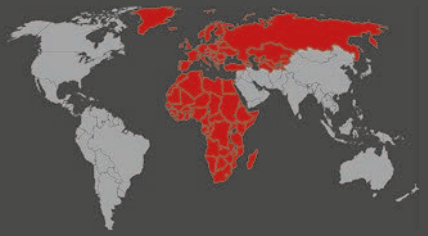
Portfolio Information

Adhesive Portfolio for the Furniture Industry



- Edgebanding
- Flat Lamination
- Profile Wrapping
- 3D Lamination
- Postforming
- Doweling and Frame Bonding
- Upholstered Furniture Manufacturing
- Mattress Manufacturing
- Assembly and Packaging

Our Word is Our Bond

Jowat Adhesives

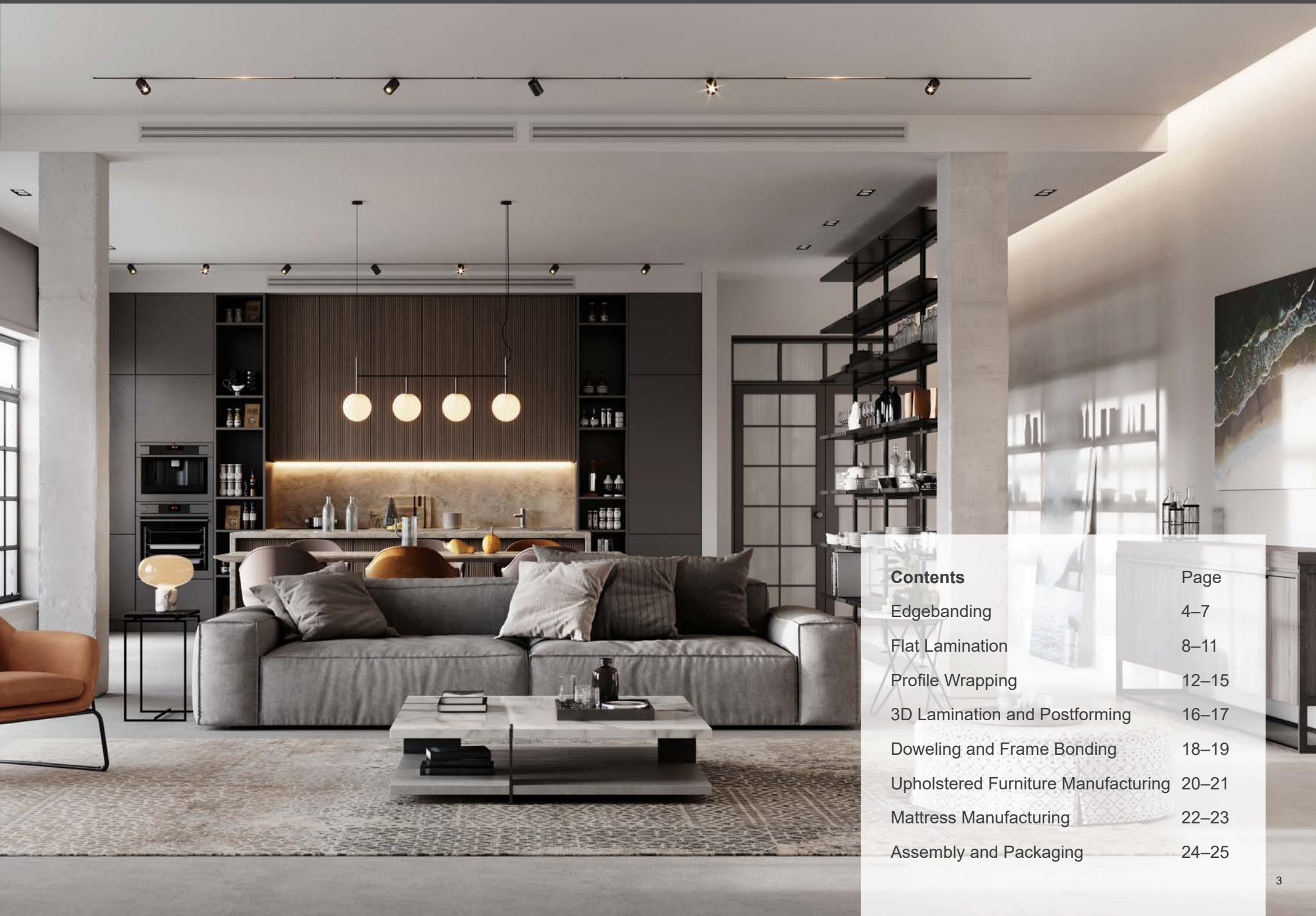
Adhesives for the Furniture Industry

Always a Solution at Hand

The way a home is furnished can reveal a lot about the people living there. For example if they like to relax, enjoy cooking or love sociable get-togethers. Our way of living is closely connected with the furnishing and furniture industry.

Hardly any other industry combines such a wide range of contrasting expectations for design and functionality: retro chic and contemporary elegance, individuality and multi-functionality, serene retreats and convivial environments are all equally in vogue at the moment.

The requirements for high quality, outstanding appearance and functionality in the manufacture of superior and flexible furniture with a growing variety of materials and increasing manufacturing speeds can be fulfilled only with intelligent, powerful adhesives characterized by excellent performance in all stages of the process chain.



