

Industry Information

Adhesive solutions for the furniture industry



Our Word is Our Bond

Jowat
Adhesives



Furniture inspired by lifestyle

Bonding solutions for modern interiors.

No other industry reflects the lifestyle of consumers as clearly as the furniture sector. Individual room designs increasingly melt into one to express current preferences in our way of living. Therefore, the furniture is equipped with more functions to meet the most different requirements at the same time.

Furniture industry

The way a home is furnished can reveal a lot about the preferences of the people living there, such as whether they are rather the relaxed type, enjoy cooking or love social get-togethers. The way of living is closely connected to the furnishings and furniture industry.

Hardly any other industry combines so many opposing demands with regard to design and purpose: retro chic and contemporary elegance, individuality and multi-functionality, serene retreats and convivial environments are equally in vogue. And modern furnishings show that these requirements can easily be combined. The desire to slow down from the fast pace of life finds its expression in the furnishing of our homes following the Danish way of life “Hygge”. On the one hand, home has to be a

safe haven. On the other, we also enjoy having guests over and make our homes the centre of our social life. The relaxing atmosphere of free time merges with the home office, and high-tech and the trend towards natural materials are equally important in everyday life. Creative and at the same time functional furnishing elements are in high demand, small, smart furniture pieces make the most out of small spaces, and different rooms such as for instance kitchens and dining areas melt into one bigger room, often alongside an open living room.

Therefore, the same piece of furniture can be used in different rooms and has many functions. Superior upholstery furniture is increasingly also used in kitchens; bedrooms and bathrooms become relaxation areas; the demand for attractive design and durability is growing.



The requirements for high quality, outstanding appearance and functionality in the manufacturing of superior and flexible furniture with a growing material diversity and faster production speeds can only be fulfilled with intelligent, powerful adhesive products which are characterized by excellent performance in all steps of the process chain.

Innovative products. In-depth know-how. Competent advisory.

Comprehensive service for bonding applications in the furniture industry.

Manufacturing processes in the furniture industry with individual requirements and highest demands for product design and quality need innovative adhesive products as well as a solid know-how and a competent advisory service. As a leading adhesives manufacturer, Jowat has many years of experience in the furniture and furnishings industry and provides a full range of solutions for all production environments, applications and adhesive-related questions.

Comprehensive service

Jowat supports customers with a wide range of services for the entire bonding process. Long before the actual bonding process even starts, we analyse the production process to determine the specific requirements of the customer, provide support during the designing and planning phase including the application technology, and qualify and test the adhesive on the substrates to be bonded to ensure that the most suitable adhesive is chosen. With a wide range of different adhesive technologies from dis-

persions and solvent-based adhesives to thermoplastic and reactive hot melts, Jowat provides suitable adhesive solutions for all different applications including highly complex operations.

Each bonding process is unique. To ensure a superior result, we provide a close and individual technical advisory service. Customer-specific bonding procedures with different substrates, engineering and application technology as well as framework conditions require an early and very precise analysis of all process parameters, such as storage conditions, adhesive application or downstream processing.



When the bonding process is finished, the service provided by Jowat is far from over. The transfer of know-how, for instance through adhesive trainings and the qualification of staff, is an integral part of our cooperation with customers. Different certified adhesives from our product range guarantee a smooth bonding process and meet special industry-, application- and product-related requirements. In addition, quality assurance plays an essential role through the complete process chain of bonding. Our expertise

acquired through quality and claim management facilitates a sustainable correction of potential errors and a constant improvement of the bonding process.

Everything in the box

Secure bond and superior appearance for modern design furniture.

