

Industry Information

Adhesive solutions for the packaging industry

Your partner in bonding

Jowat
Klebstoffe



Reliable, efficient and attractive

Packaging in the spotlight.

The packaging market is dominated by modern, innovative solutions - for the packaging as well as for the manufacturing process. Given the increasing requirements with regard to quality, flexibility and productivity, it is essential to have innovative partners providing support for all processes - from manufacturing, to packaging and transport.

Packaging industry

Packaging today has many functions additionally to protecting goods, providing information for the consumer, and transporting products from point A to point B. Above all, it is a brand ambassador. Therefore, the packaging is often a more powerful advertising tool than the contents. A product's consumer appeal is determined by its visual appearance, degree of finishing, and originality. As the importance of packaging increases, so does the variety. Manufacturers change the packaging more frequently; lifecycles are reduced significantly. At the same time, the material surface becomes more and more challenging due to superior finishing.

While the visual aspect is important, the packaging also has to be functional and serve a purpose. Practical, lightweight packaging is easy to handle and provides great benefits for the consumer. At the same time, modern packaging solutions are innovative and sustainable, increasing the demand for recycled paper and alternative materials such as bioplastics. This moved the related issue of food safety in the centre of public debate. In food packaging manufactured from recycled paper, barrier coatings and foils protect the contents against migration of harmful substances. While requirements with regard to quality, flexibility and productivity are increasing, sustainability is also a major concern in production. This is addressed with more energy efficient processes and a lower consumption of packaging materials.



Powerful and innovative adhesives from Jowat excel in every part of the value chain in the packaging industry. Adhesive solutions from Jowat meet the highest requirements with regard to energy efficiency, food safety, and superior finishing, and facilitate state of the art packaging processes, also in special applications.



Solutions for the entire process chain

Manufacturing, packaging, transporting.

Jowat supports manufacturers and processors in the packaging industry with innovative adhesive solutions for the entire process chain.

Adhesives for efficient packaging processes

Whether bonding corrugated cardboard packaging, folding boxes, displays or add-ons with different geometries and finishings – Jowat provides powerful adhesives for all requirements in the production of packaging. From modern dispersion adhesives for film laminating of packaging with superior finishing and embossed surfaces, to adhesives for laminating cut out windows, and reactive hot melts for bonding clear folding boxes.

A wide variety of laminating films provide visual highlights and ensure a superior appearance of the folding box. Modern Jowacoll® laminating adhesives impress with outstanding adhesion to films and substrates, virtually no foaming, a high yield, and excellent processing characteristics.

MANUFACTURING

Packaging



Corrugated packaging

Surface laminating with printed paper sheets, flap bonding (manufacturers' joint), display assembly

Clear folding boxes

Longitudinal seam with PUR

Folding boxes

Finishing (surface laminating with printed films, UV varnishes), cut-out window application, longitudinal seams, point gluing, add-on application

Sacks and bags

Protection against migration of mineral oils into the packaged goods is another important issue. Jowat provides modern hot melt and dispersion adhesives for the difficult bonding of recycled and fresh fibre materials with a barrier coating on the surface. In addition to cardboards for the manufacture of folding boxes, this also includes paper used for flexible packaging such as pouches and bags.

Tailor-made adhesives facilitate reliable packaging processes. From the assembly and closing of primary and secondary packaging (e.g. bags, folding boxes, trays or wrap-arounds), to the application of caps and straws, to labelling, special applications with difficult to bond substrates such as the assembly of toptainers, and to anti-slip coatings for transport – special adhesives provide a substantial improvement of packaging and processes.

Even at highest line speeds, the modern and powerful adhesives from Jowat ensure a permanent and reliable bond, facilitate an attractive packaging, and play a major role in energy efficiency, sustainability and food safety. Jowat supports customers from the packaging industry with an extensive advisory expertise and service in all questions regarding the different bonding applications.

PACKAGING PROCESSES

Primary packaging



Folding boxes

Sealing of folding boxes

Bags

Bags and bags sealing

Beverage cartons

Cap application,
straw application

Labelling

Inline labelling
(PET bottles, tin cans)

Special applications

Toptainer assembly,
sensitive food products
(chocolate, tea)

Secondary packaging



Folding cartons, trays, wrap-arounds, shelf-ready packaging

Assembly, carton closing,
process supporting bonding

Whether tray assembly, folding box sealing or wrap-arounds – the state of the art adhesive formulations with a low impact on resources keep processing costs low.

Load security



Anti-slip coating

Spacing beads

Adhesives used for load security impress with a number of benefits. In addition to bonding, these adhesives also protect goods during transport and storage when applied to prevent slipping or for spacing purposes.

Packages well received!

