Automotive OES Interior Bonding
Reactive Polyolefin Hot Melts
Creating Solutions for Increased Productivity

The requirements in the Automotive OES markets are increasing day by day. New adhesives have to simplify working procedures and at the same time the product has to reach higher demands.

As a global leading supplier of adhesives in Automotive market Sika constantly develops new and innovative products.

Sika introduced a new product range especially for polypropylene bonding. This reactive polyolefin hot melt offers a lot of advantages.

Customer Benefits
- High Performance
- Fast Process
- Cost Effective Production
- Green Production
Technology Description
Reactive Polyolefin Hot Melt

Basic chemistry of SikaMelt®-918x hot melt range is the polyolefin. The polyolefin backbone molecule has been grafted with reactive silane [Si(OR)₃] groups. The silane is able to react with water.

After application of the hot melt the adhesive cools down and builds a green strength. By reaction with water the hot melt cures and builds its final strength. The cured adhesive shows high heat resistance and high strength.

The chemistry of polyolefins offers an excellent adhesion to olefinic substrates like PP or PE. Pre-treatment of the nonpolar substrates isn’t necessary. Furthermore, the technology of reactive polyolefin hot melts offers a high performance due to post-curing. A low density saves weight for the bonded parts.

Customer Benefits
- Adhesion to PP and PE
- High Performance
  - High Heat Resistance
  - Resists to Water & Chemicals
- Low Specific Weight
- Isocyanate Free
Sika offers a complete product range for lamination- and assembly bonding. The 2nd generation of Sika reactive polyolefin’s offers a higher heat resistance at a lower working temperature.

<table>
<thead>
<tr>
<th>SikaMelt®</th>
<th>Product Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SikaMelt®-9181</td>
<td>1st Generation of Re-active Polyolefin Hot Melt Press- &amp; Vacuum- Lamination of Textile or Foil to PP Pre-Coating is possible – Low Reactivation Temperature</td>
</tr>
<tr>
<td>SikaMelt®-9184</td>
<td>2nd Generation of Re-active Polyolefin Hot Melt Press-Lamination of Textile or Foam to PP Long Open Time with High Green Strength</td>
</tr>
<tr>
<td>SikaMelt®-9185</td>
<td>2nd Generation of Re-active Polyolefin Hot Melt Assembly Adhesive and Press-Lamination Good Adhesion to Polar &amp; Nonpolar Substrates</td>
</tr>
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</table>

The Sika polyolefin product range offers various advantages for the user. Main advantage is the possibility to bond PP without pre-treatment of the unpolar surface. This advantage allows a lean production at a higher level of industrial hygiene.

**Customer Advantages**
- Save Adhesive Weight
- No Pre-treatment of PP
  - No Invest for Plasma or Flame
  - No additional Space
  - No Personal Costs
  - No Maintenance
  - No Pre-Treatment Failures
- Industrial Hygiene
SikaMelt®-9181
Lamination Adhesive

The main application for SikaMelt®-9181 is the press-lamination of textiles or foam-backed textiles to PP. SikaMelt®-9181 needs relatively low reactivation temperature. Due to a short open time and low stickiness after setting, pre-coating of textiles is possible.

Generally SikaMelt®-9181 can also be used for Vacuum-Press Lamination.

Product Positioning
- Press-Lamination of Foam & Textile to PP
- Vacuum Press-Lamination of TPO to PP
- Pre-Coating is possible
- Reactivation by heat is necessary

Overview of Press-Laminations

<table>
<thead>
<tr>
<th>Application</th>
<th>Substrates</th>
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<tbody>
<tr>
<td>Arm Rest</td>
<td>PP/Foam-Textile</td>
</tr>
<tr>
<td>Sun Visor</td>
<td>EPP/Foam-Textile</td>
</tr>
<tr>
<td>Insert</td>
<td>PP/Foam-Textile</td>
</tr>
<tr>
<td>Load Floor</td>
<td>PP/Carpet</td>
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Overview of Vacuum-Press Laminations

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<tr>
<td>Top Roll</td>
<td>PP/TPO</td>
</tr>
<tr>
<td>Door Panel</td>
<td>PP/TPO, NF*/TPO</td>
</tr>
<tr>
<td>I-Panel</td>
<td>PP/TPO</td>
</tr>
<tr>
<td></td>
<td>* Natural Fibre</td>
</tr>
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</table>
The main application for SikaMelt®-9184 is the press-lamination of textiles or foam-backed textiles to PP. SikaMelt®-9184 has a very long open time. Due to the long open time press-lamination without reactivation is possible (cold lamination).

The lamination without pre-treatment of PP and also without reactivation means the production process is minimised.

**Product Positioning**
- Press-Lamination of Foam & Textile to PP
- Cold Lamination
- Lamination within Long Open Time
- No Reactivation Necessary
- No Cooling Necessary
- Lamination of Heat Sensitive Substrates

**Lean Production Process with SikaMelt®-9184.**

Immediately after adhesive application the pre-coated textile goes directly into the lamination tool. No storage of pre-coated textiles is necessary. The cycle time is minimised due to the saving of the reactivation step.

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Working without additional heat gives a short pressing time. During pressing it is not necessary to cool the substrates.
**SikaMelt®-9185**

**Wide Adhesion Range**

New and innovative SikaMelt®-9185 shows a broad adhesion range. Bonding of polar and nonpolar substrates is possible. The main application for SikaMelt®-9185 is the assembly bonding. Generally lamination bonding is also possible.

SikaMelt®-9185 needs a relatively low working temperature and shows a high heat resistance after curing. Due to the short open time, fast setting and broad adhesion range SikaMelt®-9185 is the multipurpose assembly adhesive.

The example of headliner assembly bonding clearly shows the efficiency of new SikaMelt®-9185. SikaMelt®-9185 is able to bond polar and nonpolar substrates without pretreatment.

**Product Positioning**

- Assembly & Lamination
- Bonding of Polar & Nonpolar Substrates