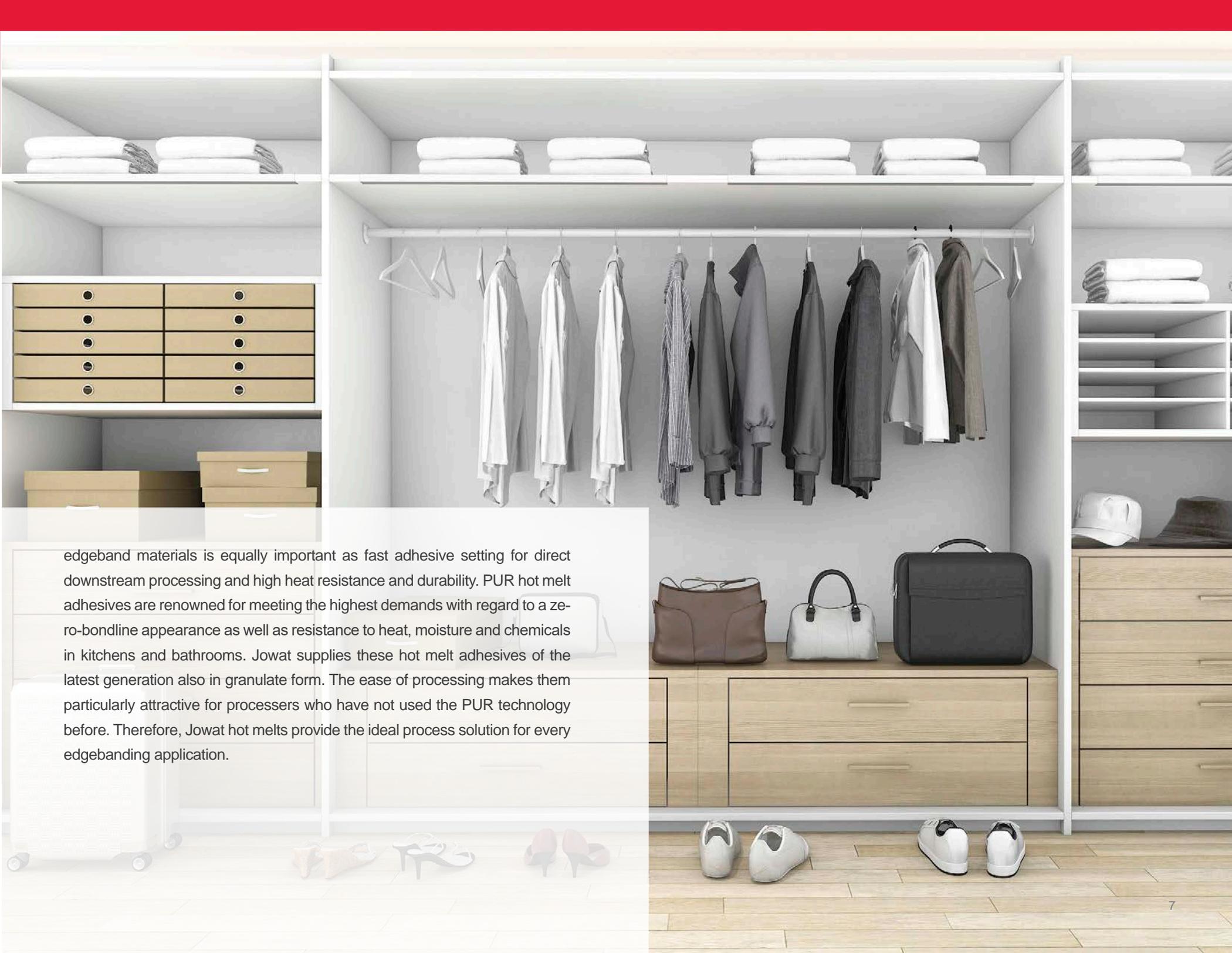
Changing lifestyles have set new requirements for all types of cabinets. These furniture elements are no longer only helpful items but have become integral parts of home settings which frequently flow seamlessly into each other. One demand applies everywhere: superior durability and visual appearance.

Cabinetry

Whether cabinets for the eat-in kitchen, the bedroom or the bathroom: The requirements for the quality of the furniture are high and expressed in the durability and the superior appearance of the furniture. Powerful adhesives which impress in the different applications with special characteristics ensure that these demands are met in the manufacture of all types of cabinets. The broad portfolio of Jowat provides suitable adhesives for doweling, edgebanding, the bonding of 3D fronts and profile wrapping. Jowat doweling glues, for instance, are ideal for application by nozzle on soft- or hardwood species and on particleboards in fully automated industrial production lines. This dispersions have been developed to meet the precise requirements of modern processing stations – from low-viscosity dispersion adhesives for optimized

application on horizontal application on dowel pressing units, to pasty product versions for vertical overhead application on assembly lines. The easy to process, joint-filling and tough-elastic glue film facilitates an extremely precise dosing without adhesive build-ups at the nozzle heads. Additives in the formulation prevent adhesive build-ups at the metal nozzle tips.

Furniture fronts are manufactured from a wide range of different materials and in many different forms. These parts which are mainly used for kitchen and bathroom furniture are laminated with 3D materials using PU dispersions. Due to high initial strength, they facilitate fast process cycles and fully automated processes. Modern, thermoplastic and moisture-curing reactive adhesives ensure superior bonding strength and high-quality appearance in edgebanding applications. A broad spectrum of adhesion to different



edgeband materials is equally important as fast adhesive setting for direct downstream processing and high heat resistance and durability. PUR hot melt adhesives are renowned for meeting the highest demands with regard to a zero-bondline appearance as well as resistance to heat, moisture and chemicals in kitchens and bathrooms. Jowat supplies these hot melt adhesives of the latest generation also in granulate form. The ease of processing makes them particularly attractive for processors who have not used the PUR technology before. Therefore, Jowat hot melts provide the ideal process solution for every edgebanding application.