Perfectly bonded secondary and primary packaging.

As a durable packaging material used to get the product from point A to point B, corrugated cardboard plays an important role in the supply chain of the packaging industry. Folding boxes used for primary packaging protect the goods during transport and, with a superior finishing, ensure a highly attractive product presentation at the point of sale.

Corrugated cardboard packaging

Corrugated cardboard is the most used packaging material worldwide. The lightweight material is very stable, eco-friendly and can be finished in many ways. Dispersion adhesives from Jowat are used for laminating the cardboard with high-quality papers during the finishing step. These adhesives provide superior adhesion properties and the ideal processing characteristics for all individual requirements.

Manufacturers' joints of corrugated cardboard boxes are usually bonded. This method provides several benefits compared to stapling and taping: a high degree of automation, reduced downtimes, and an attractive appearance. Jowacoll® dispersion adhesives for this application facilitate a reliable and permanent bond – even at high feed speeds.

Displays made of corrugated cardboard are the ideal packaging for effective advertising at the point of sale. After the displays have been laminated with printed sheets, hot melts adhesives ensure a secure and efficient assembly.



Folding boxes

Used for primary packaging, folding boxes provide additional benefits, and do not only protect the product during transport and storage. Folding boxes are increasingly used as advertising media and communicate brand images and product quality. Therefore, they have become more customised with regard to their function, form and degree of finishing – from embossing, to perforation, printed sheet lamination, and varnish coatings.

A wide variety of laminating films provide visual highlights and ensure a superior appearance of the folding box. Modern Jowacoll® laminating adhesives impress with outstanding adhesion to films and substrates, virtually no foaming, a high yield, and excellent processing characteristics. As complement to Jowat adhesives, UV curing Permacoat® decor varnishes impress with very good adhesion properties, high scratch resistance, a smooth and even application pattern, and facilitate special visual effects, such as glossy or matt surfaces. The appearance of products at the point of sale is also enhanced with cut out windows. Highly transparent, special Jowacoll® laminating adhesives ensure an efficient assembly of cut out windows through the conventional method with plate rollers. They are also applied as a full-surface coating on the inside to provide an additional barrier function against substance migration.

Jowat also supplies dispersions from the Jowacoll® product range for longitudinal seams and point gluing of folding boxes. These adhesives are characterised by excellent mechanical processing characteristics and very good adhesion even to demanding, coated or lacquered surfaces.

For the premium packaging: Special extras, such as labels or samples, can be applied with dispersions or hot melts – depending on the individual requirement; either for an easy removal or permanent bonding.



A real eye-catcher

Full transparency with Jowat adhesives.

Clear folding boxes are available in a huge variety of geometries and finishings. With a clear view of the goods inside, these boxes provide a highly attractive product presentation.

Clear folding boxes

The manufacture of clear folding boxes requires special adhesives. Clear folding boxes can be manufactured from a variety of plastics, each with different surface properties, and often difficult to bond. The joint has to be virtually “invisible”, without any blisters that would impair the view.

For the longitudinal seam of clear folding boxes, Jowat supplies a couple of powerful reactive hot melts from the Jowatherm-Reaktant® product group. These adhesives ensure a strong bond on all standard plastics (PET, PP and PVC). In addition, the PUR hot melts are transparent, provide an optimum heat resistance, and cure in thin layers without any blisters in the bondline. The special feature of these products is a significantly

reduced yellowing of the bondline due to the very high UV resistance of the adhesive. This ensures a permanently attractive packaging.



All-round packaging

Sacks, bags and pouches for everyday use.

Every day, all kinds of goods are transported in flexible packaging, such as sacks, bags or pouches. Depending on the goods inside and the production process, this packaging form is available in a variety of different materials and geometries. Adhesives play a key role in manufacturing processes on highly complex, high speed production lines.

Sacks and Bags

Flexible and strong, sacks and bags ensure a safe transport of goods such as free flowing bulk material. To protect the goods from mechanical stress and moisture, this packaging is usually manufactured from a composite material consisting of several layers of paper and plastic foils, paper and paper, or paper and aluminium foils. Special Jowacoll® dispersion adhesives used in manufacturing ensure, for instance, a fibre-free separation of the paper-plastic compound. In addition, the adhesives are characterised by superior feed properties, are easy to clean, provide a reliable, permanent adhesion to the different substrates, and meet the demands of food contact regulations.

Carrier bags can be manufactured at low costs with Jowat-Toptherm® hot melt adhesives, which provide a reliable bond even on difficult to bond materials such as polypropylene woven without a prior surface treatment. These hot melts are characterised by a good wetting property, strong adhesive force and high aging stability.



Packaging processes: Primary packaging



Effective protection

Safe food packaging with Jowat adhesives.