Contents	Page
Edgebanding	4–7
Flat Lamination	8–11
Profile Wrapping	12–15
3D Lamination and Postforming	16–17
Doweling and Frame Bonding	18–19
Upholstered Furniture Manufacturing	20–21
Mattress Manufacturing	22–23
Assembly and Packaging	24–25

Edgebanding

Edgebanding wood-based panels with a wide range of edgebands has been an established practice in the furniture industry for many decades. Quality expectations with regard to visual appeal, the technological progress in engineering and also a virtually unlimited material diversity—all of these factors present special challenges to the adhesive technology. In the modern production of superior furniture, the quality of edgebanding is increasingly becoming a key aspect when assessing the quality of the entire furniture item. End customers expect furniture with flawless and virtually invisible bondlines.

Modern thermoplastic and moisture-curing reactive adhesives facilitate top quality and flawless appearances in edgebanding applications. A broad spectrum of adhesion to different edgeband materials and fast adhesive setting are equally important for direct downline processing and high heat resistance plus durability. PUR hot melt adhesives are renowned for meeting the highest requirements for a zero-bondline appearance as well as resistance to heat, moisture and chemicals in kitchens and bathrooms.

These hot melt adhesives of the latest generation are also supplied by Jowat in the convenient granulate form, facilitating an easy transition to PUR technology for new processors. Jowat hot melt adhesives therefore provide the ideal process solution for every edgebanding application.



Monomer-reduced PUR hot melt adhesives (MR)



One-component, moisture-curing PUR hot melt adhesives have been an established technology in plastic window profile wrapping applications for decades. The conventional PUR hot melt adhesives generally contain residual monomers (usually diphenylmethane-4-4'-diisocyanate, MDI) in the order of approx. 2 %. Since 2012, products with a free monomeric isocyanate content of 0.1 % and more must be labelled with the GHS pictogram No. 8 (health hazard) and with the corresponding safety information (H and P statements). Adhesives with a free monomeric isocyanate content of less than 0.1 % are not subject to hazard labelling requirements.

PUR Granulate from Jowat

- Can be processed with conventional edgebanding machines (no investment in new machine technology necessary)
- Easy entry into PUR processing
- Particularly attractive for new processors and small businesses
- Available for through-feed and stationary lines
- Perfect dosage due to supply in convenient pull-ring cans
- Available for a wide range of products—including Jowatherm® PUR MR
- Easy transition from EVA to PUR, and back, possible



EVA Hot Melt Adhesives for Edgebanding

	Based on	Appearance	Processing temperature [°C]	Oxidation stability	Heat resistance	Water resistance	Feed speed	Yield	Remarks
Jowatherm® 280.10	EVA	yellow translucent, white	190–210	●●◐	●◐○	●◐○	●○○	●●●	high initial strength, for molded parts on BAZ, also for solid wood edges
Jowatherm® 280.30	EVA	yellow translucent	180–200	●●◐	●◐○	●◐○	●●○	●●●	good bonding strength, also for BAZ and solid wood edges
Jowatherm® 280.50	EVA	beige, white	180–200	●●○	●◐○	●○○	●●●	●●○	wide range of applications, also for entry-level machines
Jowatherm® 280.58	EVA	colorless	180–200	●●◐	●◐○	●◐○	●●○	●●●	premium, colorless joint
Jowatherm® 282.20	EVA	beige, white	130–150	●●○	●○○	●○○	●○○	●◐○	for manual and entry-level machines, low processing temperature
Jowatherm® 284.00	EVA	beige, white	190–210	●●○	●○○	●○○	●●◐	◐○○	high cohesion, good initial strength
Jowatherm® 284.70	EVA	beige, white, brown, black	190–210	●●○	●○○	●○○	●●○	◐○○	basic grade
Jowatherm® 286.30	EVA	yellow translucent	180–200	●●◐	●○○	●○○	●●○	●●●	good bonding strength, mini cartridge (e.g., for Holz-Her)
Jowatherm® 288.10	EVA	beige	180–200	●●○	●○○	●○○	●●○	●◐○	softforming, optimized stringing
Jowatherm® 288.60	EVA	beige, white	180–200	●●○	●◐○	●○○	●◐○	●◐○	cost-optimized, wide range of applications

PO Hot Melt Adhesives for Edgebanding

	Based on	Appearance	Processing temp. [°C]	Oxidation stability	Heat resistance	Water resistance	Feed speed	Yield	Remarks
Jowatherm® PO 227.30	PO	beige	180–200	●●◐	●●◐	●◐○	●○○	●●○	high initial strength, for BAZ
Jowatherm® PO 237.10	PO	beige, white	180–200	●●◐	●●◐	●◐○	●●●	●●○	wide range of applications
Jowatherm® PO 237.50	PO	colorless	190–210	●●●	●●◐	●●○	●●○	●●●	premium, optical “zero joint”
Jowatherm® PO 237.70	PO	beige	170–200	●●◐	●●○	●◐○	●●●	●○○	improved melting performance