Lean back and relax

Special adhesives for seats and upholstery furniture.

In interior furnishing, upholstery furniture stands for comfort and relaxation, and wood furniture for solid quality and durability. Whether it is an XXL couch or a chair - high-quality finishing is essential for an atmosphere of well-being. Special adhesives also play a major part in this.

Seating and upholstery furniture

One of the most distinctive characteristics of the manufacture of upholstery furniture is the material diversity. In addition to the different form and cut foams used as seat padding, couches, armchairs, and seating ensembles in a wide range of designs are manufactured from a huge variety of textiles, wood-based materials and plastics.

Furthermore, furniture functions are increasing, such as adjustable backrests and foot sections, and different furniture items merge together, such as seating and sleeping furniture. Therefore, a broad spectrum of adhesion to the different substrates used in manufacturing is a prerequisite for the adhesive. Also the adaption to the varying process times, a combination of long open time and high green strength. In general, the different foams and cover

fabrics in the upholstery furniture industry are bonded with solvent-based adhesives. They are usually applied with spray guns and are characterized by an optimum spraying performance, best adhesion and high heat resistance. The solvents in these cases serve as processing aides which evaporate during spray application and afterwards. The Jowat portfolio provides a wide range of solvent-based adhesives, from general-purpose products with a medium solids content, to special formulations with a high solids content. When processed properly, these adhesives virtually eliminate the risk of fire due to solvents in manufacturing and facilitate increased efficiency due to lower application amounts and therefore reduced costs per part.



© Rolf Benz

These products have been established for many years in the foam-processing and the upholstery furniture industry, and are based largely on renewable resources. Therefore, they provide a major input into resource conservation and workplace safety. In the assembly of furniture frames, powerful dispersion adhesives known as so-called “fast binders” due to their impressive

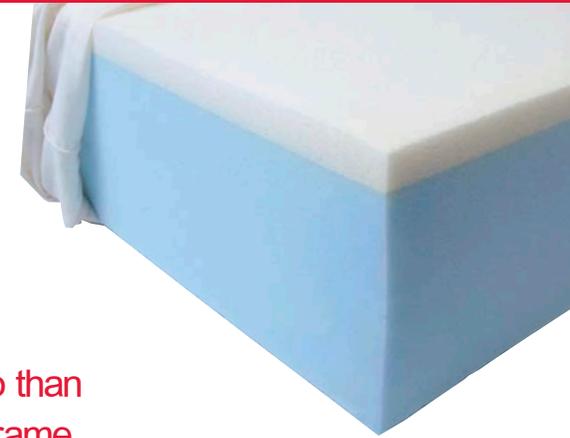
short setting time are the product of choice for dowel and tenon joints of solid wood and wood-based parts. These adhesives are characterized by optimum viscosity, excellent processing properties and high bond strength, and ensure a high-quality and durable joint.

Sleeping furniture



A good night's sleep

Non-hazardous adhesives for a huge mattress diversity.



Good mattresses are the foundation of a restful sleep and regeneration, often even more so than the furniture. Modern adhesives play a major role in the assembly of the bedstead and bed frame, as well as especially in the manufacture of mattresses and therefore provide a major input into comfort and health.

Sleeping furniture

Customers looking for the most suitable mattress can choose from a wealth of options. Foam mattresses with an increasing number of layers of latex, memory or gel foam are equally in vogue as pocket innerspring mattresses, for instance for the highly demanded box spring beds. Efficient adhesives which impress with special characteristics are used in all applications, from the assembly of pocket innersprings to the manufacture of foam mattresses or the lamination of mattress cover fabrics.

Due to their high bounce back elasticity, pocket innersprings ensure a special resting comfort. During assembly, the individual nonwoven spring pockets are usually bonded together and stored as Roll-Pack. A high bond strength is essential in manufacturing during the fast pressing and rolling process as well as later during use. The EVA hot melt adhesives which are generally used in this application are characterized by very good adhesion and penetration on PE and PP nonwovens and impress with short open times and short pressing times due to a fast build-up of cohesion. Different open times of up to 2 minutes are required during the assembly

of the pocket innersprings depending on type and assembly process. At the same time, the adhesive has to be characterized by a fast build-up of cohesion to bridge the tensions in the joint, as well as highest adhesion to the material combinations and good penetration into foams. These requirements are fulfilled by hot melt adhesives based on polyolefin. In the manufacture of foam mattresses, an increasing number of layers of sometimes different foams are laminated to each other. The adhesive used in this application has to be highly flexible and adhere to a wide range of materials.

