Available for all established machine types
High transparency for a perfect product
Maximum laminate strength for print finishing
Adhesives applicable for food packaging
Dispersion adhesives for film to print lamination

Highly refined folding boxes, book covers and other printing products set new standards in quality and appearance. Print finishers have a wide variety of possibilities for upgrading a product. One established and effective procedure is the film to print lamination of printed sheets with matt, glossy, structured, or special effects films. This results in enhanced printed surfaces of a superior quality. The quality of the lamination depends on several factors. The application method, the materials to be bonded, and the adhesive all have a decisive impact on the laminate quality and consequently also on the appearance and value of the entire print product. For many years, solvent-based adhesives were the product of choice for this application in the past. Increased requirements regarding the environmental compatibility of manufacturing processes and the recycling properties of the substances used imposed the need for a system change in the graphics industry. Alternative systems that facilitate solvent-free laminating became absolutely necessary. In the last years, Jowat has developed and optimised a complete range of water-based adhesives for this application in close cooperation with engineering companies and print finishers.

Products from the Jowacoll 764.xx product group have been consistently optimised over the last years to improve their performance, for instance mechanical processing characteristics, cutting resistance, coating weight, gloss, and resistance to mechanical stress, e.g. due to embossing or fold burning. In addition, the new product generation also includes several adhesives that are approved for food contact. Which of the modern laminating adhesives is the best fit for an application depends on the machine type and the application method used, as well as on the specific requirements. However, the adhesive choice can also be influenced by what type of paper or film is to be bonded and by whether it has been printed conventionally or digitally.

Before downline processing, the laminated sheets should ideally be stored for 24 to 36 hours (one-component adhesives), to allow the bond to build up sufficient strength. If necessary, the reactive, water-emulsive crosslinking agents Jowat® 195.70 or Jowat® 195.79 may be added to suitable adhesives in an amount of about 1.5 – 5 % by weight. This is usually beneficial when increased adhesive strengths are needed, for instance on printing inks that are difficult to bond, in bonding applications with difficult substrates in bookbinding, or if the surface will be embossed in downline processing. The crosslinking agent is dosed and mixed in by the processor before application. Adding a crosslinker to the adhesive generally leads to a significant reduction of the dwell time (compound build-up) before downline processing.

The most widely used laminating method is to apply the wet adhesive to the film and allow it to dry, using for instance EcoSystem, Billhöfer, Wen Cuyuan, Paperplast or other machines. There are mainly two leading application technologies in the industry: Application systems with metering blades and application roller, and so-called two-roller units consisting of a metering roller with a doctor blade and an application roller. Especially the latter technology has become increasingly established in the industry over the last years.

To meet the current trends in the market, many dispersion adhesives for laminating printed sheets can also be used for the manufacturing of food packaging.

The Jowat product portfolio for printed sheet lamination supplies the optimum adhesive products for all established application methods and requirements.
Applications
Special adhesive for laminating pretreated (B)OPP, PET and acetate films to printed and unprinted paper and cardboard.

Directions for use
Processing with established units with metering roller or two-roller (metering roller) application systems. We recommend that all materials coming into contact with the glue are made of high-quality stainless steel (German standard V2A according to DIN EN 10027 – W No. 1.4301 or better) or of inert plastics, e.g. Teflon, PP, polyamide. The properties of the substrates and the processing conditions will influence the processes of laminating and the quality of the bond. Customer tests before use are therefore absolutely necessary to define stable process parameters and to ensure that the product is fit for purpose. The materials to be bonded should be free of dust, oil, and grease, and be completely dry. The surface tension of the films to be laminated should be above 38 mN/m. The print inks used should meet requirements of DIN ISO 2836. When processed as one-component system, crosslinking will be completed after approx. 3 days. However, downline processing may be possible earlier, depending on the following stress. This must be determined in customer tests. If the laminated compound is exposed to high mechanical stress during downline processing or if the films to be processed have a high rigidity (e.g. PET or acetate films), it is advisable to add 1.5 – 5 % of crosslinking agent Jowat® 195.70 or 195.79. When processed with the crosslinking agent, the dwell time before further processing will be reduced to approx. 24 hours, in individual cases to 12 hours.

Cleaning
Before curing, machines and equipment may be cleaned after use with warm or cold water, using Jowat® Cleaner Concentrate 192.40. Already dried adhesive can be dissolved using Jowat® Thinner 401.30. Please also observe the instructions in the corresponding technical data sheet and the safety data sheet.
# Product overview

The table below provides an overview of our dispersion adhesives from the product series Jowacoll® for laminating printed sheets. The product range comprises different product types with special performance characteristics adapted to the general process requirements in laminating applications.

The products have been developed to meet the different requirements which arise from the production process as well as from the different carrier substrates and lamination materials. If the laminated compound is exposed to high mechanical stress during downline processing or if the films to be processed have a high rigidity (e.g., PET or acetate films), it is advisable to add 1.5 – 5% of crosslinking agent Jowat® 195.70 or 195.79 in the case of food packaging. Please contact our Sales Representatives for a more extensive advisory service and adhesive selection.

### Technical data

<table>
<thead>
<tr>
<th>Food packaging</th>
<th>Viscosity [s]</th>
<th>Solids content [%]</th>
<th>pH value</th>
<th>Can be mixed with hardener/crosslinker</th>
<th>Appearance of dry film</th>
<th>Application system</th>
<th>Films to be laminated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jowacoll® 764.60</td>
<td>approx. 16</td>
<td>approx. 51.5</td>
<td>approx. 7.0</td>
<td>yes</td>
<td>colourless transparent</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Jowacoll® 764.61</td>
<td>approx. 16</td>
<td>approx. 49.0</td>
<td>approx. 7.0</td>
<td>yes</td>
<td>colourless transparent</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Jowacoll® 764.62</td>
<td>approx. 16</td>
<td>approx. 49.0</td>
<td>approx. 7.0</td>
<td>yes</td>
<td>colourless transparent</td>
<td>✓</td>
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<tr>
<td>Jowacoll® 764.63</td>
<td>approx. 16</td>
<td>approx. 51.0</td>
<td>approx. 7.5</td>
<td>no</td>
<td>colourless transparent</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

### Application system

- Metering blade / roller
- Two-roller system
- OPP (coronised)
- PET (metallised)
- PET
- Acetate
- PE (coronised)

### Films to be laminated

- OPP (coronised)
- PET (metallised)
- PET
- Acetate
- PE (coronised)

### Food packaging

- Yes
- No

- Yes
- No

- Yes
- No

- Yes
- No

- Yes
- No

### Viscosity

- approx. 16
- approx. 16
- approx. 16
- approx. 16
- approx. 16

### Solids content

- approx. 51.5%
- approx. 49.0%
- approx. 49.0%
- approx. 49.0%
- approx. 51.0%

### pH value

- approx. 7.0
- approx. 7.0
- approx. 7.0
- approx. 7.5
- approx. 7.0

### Can be mixed with hardener/crosslinker

- Yes
- Yes
- Yes
- No
- Yes

### Appearance of dry film

- Colourless transparent
- Colourless transparent
- Colourless transparent
- Colourless transparent
- Colourless transparent

### Application

- Best price-performance
- Basic all-rounder
- High performance
- Speciality
- Film-film lamination

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The information given in this leaflet is based on practical experience and on results of tests in our laboratory, and does in no way constitute any guarantee of properties. In light of the huge diversity of materials and the fact that we have no influence either on the substrates or on the process, no liability may be derived from these indications nor from the recommendations made by our free technical advisory service. Customer trials are absolutely necessary. Before processing, please request the corresponding data sheet and observe the indications in it!
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

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