PUR Hot Melt Adhesives for Edgebanding

	Based on	Appearance	Processing temp. [°C]	Crosslinking speed	Heat resistance	Water resistance	Feed speed	Yield	Remarks
Jowatherm® PUR 606.60	PUR	beige, white	140–160	●●○	●●●	●●●	●○○	●◐○	high initial strength, for BAZ
Jowatherm® PUR MR 606.90	PUR MR	colorless, white	140 - 160	●●◐	●●●	●●●	●○○	●●●	for molded parts on BAZ; improved occupational safety
Jowatherm® PUR 607.40	PUR	beige, white	130–150	●○○	●●●	●●●	●●◐	●◐○	very wide range of applications
Jowatherm® PUR 607.60	PUR	beige, white	140–160	●◐○	●●●	●●●	●●●	●◐○	for industrial machines
Jowatherm® PUR MR 607.90	PUR MR	beige, white	120–140	●●○	●●●	●●●	●●○	●●○	wide range of applications, improved occupational safety
Jowatherm® PUR 608.00	PUR	colorless, white	100–120	●◐○	●●●	●●●	●●○	●●●	wide range of applications, good bonding strength, optical “zero joint”
Jowatherm® PUR 608.10	PUR	colorless	110 - 130	●●○	●●●	●●●	●●○	●●●	high initial strength in high ambient temperatures
Jowatherm® PUR MR 608.90	PUR MR	colorless, white	120–140	●●○	●●●	●●●	●●○	●●●	for industrial machines, optical “zero joint,” improved occupational safety

Flat Lamination

Flat lamination is one of the oldest applications in the wood and furniture industry. In general, it involves the coating of a wood-based substrate with different decorative materials. The range of lamination materials is very wide, including resinated decor papers and veneers as well as thermoplastic foils or pressure laminates such as HPL and CPL. Wood-based panels laminated with a decorative surface material have become the state of the art. They are used in multitude of applications in the furniture, door and flooring industries as well as for the construction of exhibition stands and shop fittings.

The extremely wide variety of material combinations and the high quality expectations require powerful adhesives.
In addition to PVAc dispersion adhesives and UF adhesives, moisture-curing PUR hot melt adhesives have also increasingly been becoming a product of choice due to their excellent resistance to heat and moisture.
Jowat supplies a comprehensive portfolio of different adhesives for flat lamination to meet customer requirements in the best possible way.



PUR Hot Melt Adhesives for Flat Lamination

	Based on	Viscosity [mPas]	Processing temp. [°C]	Open time [min]	Initial strength	Range of adhesion	Certificate	Remarks
Jowatherm® PUR 609.00	PUR	~ 15,000 at 120°C	110 - 130	~ 4 at 120°C	●●●	●●◐	A.1/3.18 e	high initial strength, reduced hot tack for good repositioning
Jowatherm® PUR 609.30	PUR	~ 15,000 at 120°C	110 - 130	~ 3 at 120°C	●●○	●●○	A.1/3.18 e	classic choice for universal applications
Jowatherm® PUR 609.31	PUR	~ 15,000 at 120°C	110 - 130	~ 3 at 120°C	●●○	●●○	A.1/3.18 e	bubble-free crosslinking
Jowatherm® PUR 609.36	PUR	~ 13,250 at 120°C	110 - 130	~ 5 at 120°C	●◐○	●●●	A.1/3.18 e	wide range of adhesion, also to metal and glass
Jowatherm® PUR 609.40	PUR	~ 7,500 at 120°C	100 - 120	~ 2 at 120°C	●◐○	●●○	-	low application temperature, for laminating high-gloss foils
Jowatherm® PUR 609.60	PUR	~ 27,500 at 120°C	110 - 130	~ 8 at 120°C	●●◐	●●○	-	high initial strength for high-tension substrates, long open time
Jowatherm® PUR 600.17	PUR	~ 7,000 at 120 °C	110 - 130	~ 60 at 120 °C	●●◐	●●○	-	transparent
Jowatherm® PUR MR 609.90	PUR MR	~ 30,000 at 120°C	100 - 130	~ 3 at 120°C	●●●	●●◐	-	occupational health and safety with high initial strength
Jowatherm® PUR MR 609.92	PUR MR	~ 26,000 at 120 °C	100 - 130	~ 8 at 120 °C	●●●	●●○	-	long open time and high initial strength
Jowatherm® PUR MR 609.93	PUR MR	~ 14,000 at 120°C	110 - 130	~ 3 at 120°C	●●○	●●○	A.1/3.18 e	occupational health and safety, for universal applications

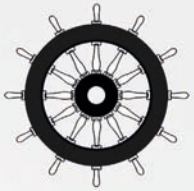
Dispersion Adhesives for Flat Lamination

	Based on	Viscosity [mPas]	Open time [min]	Durability class	Remarks
Jowacoll® 102.50	EPI	~ 11,000 at 20°C	1–4 at 20°C	D4 (2-comp.) WATT´91 > 7 N/mm²	high water and heat resistance, 2-comp. with crosslinker Jowat® 195.60
Jowacoll® 103.10	PVAc	~ 11,000 at 20°C	4–8 at 20°C	D3 / D4 (2-comp.)	“all-rounder”
Jowacoll® 103.30	PVAc	~ 12,500 at 20°C	6–12 at 20°C	D3 WATT´91 > 7 N/mm² / D4 (2-comp.)	premium D3 for short pressing times
Jowacoll® 103.70	PVAc	~ 10,000 at 20°C	5–7 at 20°C	D3	pH-neutral for wood species sensitive to discoloring
Jowacoll® 103.85	PVAc	~ 8,500 at 20°C	5–8 at 20°C	D3	D3, optimized for HF pressing
Jowacoll® GROW 105.85	PVAc	~ 8,000 at 20°C	4–8 at 20°C	D3 WATT´91 > 7 N/mm²	„All-rounder“ based on renewable raw materials (>20%)
Jowacoll® 124.00	PVAc	~ 9,500 at 20°C	5–7 at 20°C	-	optimized for short pressing times, for laminating finish foils
Jowacoll® 124.79	PVAc	~ 19,500 at 20°C	8–10 at 20°C	-	veneer glue for reduced glue bleed-through
Jowacoll® GROW 125.00	PVAc	~ 9,500 at 20 °C	8–10 at 20 °C	-	based on renewable raw materials (~30%)
Jowacoll® ER 147.00	copolymer	~ 8,000 at 20°C	1–3 at 20°C	-	low emission
Jowacoll® 148.00	copolymer	~ 12,000 at 20°C	1–3 at 20°C	-	“all-rounder”
Jowacoll® 148.70	copolymer	~ 10,000 at 20°C	1–4 at 20°C	-	wide range of adhesion for challenging surfaces

