Pressure-sensitive laminating films M-056AV50

Features
- Surface protection laminating films for digital print
- It protects the image surface and enhances appearance and durability by laminating in printing materials.
- Acrylic films with excellent transparency (*Please see the precautions in third page.)
- Suitable for surfaces that have flat or simple curves.

Applications
For medium-term outdoor applications

Standard sizes
1,250mm × 30m rolls
1,350mm × 30m rolls

Product configuration

Face stock on the surface
Acrylic film 50µm/transparent/matte

Pressure-sensitive adhesive
Acrylic pressure-sensitive adhesive/transparent permanent adhesive

Release liner
Release liner/polyester film

Weight:121g/m² (includes release liner)

Properties
Adhesion (value)

<table>
<thead>
<tr>
<th>Test items</th>
<th>Unit</th>
<th>Properties</th>
<th>Test panel</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adhesive strength 30 minutes after adhering</td>
<td>N/25mm</td>
<td>12.2</td>
<td>Stainless</td>
<td>LINTEC method</td>
</tr>
<tr>
<td>Adhesive strength 24 hours after adhering</td>
<td>N/25mm</td>
<td>18.4</td>
<td>Stainless</td>
<td>LINTEC method</td>
</tr>
<tr>
<td>Ball tack</td>
<td>No.</td>
<td>13</td>
<td>—</td>
<td>J.Dow method</td>
</tr>
<tr>
<td>Holding strength</td>
<td>Second</td>
<td>NC 30000</td>
<td>Stainless</td>
<td>LINTEC method</td>
</tr>
</tbody>
</table>

LINTEC method
- Adhesive strength test method: Test instrument: load-cell tensile tester, release angle: 180°
  Test conditions: 23°C 50%RH, release speed: 300 mm/min
  One round trip with a rubber roller of 2kg adhesion pressure
  Test panel: Stainless panel (SUS304 #360 polishing finish)
- Holding strength test method: Angle: 0°, test conditions: 40°C, adhesion area: 25 mm × 25 mm,
  Five round trips with a rubber roller of 2kg adhesion pressure, still load: 9.8N
  Test panel: Stainless panel (SUS304 #360 polishing finish)

- B: Base material failure
- Cf: Conhesion failure
- At: Adhesive transfer
- Zip: zipping
- NC: No creep
**Film properties (value)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile strength</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MD</td>
<td>N/25mm</td>
<td>48</td>
</tr>
<tr>
<td>CD</td>
<td>N/25mm</td>
<td>42</td>
</tr>
<tr>
<td>Tensile expansion rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MD</td>
<td>%</td>
<td>42</td>
</tr>
<tr>
<td>CD</td>
<td>%</td>
<td>120</td>
</tr>
</tbody>
</table>

**Optical properties**

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultraviolet ray transmission</td>
<td>%</td>
<td>3.3</td>
</tr>
<tr>
<td>Visible light transmission</td>
<td>%</td>
<td>58.0</td>
</tr>
</tbody>
</table>

**Example of the combined use of materials**

Our recommended printing materials by applications.

<<Outdoor signage applications (Short and medium-terms)>>

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Face stock</th>
<th>Texture</th>
<th>Thickness (µm)</th>
<th>Pressure-sensitive adhesive</th>
<th>Standard sizes (mm×m)</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>U-1003RW</td>
<td>Durable urethane film</td>
<td>White gloss</td>
<td>70</td>
<td>Strong removable adhesive gray</td>
<td>1,350×30</td>
<td>For medium and long-term outdoor applications</td>
</tr>
</tbody>
</table>

*Durability (usable period) may decline depending on the combined printing materials.*

**Precautions**

- Numerical values in this data sheet are based on the results of our tests, and are not guaranteed.
- Please verify performance in advance according to your application.
- Use the product within one year of purchase. Use the product as early as possible after opening.
- It does not provide removable performance as it is a permanent adhesive.
- Make sure of the adhesion of this pressure-sensitive laminating film and ink by conducting a test in advance.
  - For ink, please consult with printer manufacturers or ink manufacturers.
  - To use for joints and the same surface, use the same lot.
  - Please consult with us if you wish to use the product for special applications.
  - Use water or neutral detergents to clean the surface. Avoid the use of organic solvent such as IPA and white gasoline, because films may deteriorate.

**Storage methods**

- Avoid high temperature, low temperature and humidity for storage. Be sure to put this product in a bag, and hang it in the air.
  - Make sure that it is not exposed to direct sunlight.
- Prevent it from being exposed to fluorescent light at close range.
- Recommended ambient temperature: 10°C-30°C, humidity: 70%RH or less
  - The adhesive strength and holding strength become lower at low temperature or high temperature, and it is detached easily.
- Avoid contact with water, chemicals, and shock.
Precautions for output and processing

- Applying tension (brakes) excessively during the laminating process may cause curls.
- If compression bonding is insufficient during the laminating process, some air will remain between the printing materials and laminating films and become white. This may cause squeegee marks during work and bulging after work.
- Do not touch the output surface of printing materials directly with your hand during the laminating process. Sebum, oil, dirt, and scratches may lower print quality.
- Do not carry out post-processes such as laminating after printing until the ink is dried completely. For the time needed to dry ink, please contact your printer manufacturer.
- For output products with focus placed on color tones, check the change after laminating in advance.

Precautions for install

- Install ambient temperature: 10°C-40°C
- Install at high temperature may raise the initial adhesive strength and soften products.
- Operating temperature: -30°C-80°C

About maintenance after install

- Wipe with wet soft cloth for normal cleaning. If products get very dirty, use a neutral detergent (a concentration of 1 to 2%) depending on the degree of dirt. When a neutral detergent is used, wipe completely with a wet cloth so that the detergent will not remain.
- Do not use ammonic, chloric, or organic detergents.
- Do not wipe with a dry cloth.
- Do not use materials that may scratch the film surface, such as cleansers, hard cloth, and paper.
- If there is a joint on the film surface, wipe in the direction of the joint.
- Do not hit with hard articles or sharp objects.
- Keep away from cigarettes and other heat sources.
- Do not post a poster with cellophane tape, or articles that use adhesives such as badges and cutting sheets.

If you have questions about our products, please contact us.

This sheet provides product information and information about the environment and safety, and does not guarantee performance or quality.

Product specifications and appearance are subject to change without notice for the purpose of improvement.