Automotive adhesives

- Reactive hot melts
- Thermoplastic hot melts
- Pressure sensitive hot melts
- Dispersions
Today, automobile manufacturers rely on adhesive technology as a fixed component of their production lines. In each vehicle, an average of 15 kg of different adhesives is used to assemble and mount a vast variety of parts. Automotive companies and their sub-suppliers of international renown place confidence in the innovative adhesives made by Jowat.

The major area where the adhesives of Jowat SE are used is the car interior. Even if the specific processing technologies for adhesives vary widely - all products supplied by Jowat SE have been tested extensively and proven in long-term use. New processes and adhesives are developed in close cooperation among the automotive partner, the parts producer and the engineering company involved. After successful completion of all tests, implementation in serial production can start. The adhesives have the role of supporting an efficient manufacturing process as well as matching the requirements of the individual component. Adhesives from Jowat SE are used throughout the entire supply chain: from pre-coating with thermoplastic hot melts directly onto the foil or the textile, to the production of interior components, and to the final assembly in the vehicle.

There are multiple applications: from attaching emblems, to the manufacture of complete textile convertible roofs, from trunk lining to decorative trim for air duct grids, from the surface coverage of the columns, to the assembly of the sub-layers of the seats - adhesives made by Jowat are used successfully everywhere.

This brochure is not a complete compilation of all bonding processes in the automotive sector. It is only intended to provide an overview of the multiple adhesive applications in this industry.
**Interior decorative trim**

For the visual appeal of car interiors, the panelling of the doors, instrument panels and columns are of major importance. Whether exclusive textiles, modern foils or real leather – the most diverse manufacturing methods are used for a wide choice of materials. Jowat adhesives allow economic processes for all currently used technologies. New material combinations are the daily challenge, which Jowat adhesives help to master.

**Trunk cover and lining**

The car trunk is not only the place to stash the luggage. It also contains multiple adhesive applications. Carpeting is bonded to loading areas and to the underside of the rear seats, assembly of formed foam components and covers for trunks with sliding components or parcel shelves. Jowat adhesives are used in vehicles of all major automotive manufacturers for these applications.

**Sound and vibration absorption**

The acoustics inside a vehicle depend to a large extent on the use of sound-insulating elements. These are bonded directly onto the sheet metal car body to serve as soundproofing factors. The precoating with pressure-sensitive hot melts simplifies processing on the line and also makes it user-friendly. The vibration-reducing property of the adhesive additionally supports the effect of the insulating materials.

**Assembly and special applications**

When lifting the panelling of a car, many clips and retainers can be seen. The most appropriate joining technology is bonding. Thermoplastic and reactive hot melts are used to attach these and many other assembly components and provide the final form and function for the vehicle.

**Filter manufacture**

The filters in a vehicle are consumption products. The air, oil and cabin filters have to be replaced regularly. Filters supplied by automobile manufacturers in new vehicles, and replacement filters, are bonded with Jowat adhesives.
Automotive manufacturers and their subsuppliers rely on innovative Jowat adhesives.

### Engine compartment
- **PO hot melt**
- **PUR hot melt**
- Oil filter assembly
- Air filter assembly
- Starter battery (metal cells in PP casings)
- Suction channel (assembly PP parts)

### Interior fittings/panelling
- Two component PO dispersion
- Two component solvent-based adhesive
- PO hot melt
- PUR hot melt
- Door and side panelling
- Interior fittings / decor
- Floor coverings
- A/B/C column panelling
- Rear shelf
- Ceiling liner assembly
- Instrument Panel
- Center column
- Lamination of armrests: PVC foil to ABS

### Assembly / Special applications
- **PO hot melt**
- **PUR hot melt**
- ABS clips
- Clips and fasteners
- Air bag covers
- Assembly bonding
- PE cable wrapping
- Head lamp assembly
- Convertible roof bonding
Automotive manufacturers and their subsuppliers rely on innovative Jowat adhesives.

**Exterior applications**
- **PUR hot melt**
  - Decorative exterior trim
  - Exterior mirror (splinterguard)
  - Emblems (aluminium to PVC)
- **Sound and vibration absorption / insulation**
  - **Pressure-sensitive hot melt**
    - Self-adhesive coating of insulation materials
    - Sound and vibration absorption foils for metal frame panels
- **Trunk cover and lining**
  - **PUR hot melt**
    - Sliding trunk covers for station wagons
    - PVC foil lamination to hardboard
    - PVC foil lamination to aluminium
    - Carpet backing with insulating fleece
    - Carpet lamination on ABS
    - Carpet lamination on GMPU
    - Carpet lamination on hardboard
    - Carpet lamination on PP
    - Edgelfolding applications
- **Seat manufacture and seat lamination**
  - **Pressure-sensitive hot melt**
  - **PUR hot melt**
    - PU foam bonding
    - Lamination of leather, plastic foils and textiles to PU foam
    - Seats: Rear seat backing lamination
    - Seats: Rear seat cover
    - Seats: Rear backrest lamination
    - Seats: Rear covers
### Thermoplastic hot melt adhesives

#### Jowatherm®
For carpet bonding and self-adhesive coating.

<table>
<thead>
<tr>
<th>Product</th>
<th>Characteristics</th>
<th>Viscosity</th>
</tr>
</thead>
<tbody>
<tr>
<td>244.80</td>
<td>superior heat resistance, good permanent tack, high peel strength</td>
<td>approx. 25.000 mPas at 180 °C</td>
</tr>
</tbody>
</table>

#### Jowat-Toptherm®
For laminating of foils for vehicle interiors. Also suitable for precoating and the manufacture of filter media.