UF Adhesives for Flat Lamination

	Based on	Min. pressing temperature [°C]	Pot life [h]	Pressing time [s]	Remarks
Jowat® 950.20	UF resin	70	~ 7 at 20°C	~ 60 at 100°C	low-emission bonding in E1 quality, hot curing
Jowat® 950.40	MUF resin	20	~ 4 at 20°C	~ 150 at 100°C	high water resistance, also cold curing

EC Type Examination Certificates (“IMO Certificates,” Module B) / Fire Protection



According to the European Marine Equipment Directive 2014/90/EU, adhesives used in shipbuilding are subject to a certification requirement if they are used for the construction of “A,” “B” and “C” class divisions, i.e. as surface material for bulkheads, ceilings and linings. In contrast to the construction industry, all the individual components in a building element used in shipbuilding have to be assessed with regard to their combustion characteristics according to the IMO (International Maritime Organization) resolution. Products which meet the IMO Resolution A.1/3.18e “low flame-spread characteristics” receive the EC Type Examination Certificate and are labeled with the wheelmark quality seal. A selected range of Jowat adhesives have been certified in accordance with IMO and are marked with the corresponding symbol on the technical data sheet and the product label.

Profile Wrapping

Profile wrapping has been an established applications in the wood and furniture industry for many years. A wide variety of decor papers, thermoplastic foils, pressure laminates (e.g. CPL) and veneer are being used for wrapping different carrier substrates such as wood and wood-based materials, but increasingly also aluminum and other metals. This multitude of material combinations, the modern machine technology with ever faster feed speeds and the demand for flawless quality present great challenges for the adhesives used in this applications.

Modern thermoplastic and moisture-curing hot melt adhesives are renowned for facilitating high quality results, outstanding heat resistance and durability in profile wrapping applications and provide a broad spectrum of adhesion for a broad spectrum of material combinations. If above-average resistance to water and heat resistance are required of the end product, there is no way around moisture-curing PUR hot melt adhesives.

Jowat's broad portfolio of thermoplastic EVA and PO hot melt adhesives plus reactive PUR hot melt adhesives supplies ideal process solutions to meet all customer requirements in the best possible way.



PUR Hot Melt Adhesives for Profile Wrapping

	Based on	Viscosity [mPas]	Processing temperature [°C]	Feed speed	Initial strength	Range of adhesion	Remarks
Jowatherm® PUR 605.10	PUR	~ 41,500 at 140°C	110–140	●◐○	●◐○	●●●	best adhesion, also to metals
Jowatherm® PUR 605.20	PUR	~ 35,000 at 140°C	130–150	●●○	●●◐	●●●	classic choice with wide range of adhesion
Jowatherm® PUR 605.62	PUR	~ 30,000 at 140°C	130–150	●●◐	●●◐	●●◐	“all-rounder”
Jowatherm® PUR 605.65	PUR	~ 37,500 at 140°C	130–150	●●○	●●○	●●○	basic grade for wrapping with thin foils and finish foils
Jowatherm® PUR 605.68	PUR	~ 60,000 at 140 °C	130 - 150	●●●	●●●	●●◐	high initial strength
Jowatherm® PUR MR 605.90	PUR MR	~ 22,500 at 140°C	130–150	●●○	●◐○	●●◐	occupational health and safety
Jowatherm® PUR 608.00	PUR	~ 42,500 at 140°C	110–140	●●◐	●●●	●●◐	high cohesion for veneers and CPL; white also available
Jowatherm® PUR MR 608.90	PUR MR	~ 60.000 at 140°C	120 - 140	●●◐	●●●	●●●	high initial strength for high-tension lamination materials

PO Hot Melt Adhesives for Profile Wrapping

	Based on	Viscosity [mPas]	Processing temperature [°C]	Heat resistance	Feed speed	Initial strength	Range of adhesion	Remarks
Jowatherm® PO 221.00	PO	~ 23,200 bei 200 °C	180 - 200	●●●	●●◐	●●●	●●●	wide range of adhesion, for high feed speeds
Jowatherm® PO 221.80	PO	~ 17,500 bei 190 °C	180 - 200	●●●	●◐○	●●◐	●●◐	“all-rounder” with high heat resistance
Jowatherm® PO 222.10	PO	~ 22,200 at 200°C	180–200	●●◐	●●○	●●○	●●○	“all-rounder” for roller applicators
Jowatherm® PO 224.00	PO	~ 8,500 at 180°C	170–190	●●○	●○○	●◐○	●●○	basic grade for thin papers and foils
Jowatherm® PO 225.00	PO	~ 71,000 at 200°C	190–210	●●●	●●◐	●●○	●●○	high viscosity for veneers and CPL
Jowatherm® PO 236.30	PO	~ 6,500 at 190°C	180–200	●●●	●●●	●●●	●●◐	for offline wrapping processes
Jowatherm® PO 236.60	PO	~ 20,000 at 160°C	150–170	●●◐	●◐○	●◐○	●●○	low processing temperature