PUR hot melt adhesives meet these demands and provide a significantly faster build-up of strength compared to the frequently used dispersion adhesives. Therefore they facilitate more efficient manufacturing processes due to faster mattress packaging with less energy consumption. Mattress ticking protects the mattress against abrasion and mechanical stress, and additionally firms up the mattress. Mattress cover fabrics are laminated and coated by applying polyolefin hot melt adhesives which ensure a fast setting as well as the necessary seam slippage resistance of warp and weft in the textiles.

Decorative and durable

Perfect bonding of profiles and furniture components.

In interior furnishing, the appearance and quality of the product often depends on the details. Whether visual highlights like wall and ceiling panels or basic furniture components such as kitchen worktops and windowsills: Choosing an adhesive which meets the requirements for manufacturing as well as for the final product is crucial.

Profile and furniture components

With wall and ceiling panels there are virtually no limits set for the individual design of rooms. While room ceilings covered with wood panels were common in the 1980s, today a wide range of the most different product variations is provided for ceilings and walls.

Decor panels often function as a practical and attractive alternative to wallpapers, can be enhanced with matching lights or be suitable for wet environments such as kitchens and bathrooms. The panels generally consist of a MDF board wrapped with decor papers, foils or veneer. An increasing wealth of product variants and functions in profile wrapping requires high-performance adhesive with special characteristics for this application. Hot melt adhesives based on polyolefin (PO) are preferred especially when

high heat resistance is necessary. In addition to the high heat resistance and good flexibility at low temperatures, PO hot melts are also characterized by a broad spectrum of adhesion and can be adapted optimally to the specific requirements of every individual application.



In addition to having a specific purpose, some furniture components or furnishing elements, such as kitchen countertops or windowsills, also have to meet increased technological requirements. Firstly, these substrates are laminated with PVAc dispersions, PUR hot melts or other adhesive types. In a following post-forming process, the profiled carrier can then be covered seamlessly with a decor material to create a rounded edge on the countertop or the windowsill. Specially adapted dispersions or hot melt adhesives are the adhesives of choice for this procedure. The border between the edge and the coating on the underside is additionally sealed with a PUR hot melt adhesive to improve the moisture resistance of the product.

Open for everything

Flexible and strong bonds for interior doors.

Premium design does not stop at the door. On the contrary: Interior doors play an increasingly central role and the variety of products and designs is growing. Apart from having a high-quality appearance, doors also have to be very resistant characteristics which are also demanded from the adhesive used in manufacturing.

Interior doors

The trend towards individual and distinctive designs and the related increasing material diversity along with constantly faster process cycles in industrial serial production represent huge processing challenges in the manufacture of doors as well as for the adhesives used. In addition, the product and the adhesive have to fulfil different requirements depending on the type of door which is manufactured. Door leaves are laminated with classic real wood veneer or modern material combinations using dispersion and hot melt adhesives which have been adapted optimally to the individual process. Each adhesive system provides a different set of benefits.

For instance, the risk of adhesive penetrating through the veneer is minimised with special dispersion formulations and discoloration can be prevented with an adapted pH value. Adhesives with reduced emissions and a

powerful adhesion facilitate a plasticiser-free bonding of thermoplastic foils and decor foils, and provide a major input into healthy living conditions, an aspect which becomes more and more important to consumers. Due to the solids content of 100 percent, hot melt adhesives prevent the swelling of wood-based substrates, facilitate optimised application amounts and a thin, hard bondline, and therefore ensure a smooth as well as resistant surface.

The combination door leaf and door frame is characterized by an even greater product variety. The diversity of laminating materials is huge and door structures vary from country to country due to different requirements. A comprehensive product portfolio provides the suitable hot melt adhesive on EVA, PO or PUR basis for the profile wrapping of door frames as well as for the edgebanding of the door rebate. Fast manufacturing processes with high feed speeds and modern application technologies in profile wrap-

ping operations demand adhesives with excellent flow properties and initial strength. Modern high-performance adhesives based on polyolefin are characterized by superior processing characteristics and a broad spectrum of adhesion to the most different materials. In addition, the outstanding thermal stability in the melt and a low application amount facilitate a smooth and efficient application and provide additionally a high heat resistance. PUR hot melt adhesives are ideally suitable for the wrapping of materials which are difficult to bond and applications with highest requirements for heat and moisture resistance as well as strength.



