SONGWON is a leading specialist in laminating adhesive technology for the plastic film packaging industry.

Our extended portfolio of HI-THANE™ polyurethanes enables us to design customized formulations for our customers.

Thanks to their excellent physical and technical properties, HI-THANE™ high performance laminating adhesives are widely used by film converters to improve operational efficiency and profitability.

It’s all about the chemistry™
SONGWON – Extensive experience in flexible packaging

Wide range of solvent-based laminating systems

- Suitable for all flexible packaging applications
- Cutting-edge quality
- FDA compliant

Comprehensive technical expertise

- Dedicated laminating adhesives testing laboratory in South Korea
- Customized formulations

Proven reliability

- More than 35 years manufacturing experience in South Korea
- Backward integration into polyester polyol production
- Global sales organization channels in Asia, Europe and North America

Strong commitment

- Continuous innovation to meet new industry standards

HI-THANE™ laminating adhesives generate significant value for film converters through increased productivity and profitability...

Higher productivity

- Fast curing enables high bond strength to be obtained within a few hours, allowing slitting within 12-24 hours and quicker laminate turnover
- Long pot life facilitates processing

Increased profitability

- High solid content systems reduce solvent disposal costs
- Very good wetting properties help to reduce coating weights and film lamination costs
- Exceptional film transparency enhances appearance, adding value throughout the chain
- Very high resistance to boiling water and retorting prevents de-lamination of film layers and reduces potential waste disposal costs

Technology & compliance

- Solvent-based aromatic polyurethanes
- Suitable for all flexible packaging applications
- FDA compliant
HI-THANE™ laminating adhesives recommended for flexible packaging

**Applications**
- HI-THANE™ A-3100S: Plastic films, Aluminum foil
- HI-THANE™ A-3065: Plastic films, Aluminum foil
- HI-THANE™ A-3070: Plastic films, Aluminum foil
- HI-THANE™ A-4650R: Plastic films, Metalized films
- HI-THANE™ A-2050LM: Plastic films, Aluminum foil
- HI-THANE™ A-720M: Plastic films
- HI-THANE™ A-7332: Plastic films

**Type**
- Solvent-based
- Non solvent-based

**Appearance**
- Yellowish

**Total solid content (% , w/w)**
- HI-THANE™ A-3100S: 65
- HI-THANE™ A-3065: 65
- HI-THANE™ A-3070: 70
- HI-THANE™ A-4650R: 65
- HI-THANE™ A-2050LM: 70
- HI-THANE™ A-720M: 75
- HI-THANE™ A-7332: 100

**Viscosity (25°C, cps)**
- HI-THANE™ A-3100S: 2000 ~ 4000
- HI-THANE™ A-3065: 2000 ~ 4000
- HI-THANE™ A-3070: 8000 ~ 12000
- HI-THANE™ A-4650R: 2000 ~ 5000
- HI-THANE™ A-2050LM: 2000 ~ 5000
- HI-THANE™ A-720M: 4000 ~ 8000
- HI-THANE™ A-7332: 600 ~ 1000*

**Solvent**
- ET-AC
- ET-OH

**Recommended hardeners**
- HI-THANE™ CA-75
- HI-THANE™ CA-100EP
- HI-THANE™ CA-295H
- HI-THANE™ A-6200

**HI-THANE™ adhesives key properties**

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<tbody>
<tr>
<td>Film transparency</td>
<td>General, medium and high performance</td>
<td>General, medium and high performance</td>
<td>General, medium and high performance</td>
<td>Medium and high performance</td>
<td>General performance</td>
<td>General performance</td>
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<tr>
<td>Bonding strength</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Very good</td>
<td>Good</td>
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<tr>
<td>Fast cure properties</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Very good</td>
<td>Good</td>
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<tr>
<td>Reduced metalized layer transfer</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Very good</td>
<td>Not applicable</td>
<td>Very good</td>
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<tr>
<td>Resistance to boiling water and retorting</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Very good</td>
<td>Average</td>
<td>Average</td>
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<tr>
<td>Wetting properties</td>
<td>Very good</td>
<td>Very good</td>
<td>Very good</td>
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* Viscosity measured at 40°C for HI-THANE™ A-7332

**Storage conditions**

HI-THANE™ laminating adhesives should be stored indoors, in closed containers, in a dry place at temperatures between 5 and 40°C. Exposure to direct sunlight should be avoided.

**Shelf life**

HI-THANE™ laminating adhesives are stable for 12 months, provided they are stored under the above conditions.
SONGWON provides customers with warranties and representations as to the chemical or technical specifications, compositions and/or the suitability for use for any particular purpose exclusively in individual written agreements.

The facts and figures contained herein have been carefully compiled to the best of SONGWON’s knowledge but are essentially intended for informational purposes only.

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