EVA Hot Melt Adhesives for Profile Wrapping

	Based on	Viscosity [mPas]	Processing temperature [°C]	Heat resistance	Feed speed	Initial strength	Range of adhesion	Remarks
Jowatherm® 291.30	EVA	~ 5,500 at 180°C	170–190	●◐○	●◐○	●◐○	●●○	low-viscosity, ideal for thin papers
Jowatherm® 291.60	EVA	~ 9,700 at 180°C	170–190	●◐○	●●○	●●○	●●○	“all-rounder” for thin foils
Jowatherm® 291.45	EVA	~ 9,000 at 180°C	170–180	●◐○	●○○	●◐○	●●○	long open time for complex geometries
Jowatherm® 293.50	EVA	~ 5,500 at 200°C	180–200	●●○	●●◐	●●◐	●●○	for decor papers and finish foils
Jowatherm® 280.30	EVA	~ 50,500 at 200°C	180–200	●●◐	●●○	●●◐	●●◐	for veneers and Kraft paper

3D Lamination and Postforming

3D Lamination

Laminated 3D furniture fronts are strongly influenced by the latest trends in the furniture industry. If the trend goes towards profiled surfaces in which contoured wood-based materials are generally laminated with classic PVC foils, the technology of choice are dispersion adhesives based on polyurethane. The Jowapur® product line provides a broad portfolio of one- and two-component PU dispersion adhesives which can be reactivated at relatively low temperatures and are characterized by high initial strengths.
Processors of Jowapur® adhesives benefit from a number of advantages. The prevention of mixing and dosage mistakes is certainly one of the key arguments in their favor. However, this technology provides even more benefits such as simplified planning, material procurement and storing, less cleaning and no requirement to observe a pot life.

Two-component Jowapur® adhesives, on the other hand, provide a wide range of adhesion due the flexible addition of a crosslinking agent. The amount added can be individually adapted to the lamination materials and to the specific bonding requirements.
Polyurethane dispersion adhesives from the Jowapur® product line have been an established and reliable bonding solution which can cover all requirements for the lamination of 3D furniture fronts.

Postforming

Whether superior aspect or functionality requirements—a flawless joint between the surface and the edge is imperative for certain furniture items and interior finishing elements. In postforming, a decorative edging material is wrapped around an already laminated and profiled carrier substrate to manufacture a rounded front edge for kitchen counters, windowsills and other furniture components.

Moisture-curing PUR hot melt adhesives are renowned for excellent heat and moisture resistance and are of increasing significance in postforming operations in addition to PVAc dispersion adhesives as well as PA and PO hot melts.



PU Dispersion Adhesives for 3D Lamination

	Based on	Type	Viscosity [mPas]	Solids content [%]	Reactivation temperature [°C]	Addition of cross-linking agent	Remarks
Jowapur® 150.90/91	PU	1-component	~ 3,000 at 20°C	~ 41	> 55	-	"all-rounder" with low reactivation temperature; white also available
Jowapur® 150.50/51	PU	1-component	~ 3,000 at 20°C	~ 40	> 60	-	basic grade; white also available
Jowapur® 150.93	PU	1-component	~ 3,000 at 20°C	~ 40	> 55	-	smooth surfaces, low reactivation temperature
Jowapur® 151.50	PU	2-component	~ 1,700 at 20°C	~ 43	> 60	5–10 % Jowat® 195.00	2-comp. "all-rounder"

Hot Melt Adhesives for Postforming Applications

	Based on	Viscosity [mPas]	Processing temperature [°C]	Heat resistance	Feed speed	Initial strength	Range of adhesion	Remarks
Jowatherm® 211.55	PA	~ 6,500 at 190°C	170 - 190	●●◐	●●◐	●●○	●●○	classic and direct postforming, also cavity sealing
Jowatherm® PO 223.00	PO	~ 36,300 at 200°C	190 - 210	●●○	●●◐	●●○	●●◐	direct postforming and edge bonding
Jowatherm® PO 236.30	PO	~ 5,500 at 200°C	180 - 200	●●●	●●●	●●●	●●◐	direct postforming and edge bonding
Jowatherm® PUR 606.60	PUR	~ 85,000 at 160°C	140 - 160	●●●	●●○	●●○	●●◐	direct postforming and edge bonding
Jowatherm® PUR 602.37	PUR	~ 24,500 at 140°C	130 - 150	●●●	●●●	●●●	●●○	sealing of working surfaces, short setting time

Doweling and Frame Bonding

Doweling glues of the Jowacoll® product family are special dispersion adhesives developed with a focus on fully automated industrial machines with nozzle applicators used for processing hard and soft wood species or wood-based materials. These dispersions have been developed precisely to meet the requirements of modern processing stations—from low-viscosity dispersion adhesives for optimized application on horizontal application on dowel pressing units, to paste-like product variants for vertical overhead application on assembly lines. The adhesive forms a tough-elastic glue film. Special additives in the formulation prevent adhesive build-up at the nozzle tips to ensure an efficient, flawless application in fast industrial processes.