Food safety and the barrier function for protection against mineral oil migration play a major role in the food packaging process. Not only with regard to the material, also to the adhesive which seals the packaging. In addition, line speeds are increasing, placing new demands on the adhesive.

Food safety

About 50 % of all globally manufactured packaging is used for food. Therefore, food safety is an important issue and a top priority in the development of new Jowat adhesives. For years, Jowat has carefully selected the raw materials for the manufacture of adhesives to ensure that the products meet the high standards in the food industry. Powerful packaging adhesives from Jowat are colourless and odourless. They also are certified for food packaging according to the American FDA regulation 175.105, and the EU regulation 10/2011.

Folding boxes

Another major concern in the packaging industry is the risk of harmful substances migrating from the packaging material into the food. Folding boxes for food packaging are manufactured more often from recycled paper, which requires an additional barrier to protect the goods against a potential migration of varnish or print ink components. The barrier function is provided by films, or by dispersion or extrusion coatings that are applied onto the interior side of the folding box. In general, sealing folding boxes

used for primary packaging is a very demanding application, due to the difficulty to assess the surface properties of the material. Jowat adhesives developed for closing primary packaging made of recycled and virgin fibre paper provide excellent results on the most different barrier coatings. These adhesives are characterised by a good cohesion at unfavourable counter pressure, plus superior adhesion to surfaces with finishing, film lamination or varnish coatings. Meeting highest requirements, these adhesives also impress in applications with sensitive products due to the excellent resistance to essential oils, such as the bergamot oil in tea.

Bags

In the manufacture and filling of bags for food, such as coffee or flour, the high take-off speed on mandrel wheel units plays a major role. The setting behaviour of the adhesives has to be adapted to the increasing processing speeds. In addition, the finishing degree of bags has also increased. Good and permanent adhesion to difficult-to-bond surfaces, such as UV print colours, and excellent processing characteristics of the adhesive are prerequisite requirements in this application.

A little goes a long way

Demanding bonding in the beverage industry.

The market for beverage packaging is growing. Innovative technologies and material properties play a key role in the development of new products with optimised characteristics, such as strength, process cycles, heat resistance and clean processing. Therefore, a fast, reliable and permanent bond becomes more important than ever.

Beverage cartons

Beverage cartons are available in a wide variety of designs and closures. Depending on consumer preferences and region, they are closed with different types of flip caps, screw caps, and may provide straws. The attractive design and easy handling of these cartons would not be possible without adhesives. To ensure a reliable application of the caps and straws, the adhesive has to provide high initial strength even at smallest application amounts. High resistance to heat, low temperatures, and water are also necessary. The durability of the bond must be ensured beyond the hot filling process and the subsequent cooling of the product. Jowat® CAP adhesives are developed specially for the application of caps and are characterised by high stability in the melt, high flexibility at low temperatures, high heat

resistance, and a wide range of adhesion. Cap adhesives are available as pillows – a supply form which facilitates easy, clean and fast processing, and reduces the waste from packaging. Jowat® CAP adhesives are odourless and colourless, and are certified for direct food contact.

Different shapes and wrapping foils are standard challenges in the application of straws. Adhesives for this application provide the necessary adhesion to ensure a reliable bond between the straw and the carton, from the processing line all the way to the consumer.



Labelling

Labels on plastic bottles or tin cans take brand messages to the world. Therefore, the appearance of the label has a major influence on a customer's decision to buy the article at the point of sale. Creased labels or labels peeling off would have a devastating effect on the public perception of the brand. A reliable bond between the label and the container can only be ensured with the proper adhesive. While providing a high bonding strength, hot melts for paper and plastic labels also need to be very flexible. Jowat Tophtherm® hot melts based on polyolefin are characterised by long-term stability in the melt, minimal stringing during application, and ensure highly reliable processes – even at small application amounts. Due to their formulation, these adhesives do not bleed even through thin paper labels.



Special applications

For special applications, Jowat develops tailor-made adhesive solutions in close cooperation with customers. For instance, food packaging with demanding substrates, such as in the bonding process of so called toptainers, where the plastic cover is bonded to the packaging of infant formula. Jowat supplies a special adhesive for this application, with an outstanding range of adhesion and a long open time.

Efficient packaging processes

Adhesive solutions for cardboard boxes, trays and shelf-ready packaging.

Powerful adhesives facilitate reliable assembly and closing processes for secondary packaging, such as folding boxes, trays, wrap-arounds or special shelf-ready packaging in End-of-Line processes.