<table>
<thead>
<tr>
<th>Product</th>
<th>Characteristics</th>
<th>Viscosity</th>
</tr>
</thead>
<tbody>
<tr>
<td>238.20</td>
<td>PP and NFPP without pretreatment</td>
<td>approx. 17.000 mPas at 200 °C</td>
</tr>
<tr>
<td>238.75</td>
<td>Attaching the activated charcoal</td>
<td>approx. 16.000 mPas at 170 °C</td>
</tr>
<tr>
<td>263.15</td>
<td>Filter frame bonding</td>
<td>approx. 28.000 mPas at 190 °C</td>
</tr>
</tbody>
</table>

#### Jowat-Hightherm®
For assembly and retainer bonding.

<table>
<thead>
<tr>
<th>Product</th>
<th>Characteristics</th>
<th>Viscosity</th>
</tr>
</thead>
<tbody>
<tr>
<td>221.00</td>
<td>also flat-lamination PP and NFPP without pretreatment</td>
<td>approx. 28.000 mPas at 190 °C</td>
</tr>
<tr>
<td>264.00</td>
<td>Fixing of battery elements in plastic casings</td>
<td>approx. 3.000 mPas at 180 °C</td>
</tr>
</tbody>
</table>
Dispersion adhesives

Jowapur®

For laminating operations of interior trim using soft ABS or TPO foils on plastics or fibreboard substrates.

<table>
<thead>
<tr>
<th>Product</th>
<th>Characteristics</th>
<th>Viscosity, solid content</th>
</tr>
</thead>
<tbody>
<tr>
<td>158.97</td>
<td>high tack, long open time, high initial strength, for edgefolding operations</td>
<td>approx. 305 mPas (Haake 3001/s) approx. 46 % solid content</td>
</tr>
<tr>
<td>+ crosslinking agent from the 197 series</td>
<td></td>
<td></td>
</tr>
<tr>
<td>158.01</td>
<td>universal laminating adhesive for Flat lamination</td>
<td>300 - 365 mPas (Haake 3001/s) approx. 57 % solid content</td>
</tr>
<tr>
<td>+ crosslinking agent from the 197 series</td>
<td></td>
<td></td>
</tr>
<tr>
<td>157.07</td>
<td>Contact dispersion, very good pressure-sensitivity of the dry adhesive film.</td>
<td>approx. 620 mPas (Haake 3001/s) approx. 41 % solid content</td>
</tr>
<tr>
<td>+ crosslinking agent from the 197 series</td>
<td></td>
<td></td>
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</tbody>
</table>

2-component PU adhesive

Jowapur®

For foil lamination of interior trim with soft PVC foam foils, ABS or TPO foils on plastics or fibreboard substrates.

<table>
<thead>
<tr>
<th>Product</th>
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</tr>
</thead>
<tbody>
<tr>
<td>493.25</td>
<td>high tack, long open time, high initial strength, for edgefolding operations</td>
<td>approx. 210 mPas (Höppler) approx. 16 % solid content</td>
</tr>
<tr>
<td>+ 498.07</td>
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<td></td>
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</tbody>
</table>

PUR hot melt adhesives

Jowatherm-Reaktant®

For textile lamination in the automotive industry.

<table>
<thead>
<tr>
<th>Product</th>
<th>Characteristics</th>
<th>Viscosity</th>
</tr>
</thead>
<tbody>
<tr>
<td>630.80</td>
<td>foam/textile, textile/textile, high UV resistance</td>
<td>approx. 8,000 mPas at 140 °C</td>
</tr>
<tr>
<td></td>
<td>For press and vacuum lam. of structural elements for car interiors.</td>
<td></td>
</tr>
<tr>
<td>613.30</td>
<td>universal uses, high initial strength</td>
<td>approx. 45,000 mPas at 140 °C</td>
</tr>
<tr>
<td>613.76</td>
<td>high initial strength, Roller- and Slot nozzle application</td>
<td>approx. 35,000 mPas at 140 °C</td>
</tr>
<tr>
<td>613.79</td>
<td>high initial strength, Roller- and Slot nozzle application</td>
<td>approx. 41,000 mPas at 140 °C</td>
</tr>
<tr>
<td></td>
<td>For assembly and flat bonding.</td>
<td></td>
</tr>
<tr>
<td>613.90</td>
<td>long open time, good initial strength</td>
<td>approx. 45,000 mPas at 140 °C</td>
</tr>
</tbody>
</table>

Note: The products listed only represent a limited selection of the available product portfolio. Our service and consultation team from Sales and Product Marketing will be pleased to provide specific information, to select the product suitable for your process.
The information given in this leaflet is based on test results from our laboratories as well as on experience gained in the field, and does in no way constitute any guarantee of properties. Due to the wide range of different applications, substrates, and processing methods beyond our control, no liability may be derived from these indications nor from the information provided by our free technical advisory service. Before processing, please request the corresponding data sheet and observe the information in it! Customer trials under everyday conditions, testing for suitability at normal processing conditions, and appropriate fit-for-purpose testing are absolutely necessary. For the specifications as well as further information, please refer to the latest technical data sheets.

**Jowat** – Kleben erster Klasse

**Jowat** – first class bonding

www.jowat.com