Frame bonding operations often require a fast setting product with a wide range of adhesion, also to difficult substrates. PVAc dispersion adhesives developed specifically for this application are available for this application, too.



Dispersion Adhesives for Doweling and Frame Bonding

	Application	Based on	pH value	Viscosity [mPas]	Remarks
Jowacoll® 113.10	frame bonding	PVAc	~ 5	~ 16,500 at 20 °C	fast binder
Jowacoll® 114.30	doweling	PVAc	~ 4.5	~ 2,250 at 20 °C	manual
Jowacoll® 114.60	doweling	PVAc	~ 4.5	~ 330 at 20 °C	horizontal
Jowacoll® 114.80	doweling	PVAc	~ 5	~ 9,000 at 20 °C	vertical
Jowacoll® 114.90	doweling	PVAc	~ 7.5	~ 75,000 at 20 °C	overhead
Jowacoll® 114.99	doweling	PVAc	~ 7.5	~ 22,000 at 20 °C	short-term overhead,, for piston pumps without follower plate

Upholstered Furniture Manufacturing

The upholstered furniture industry is characterized by an extraordinarily wide variety of materials. For example cold and molded foams, textiles, leather, wood and wood-based materials, different plastics, and many more. Manufacturing processes frequently involve manual operations and widely varying process times.

Powerful dispersion adhesives—so-called “fast binders,” due to their short setting time—are the product of choice for the assembly of solid wood and wood-based frames via dowel and tenon joints. The optimum viscosity, very good processing characteristics and high bonding strength provided by these adhesives facilitate superior and durable joints.

For decades, solvent-based Jowatac® adhesives have a been tried-and-true bondig solution for upholstery and foam materials. They are continuously being adapted to the specific requirements and are characterized by a combination of long open time, good adhesion to different substrates and high initial strength. The adhesives are generally applied using spray guns. The solvents serve as a processing aid and are evaporated during spraying and following the application.

Due to the high initial strength and fast build-up of cohesion, solvent-based adhesives facilitate fast application and assembly procedures and are therefore the foundation of efficient manufacturing—especially in high-tension bonding or processes with short pressing times and low pressure. Jowat has been developing solvent-based adhesive with a low solvents content and significantly high solids proportions for many decades to meet rising environmental and safety requirements. Apart from lower emissions, solvent-based adhesives with a high solids content also provide a price advantage: Reduced material consumption can also significantly bring down material costs per part manufactured.

Due to a high content of renewable raw materials, solvent-based adhesives have been providing a considerable contribution to resource-saving environmental protection for many years and are thereby supporting the manufacture of sustainable and environmentally compatible upholstered furniture.

Dispersion Adhesives for Frame Construction

	Based on	Viscosity [mPas]	Open time [min]	pH value	Durability class	Remarks
Jowacoll® 103.70	PVAc	~10,000 at 20°C	~ 6 at 20°C	~ 6	D3	pH-neutral for wood species sensitive to discoloring
Jowacoll® 104.20	PVAc	~10,500 at 20°C	~ 9 at 20°C	~ 4.5	D2	universal, slow setting
Jowacoll® 113.10	PVAc	~ 16,000 at 20°C	~ 4 at 20°C	~ 5	D2	fast binder
Jowacoll® 114.60	PVAc	~ 330 at 20°C	-	~ 4.5	-	horizontal doweling
Jowacoll® 114.80	PVAc	~ 9,000 at 20°C	-	~ 5	-	vertical doweling

Solvent-Based Adhesives for Upholstery and Foam Bonding

	Based on	Viscosity [mPas]	Solids content [%]	Open time [min] one-sided application	Open time [min] two-sided application	Anmerkungen
Jowat® 445.20	CR	~ 600 at 20°C	~ 19	-	5–20 (flash-off time)	contact adhesive
Jowatac-HighSolid® 457.74	SBS	~ 900 at 20°C	~ 65	1–7	1–20	high aging resistance, high heat resistance
Jowatac® 471.54	SBS	~ 300 at 20°C	~ 51	1–7	1–25	high initial strength, high heat resistance
Jowatac-HighSolid® 471.64	SBS	~ 800 at 20°C	~ 63	1–7	1–25	basic grade, high initial strength
Jowatac® Super-HighSolid 476.74	SBS	~ 1.900 at 20°C	~ 74	1–7	1–20	very high solids content, good spraying characteristics
Jowatac® Super-HighSolid 477.74	SBS	~ 2.800 at 20°C	~ 77	1–7	1–20	very high solids content, for reducing VOC emissions
Jowatac® Super-HighSolid 482.64	SBS	~ 500 at 20°C	~ 60	-	0.5–20	very soft adhesive seam, high heat resistance, low tendency to become brittle

Mattress Manufacturing

A good mattress is the foundation of a good night's sleep and recuperation. Adhesives are used in a wide range of applications in the manufacture of all kinds of mattresses, whether innerspring or foam. The adhesive not only has to ensure the reliable and permanent bonding of the different components, it plays a direct role in comfort and health, too. And it has to meet different quality standards, e.g. in accordance with Oeko-Tex® 100, LGA, the Blue Angel, or other specifications by the manufacturer. In addition, high-quality hot melt adhesives reduce the noise formation of the mattress and ensure quiet nights.
Modern adhesives, however, must convince not only in the end product. Processor-friendly applications are another major focus in the development of high-performance adhesives. This applies equally to all adhesive technologies, whether solvent-based, thermoplastic or reactive.