Store fixtures and office furniture

Individual. Functional. Representative.

Adhesives for special requirements in the manufacture of store and office furniture.

The expectations for furniture designed for offices, stores and trade fair booths are very different from requirements for home furniture. Office and store furniture is tailored to the individual demands of the customer who may focus on the presentation of goods in shops, visual highlights on trade fairs, or require special standards in hospitals.

Store fixtures and office furniture

Requirements for office, store and trade fair furniture are very unique with regard to design, materials, construction or functionality, and depend on the purpose of the furniture and the expectations of the customer. For instance, furniture in stores is used much more than home furniture and is therefore exposed to a lot more wear and tear. A superior quality of the used materials as well as a stable furniture construction are essential for durability and resistance. At home the focus is on the actual furniture, while in stores the spotlight is on the goods to be sold, not on the furniture. However, the requirements for design and functionality are high. The furniture has to be consumer-friendly and also an ideal display to present the goods.

Exhibition furniture needs a noticeable design with visual highlights that stand out from the other booths. Individuality plays a major role and the



stand has to be tailored to the exhibitor's profile. In addition; furniture constructions for trade fair booths have to impress with special functionalities. For instance, they have to be highly effective, mobile and easy to use. Due to the special form and function of the product, the production process is usually different from the manufacturing of home furniture. In addition to providing a major input into the individual functions of the furniture, adhesives for this application also have to facilitate efficient production processes.

Individual, functional and representative settings also play a major role in the commercial sector. Ideally, optimum usability is coupled with professional and visually appealing furnishings. In special buildings, such as for instance medical practices, hospitals or laboratories, additional factors, such as hygiene and sturdiness, also play a major role. Modern hot melt adhesives based on PUR are characterized by superior resistance to moisture, solvents and cleaning agents, and therefore facilitate high compound strength.



Sustainable development

Adhesives with special strengths for individual requirements.

Adhesives facilitate reliable processes, support the individual functions of the product and meet the requirements for the material compound. Jowat meets new challenges with a constant development and uses the know-how from many decades of experience to master new fields of application.

Innovative adhesive solutions

Our many years of experience as adhesive specialist enables us to provide a major input into the improvement of employee safety in production, into increased health protection for the consumer by reducing emissions from products, as well as into environmental protection, for instance by supplying adhesives which are easier to recycle. Finding new formulations for the manufacturing of sustainable and environmentally compatible adhesive products is one of our major objectives and a permanent responsibility for development at Jowat.

For many years, Jowat has supplied solvent-based adhesives with a high solid content and a reduced solvent percentage which are used for instance in the manufacture of upholstery furniture. A foil adhesive with reduced emissions facilitates the plasticiser-free bonding, in particular of thermoplastic foils and decor foils. Currently, Jowat is actively developing

formulations to further optimize adhesives with an increasing percentage of renewable resources, e.g. based on vegetable oils or residual wood. For instance, a newly developed PUR hot melt adhesive for edgebanding is based largely on renewable raw materials and has a superior adhesion compared to most conventional edgebanding adhesives, with only minimal longer process times. Monomer-reduced (MR) polyurethane adhesives are also an established series in the Jowat product portfolio. These reactive MR adhesives provide the well-known performance of the PUR technology and meet high requirements regarding resistance to heat and water and joint quality. Due to reduced emissions, these adhesives are non-hazardous and therefore not classified. And the development of innovative adhesive solutions continues.

Have we sparked your interest?

As a global innovation partner in the manufacture of furniture and furnishings, Jowat actively supports processors in optimizing production processes and in meeting customer requirements. Due to many years of experience supplying the industry with a full range of adhesives, we have a deep understanding of the challenges in the furniture and furnishings sector – whether increasingly faster manufacturing speeds, growing material diversity, giving “smart furniture” a broad spectrum of different functions or highest demands on quality, appearance and durability.



We are part of the entire manufacturing chain and provide extensive advisory services and competent know-how: from the continuous search and testing of new, sustainable raw materials, to the development of innovative adhesives in close cooperation with sub-suppliers and processors, and to carrying out individual failure analyses in case of rejects. For years, Jowat has played a key role in safeguarding success and protecting investments by providing adhesive solutions for the many different applications in the manufacture of modern furnishings, and facilitating the optimization 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
Telefon +49 (0) 5231 749-0
www.jowat.de • info@jowat.de

Your local Jowat subsidiary:

USA

Jowat Corporation
5608 Uwharrie Rd.
High Point, NC 27263, USA
Phone +1 336 434-9000
info@jowat.com • www.jowat.com