Case erecting and sealing

The powerful Jowat Toptherm® polyolefin hot melts impress with a high yield and clean processing, reducing maintenance costs and downtimes in packaging processes. Whether tray assembly, folding box sealing or wrap-arounds – the state of the art adhesive formulations with a low impact on resources keep processing costs low. The latest trends in the industry, such as shelf-ready packaging, provide significant benefits at the point of sale for retailers and consumers. Due to the attractive secondary packaging, the articles can be put directly onto the shelves. Special tray shapes with removal cut-outs provide a convenient and safe way of taking the article out of the secondary packaging. The 180° flaps on these cut-outs, however, represent a challenge for the bonding process due to the high restoring forces. To meet the requirements of this application, Jowat has developed special

powerful adhesives with superior processing characteristics and high initial strength.

Jowat Toptherm® products provide the high heat resistance required for the sealing of cardboard boxes. This characteristic, however, is not only needed for hot filling. Adhesives with a high heat resistance are also essential for packaging that is exposed to high temperatures during transport. In addition, these adhesives are characterised by a good cut-off at the nozzle, excellent feed performance, and high process stability. For deep-freeze packaging, Jowat also provides special adhesives with a good flexibility at very low temperatures, excellent adhesion and high resistance to humidity and mechanical stress. This combination ensures a permanent bond.



Strong support in processing

Jowat adhesives are also suitable for streamlining packaging process. A hot melt adhesive, for instance, is used to keep a foil in place on the walls of a cardboard box while the goods are placed inside it. Afterwards, the foil is peeled off the cardboard, folded to cover the goods, and shrunk using infrared radiation.

Packaging processes: Load security



Safe loading

Added value in transport and storage.

Adhesives used for load security impress with a number of benefits. In addition to bonding, these adhesives also protect goods during transport and storage when applied to prevent slipping or for spacing purposes.

Safe grip

Special Jowacoll® dispersions or Jowatherm® hot melts can prevent packaging slipping in palletising. For instance, these adhesives can be applied as a coating directly onto the secondary packaging such as folding boxes. Alternatively, slip papers and cardboards may be coated inline or prior to the palletising process. After cooling down, the adhesive is still slightly tacky or dull. This ensures that the packages do not slip, while still being easy to separate. These adhesives facilitate higher loads on pallets, and do not leave any residues during depalletising.

Keeping the distance

In addition to providing anti slip properties, adhesives are also applied as spacers to protect goods against scratches and breaking during transport and storage. Jowat Toptherm® hot melts, for instance, are applied to the underside of roofing tiles and even glass as spacers. These adhesives provide a couple of special characteristics: a fast build up of initial strength, and high resistance to pressure, therefore, keeping their shape under the load of the tiles and glass on top. They adhere to the underside of the substrate without leaving any marks on the materials beneath them.

Special Players

Adhesives with outstanding characteristics.

The packaging industry increasingly focuses on clean, energy-efficient and sustainable solutions - also with regard to the development and application of adhesives.

Innovative adhesive solutions

Innovative adhesive solutions facilitate modern packaging processes – in packaging material manufacturing as well as during the packaging process. Powerful Jowat Toptherm® polyolefin hot melts impress with a high yield and energy efficiency. The sustainable and green adhesive solutions from the Jowat Toptherm® product group are based on formulations low on resource usage due to a selection of renewable raw materials. They reduce application costs and impress with an increased range of adhesion. Additional efficient adhesive solutions such as low-temp hot melts provide potential for energy savings and increased workplace safety due to low processing temperatures. These products are characterised by virtually no stringing and high heat resistance. Jowat hot melts are renowned for excellent feed and pumping properties. They are suitable for all standard Melt-on-demand systems and can be processed with the latest generation of energy-efficient units.

Modern adhesive products from Jowat support manufacturers and processors in the packaging industry and play an important role in ensuring highly efficient processes.

Have we sparked your interest?

As a global innovation partner in the packaging industry, Jowat supports processors in optimising manufacturing processes and in meeting customer requirements. We understand the challenges in the packaging industry – whether increasingly demanding surfaces due to superior finishing or barrier function, challenging ambient temperatures, shorter process cycles, or growing requirements with regard to energy and cost efficiency.



We are part of the entire manufacturing chain and provide extensive advisory services: from the continuous search and testing of new, sustainable raw materials, to the development of innovative adhesives in close cooperation with processors and engineering companies, and to conducting individual failure analysis in case of rejects. For years, Jowat has safeguarded the success of enterprises and protected investments by playing a key role in providing innovative adhesive solutions for existing and new engineering technologies, and facilitating the optimisation of products and processes.

Have we sparked your interest? Contact us!
We look forward to working together.



www.jowat.com

Jowat SE

Ernst-Hilker-Straße 10-14
32758 Detmold • Germany
Telephone +49 (0) 5231 749-0
www.jowat.de • info@jowat.de