The use of modern reactive PUR hot melt adhesives in particular is rising in mattress production. This comes as no surprise in light of the decisive benefits they provide: improved heat resistance, wide range of adhesion, and high resistance against moisture and other media. The process advantage facilitated by the PUR technology is particularly interesting.

Whereas mattresses bonded with CR dispersion adhesives have to dry between 6 and 24 hours before they can be processed further or packaged, this can be done shortly after bonding with PUR hot melt adhesives. This is a key benefit which can significantly increase production efficiency.



Adhesives for the Manufacture of Innerspring and Foam Mattresses

	Based on	Viscosity [mPas]	Processing temperature [°C]	Open time	Application	Remarks
Jowatherm® 261.65	EVA	~ 4,200 at 160°C	140–170	~ 5 s at 160°C (2 mm bead)	assembly pocket innersprings	"all-rounder," automatic and semi-automatic units, horizontal and vertical application
Jowatherm® PO 231.60	PO	~ 1,850 at 160°C	150–170	~ 5 s at 160°C (2 mm bead)	assembly pocket innersprings	"all-rounder," clean processing, automatic and semiautomatic units, horizontal and vertical application
Jowatherm® PO 232.30	PO	~ 2,800 at 160°C	150–180	~ 45 s at 170°C (2 mm bead)	innerspring mattresses	"all-rounder," wide range of adhesion and good penetration, ECO PASSPORT
Jowatherm® PO 232.36	PO	~ 5,500 at 160°C	150–170	~ 35 s at 170°C (2 mm bead)	innerspring mattresses	premium grade, high bond strength, low residual tack for reduced noise formation
Jowatac® Super-HighSolid 476.74	SBS	~ 1,900 at 20°C	> 20	1–7 min (one-sided) 1–20 min (two-sided)	innerspring mattresses, foam mattresses	solv.-based adhesive, solids content 74%, good spraying
Jowatherm® PUR 639.10	PUR	~ 14,000 at 120°C	100–130	~ 180 s at 120°C (50 µm film)	foam mattresses, foam lamination	"all-rounder," high-quality bonding, very low noise formation, immediate packaging possible
Jowatherm® PUR MR 609.93	PUR MR	~ 14,000 at 120°C	110–130	~ 180 s at 120°C (50 µm film)	foam mattresses, foam lamination	occupational health and safety, high-quality bonding, very low noise formation, immediate packaging possible
Jowatherm® PUR 630.20	PUR	~ 15,000 at 100°C	100–120	-	foam lamination	low processing temperature, ECO PASSPORT

Assembly and Packaging

Assembly Bonding

The variety of different materials used in furniture manufacturing and interior finishing is enormous. This also leads to many possible variations in manufacturing procedures. The joining of different materials, whether for the purpose of permanent bonding, production-related affixing or implementation of added functionality, requires modern adhesive systems. The spectrum of requirements ranges from the simple affixing to high-performance bonding in special applications. Jowat has taken up those challenges and has established adhesives in different applications.

From the bonding of difficult surfaces, to applications with long open times and to the processing hot melt adhesives with very low viscosity—Jowat's portfolio of assembly adhesives for the manufacture of furniture and interior finishing elements provides the right product for all requirements.

Cardboard Bonding

Robust packaging prevents damage to the furniture and interior finishing elements during its journey from the manufacturer to the store and to consumer. Therefore, the packaging must be able to withstand the most extreme conditions during transport. Whether by truck over difficult roads in the northernmost regions of the planet through the cold winter, or in a shipping container exposed to the blistering summer sun for several weeks at sea to the heat of deserts. Powerful Jowatherm® PO hot melt adhesives demonstrate their strengths in these challenges and have therefore been widely established in the furniture and interior finishing industry for decades.

In Jowat adhesives impress in packaging processes with high yield, clean processing and low maintenance characteristics. Jowatherm® PO hot melt adhesives provides a significant potential for cost optimization in comparison with the use of adhesive tape for packaging closing. They reliably master even fast processes with short pressing times or the bonding of cardboards with high restoring forces. These high-performance adhesives are additionally characterized by clean cut-off and can be dispensed using automatic filling systems, which leads to a very high process security overall.

Hot Melt Adhesives for Assembly Bonding

	Based on	Viscosity [mPas]	Processing temperature [°C]	Open time [s]	Application	Remarks
Jowatherm® PO 230.00	PO	~ 5,600 at 190°C	170–190	~ 25 at 180°C (2 mm bead)	frame and assembly bonding	wide range of adhesion, high heat resistance
Jowatherm® 245.00	SBC	~ 17,000 at 160°C	150–170	-	giving self-adhesive properties, assembly aid	permanent tack, high cohesion
Jowatherm® 261.40	EVA	~ 1,650 at 190°C	170–190	~ 12 at 180°C (2 mm bead)	frame and assembly bonding	low-viscosity universal grade
Jowat-PowerPUR® 687.40	1-comp. PUR prepolymer	~ 8,000 at 20°C	>10	16–20 min at 20°C	assembly bonding (55–60 min pressing time)	very high resistance to water and heat, very wide range of adhesion

