraft</td>
<td>70# White Polycast Kraft</td>
<td>50# Natural Polycast Kraft</td>
<td>50# Natural Polycast Kraft</td>
<td>50# Densified Kraft Paper</td>
<td></td>
</tr>
<tr>
<td><strong>Thickness:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Tape</td>
<td>0.0025 in. (0.063 mm)</td>
<td>0.0035 in. (0.089 mm)</td>
<td>0.002 in. (0.050 mm)</td>
<td>0.002 in. (0.050 mm)</td>
<td>0.0058 in. (0.15 mm)</td>
<td>0.0054 in. (0.13 mm)</td>
<td>0.0004 in. (0.01 mm)</td>
</tr>
<tr>
<td>Liner</td>
<td>—</td>
<td>0.003 in. (0.076 mm)</td>
<td>0.0058 in. (0.14 mm)</td>
<td>0.0056 in. (0.14 mm)</td>
<td>0.0042 in. (0.10 mm)</td>
<td>0.0042 in. (0.10 mm)</td>
<td>0.0025 in. (0.063 mm)</td>
</tr>
<tr>
<td><strong>Tape Color:</strong></td>
<td>Clear</td>
<td>Clear</td>
<td>Translucent</td>
<td>White</td>
<td>Clear</td>
<td>Clear</td>
<td>Translucent</td>
</tr>
</tbody>
</table>

Note 1: Faceside adhesive is on the interior of the roll, exposed when unwound.
Note 2: Backside adhesive is on the exterior of the roll, exposed when liner is removed.
**3M™ Repositionable Tapes**

**665 • 666 • 9415PC • 9416 • 9425 • 9425HT • 9449S**

### Typical Physical Properties

**Note:** The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

<table>
<thead>
<tr>
<th>Product</th>
<th>3M™ Repositionable Tape 665</th>
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<th>3M™ Repositionable Tape 9415PC</th>
<th>3M™ Repositionable Tape 9416</th>
<th>3M™ Repositionable Tape 9425</th>
<th>3M™ Repositionable Tape 9425HT</th>
<th>3M™ Repositionable Tape 9449S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adhesion to Steel (ASTM D3330, 180° peel modified, 72 hour dwell)</td>
<td>Face Side 25 oz./ln. (27 N/100 mm) 23 oz./lin. (25 N/100 mm) 50 oz./ln. (54 N/100 mm) 50 oz./ln. (54 N/100 mm) 45 oz./ln. (49 N/100 mm) 45 oz./ln. (49 N/100 mm) 5 oz./ln.* (9 N/100 mm)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Back Side 23 oz./ln. (25 N/100 mm) 25 oz./ln. (27 N/100 mm) 3 oz./ln. (5.4 N/100 mm) 3 oz./ln. (5.4 N/100 mm) 12 oz./ln. (13 N/100 mm) 12 oz./ln. (13 N/100 mm) 1 oz./ln.</td>
<td></td>
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</tr>
<tr>
<td>Relative High Temperature Operating Ranges: 123°F (52°C) 125°F (52°C) 158°F (70°C) 168°F (70°C) 125°F (52°C) 260°F (121°C) 158°F (70°C)</td>
<td></td>
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<tr>
<td>Relative Solvent Resistance: Good Good Fair Fair Good Good Good</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>U V Resistance: Excellent Excellent Good Good Excellent Excellent Good</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*3M tape 9449 tested with 90 degree peel using 2 mil polyester backing.

### Available Sizes

**Product**

<table>
<thead>
<tr>
<th>3M tape</th>
<th>3M tape</th>
<th>3M tape</th>
<th>3M tape</th>
<th>3M tape</th>
<th>3M tape</th>
<th>3M tape</th>
<th>3M tape</th>
</tr>
</thead>
<tbody>
<tr>
<td>365</td>
<td>605</td>
<td>9415PC</td>
<td>9416</td>
<td>9425</td>
<td>9425HT</td>
<td>9448S</td>
<td></td>
</tr>
</tbody>
</table>

**Available Lengths (Subject to Minimum Order Requirements):**

<table>
<thead>
<tr>
<th>Standard</th>
<th>72 yrs. (65.8 m)</th>
<th>72 yrs. (65.8 m)</th>
<th>72 yrs. (65.8 m)</th>
<th>72 yrs. (65.8 m)</th>
<th>72 yrs. (65.8 m)</th>
<th>72 yrs. (65.8 m)</th>
<th>72 yrs. (65.8 m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum in:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/4&quot; to 5/16&quot; widths</td>
<td>108 yrs. (98.8 m)</td>
<td>72 yrs. (65.8 m)</td>
<td>144 yrs. (132 m)</td>
<td>144 yrs. (132 m)</td>
<td>72 yrs. (65.8 m)</td>
<td>72 yrs. (65.8 m)</td>
<td>144 yrs. (132 m)</td>
</tr>
<tr>
<td>3/8&quot; to 7/16&quot; widths</td>
<td>288 yrs. (253 m)</td>
<td>108 yrs. (98.8 m)</td>
<td>144 yrs. (132 m)</td>
<td>144 yrs. (132 m)</td>
<td>144 yrs. (132 m)</td>
<td>144 yrs. (132 m)</td>
<td></td>
</tr>
<tr>
<td>1/2&quot; to 3&quot; widths</td>
<td>288 yrs. (253 m)</td>
<td>108 yrs. (98.8 m)</td>
<td>432 yrs. (396 m)</td>
<td>360 yrs. (329 m)</td>
<td>450 yrs. (411 m)</td>
<td>288 yrs. (253 m)</td>
<td>360 yrs. (329 m)</td>
</tr>
<tr>
<td>Greater than 3&quot;</td>
<td>288 yrs. (253 m)</td>
<td>106 yrs. (96.8 m)</td>
<td>432 yrs. (396 m)</td>
<td>360 yrs. (329 m)</td>
<td>288 yrs. (253 m)</td>
<td>288 yrs. (253 m)</td>
<td>360 yrs. (329 m)</td>
</tr>
</tbody>
</table>