Hot Melt Adhesives for Packaging Bonding

	Viscosity [mPas]	Processing temperature [°C]	Open time [s]	Short pressing times and high restoring forces	Clean processing	Demanding surfaces	Heat resistance	Cold resistance	Remarks
Jowatherm® PO 851.10	~ 1,100 at 160°C	140–180	~ 10	●●○	●●◐	●●◐	●●○	●●●	efficient “all-rounder”
Jowatherm® PO 851.15	~ 1,850 at 160°C	140–180	~ 10	●●◐	●●○	●●○	●●◐	●●○	masters difficult conditions
Jowatherm® GROW 853.20	~ 1,300 at 140°C	120–150	~ 4	●●○	●●●	●○○	●●○	●○○	DIN-verified 33% bio-based
Jowatherm® PO 851.99	~ 1,900 at 99°C	99–150	~ 7	●●○	●●●	●◐○	●●○	●●○	energy-efficient, for low processing temperatures

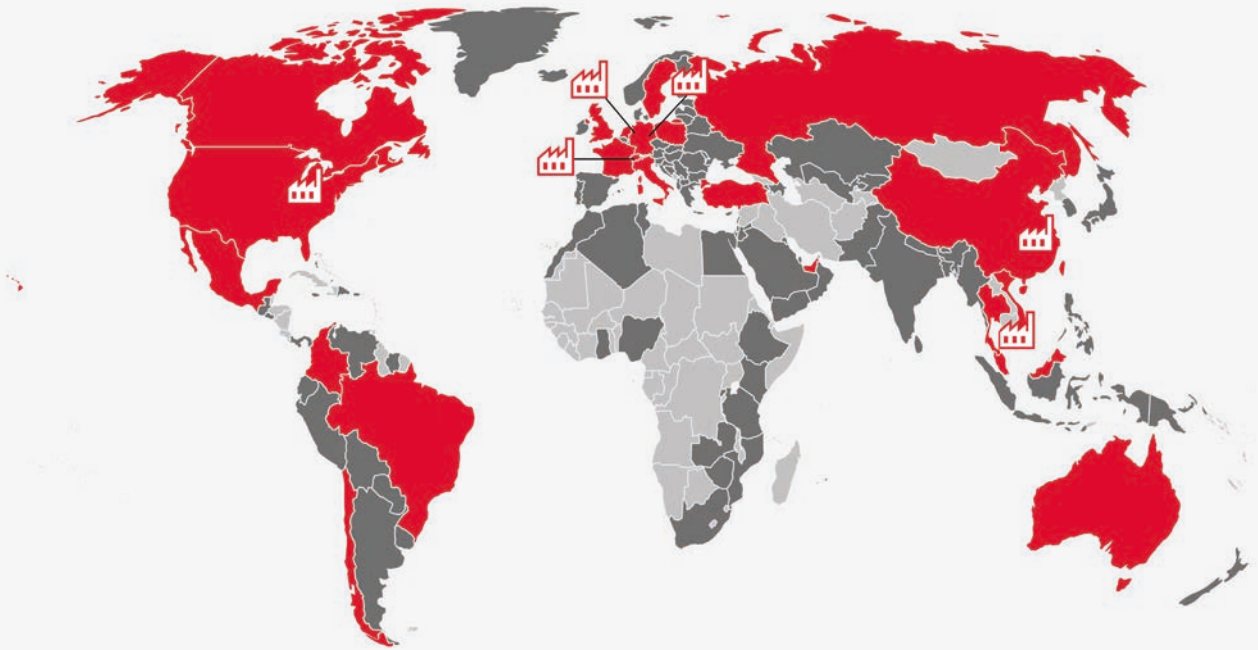
Jowat - Our Word is Our Bond

Jowat SE with headquarters in Detmold is one of the world's leading suppliers of industrial adhesives. These are mainly used in woodworking and furniture manufacture, in the paper and packaging industry, for graphic arts, in the textile, automotive as well as in the electrical industry. The company was founded in 1919 and has manufacturing sites in Germany in Detmold and Elsteraue, plus three other producing subsidiaries, Jowat Corporation in the USA, Jowat Swiss AG, Jowat Manufacturing in Malaysia and Jowat China Adhesives. The supplier of all adhesive groups is manufacturing over 100,000 tonnes of adhesives per year, with about 1,300 employees. A global location structure with 26 organisations plus partner companies is guaranteeing local service with close customer contact.



Have We Sparked Your Interest?

Jowat actively supports innovations in the wood and furniture industry and draws on a deep understanding of the challenges in the industry—be it special physical properties, different material combinations, requirements for high resistance and durability, or energy- and cost-efficiency as well as an increasing range of applications.



Manufacturing locations
Markets with Jowat Group companies
Markets with Jowat distribution partners

We provide a comprehensive advisory service and competent know-how for the entire process: From the continual search for and testing of new, sustainable raw materials, to the development of innovative adhesive products in close contact with sub-suppliers and processors, to application-related support, and to individual process analyses. For many years, Jowat has played a key role in safeguarding success and protecting investments by providing adhesive solutions for the wood and furniture industry which facilitate the optimization of products and processes.

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

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 variety of different applications, substrates, and processing methods that are 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 in normal processing conditions, and appropriate fit-for-purpose testing are absolutely necessary. For the specifications and for further information, please refer to the latest technical data sheets.

Jowat Adhesives

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

02/2025