**Available Widths (Subject to Minimum Order Requirements):**

<table>
<thead>
<tr>
<th>Minimum</th>
<th>1/4 in. (25.4 mm)</th>
<th>1/4 in. (25.4 mm)</th>
<th>1/4 in. (25.4 mm)</th>
<th>1/4 in. (25.4 mm)</th>
<th>1/4 in. (25.4 mm)</th>
<th>1/4 in. (25.4 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum</td>
<td>48 in. (1219 mm)</td>
<td>48 in. (1219 mm)</td>
<td>48 in. (1219 mm)</td>
<td>48 in. (1219 mm)</td>
<td>48 in. (1219 mm)</td>
<td>48 in. (1219 mm)</td>
</tr>
<tr>
<td>Normal Slitting Tolerance:</td>
<td>± 1/32 in. (0.4 mm)</td>
<td>± 1/32 in. (0.4 mm)</td>
<td>± 1/32 in. (0.4 mm)</td>
<td>± 1/32 in. (0.4 mm)</td>
<td>± 1/32 in. (0.4 mm)</td>
<td>± 1/32 in. (0.4 mm)</td>
</tr>
<tr>
<td>Core Size (ID):</td>
<td>3.0 in. (76.2 mm)</td>
<td>3.0 in. (76.2 mm)</td>
<td>3.0 in. (76.2 mm)</td>
<td>3.0 in. (76.2 mm)</td>
<td>3.0 in. (76.2 mm)</td>
<td>3.0 in. (76.2 mm)</td>
</tr>
</tbody>
</table>

**Note:** Liner of 3M tape 666 will be split slit within these width limits unless otherwise noted in the special instruction section of your order.
3M™ Repositionable Tapes
665 • 666 • 9415PC • 9416 • 9425 • 9425HT • 9449S

Features

- 3M™ Repositionable Tapes 665 and 666 have a medium tack adhesive on both sides of the tape.
  - Good adhesive anchorage to the film carrier provides one-piece tape removal from many surfaces.
  - Slight side-to-side adhesion differential, therefore specific side removal can be accomplished if applied properly.
  - The higher tack side of 3M tape 665 is on the face side (interior of roll).
  - The higher tack side of 3M tape 666 is on the linerless or back side (exterior of roll).
  - The linerless feature of 3M tape 665 can help simplify manual or automatic dispensing. No special liner removal equipment is required.
  - The complete plastic construction of both tapes provides a hot wire cuttable feature for plastic packaging.

- 3M™ Repositionable Tapes 9415PC and 9416 have a low tack adhesive on the back side (exterior of roll) and a high tack ("permanent") adhesive on the face side (interior of roll). This means liner covers the low tack adhesive and the high tack adhesive is exposed when the tape is unwound.
  - The low tack adhesive side allows for removal from many films, foils, and papers and will not cause delamination from most paper stock. In many cases this side can be reused numerous times. The user should perform specific tests to determine the product's suitability for the particular application.
  - Flexible materials will adhere better to the low tack adhesive than will rigid materials (e.g., paper vs. cardboard). It may also be necessary to remove curl from certain materials to avoid material separation from the tape over time.
  - 3M™ Repositionable Tape 928 is identical to 3M tape 9416 for the hand-held ATG applicator.

- 3M™ Repositionable Tapes 9425 and 9425HT have a medium tack adhesive on the back side (exterior of roll) and a high tack ("permanent") adhesive on the face side (interior of roll) of the tape. This means liner covers the medium tack adhesive and the high tack adhesive is exposed when the tape is unwound.
  - The medium-tack adhesive allows removal from many foils and films without adhesive residue. In many cases, the tape can be reused numerous times. The user should perform specific tests to determine the product's suitability for the particular application.
  - The moisture stable liner improves processing of parts and ease of liner removal.
  - The polyester film carrier of 3M tape 9425HT provides dimensional stability, improved handling for die cutting and laminating, as well as providing higher temperature resistance.

- 3M™ Repositionable Tape 9449S is a single linerless low tack laminating adhesive.
  - The liner is non-siliconized on the back side (adhesive side) which allows for the construction of custom labels that are easier to handle, consistently maintaining registration on-press when printing and converting.
  - The low tack allows easy removal of labels from substrates with little or no adhesive residue.
## 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. An exception is 3M™ Repositionable Tapes 9425 and 9425HT which can be applied at temperatures as low as 32°F (0°C).

## Application Ideas

- Reclosable bags or envelopes.
- Core starting and end tabbing of papers, foils, and films.
- Removable stickers and labels.
- Point of purchase displays.
- Book inserts.
- Mounting promotional items.
- Removable/changeable advertisements.
- Temporary hold for protective packaging material, such as foam or cardboard, used during shipment of manufactured goods.
- Removable/changeable foam gasketing.

## 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.
3M™ Repositionable Tapes
665 • 686 • 9415PC • 9416 • 9425 • 9425HT • 9449S

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