Portfolio Information

Adhesive Portfolio for the Textile Industry



- Building Textiles
- Abrasive Textiles
- Home Textiles
- Clothing
- Textiles in the Automobile
- Filter Media

Our Word is Our Bond

Jowat Adhesives

Powerful Adhesives for the Textile Industry

The variety of substrates used in the textile industry is growing, as are the expectations for flawless processes and superior product quality. Cost reduction and a continually lower material input are central requirements in manufacturing. In addition, the implementation of a more sustainable and resource-friendly production requires innovative textile materials. “Smart-textiles” have become a major trend in the textile industry. They facilitate intelligent functions and add significant value in a variety of fields.

Each sector in the textile industry has its own, special set of requirements within the framework of the processing technology. When adhesives are used in the manufacture of technical textiles, Jowat is the partner of choice. We supply our customers with a wide range of powerful and innovative products which support the individual processes due to their optimally adapted performance characteristics.



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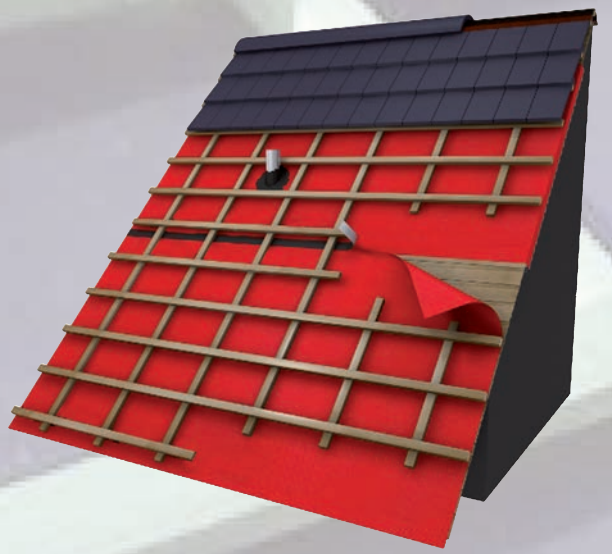
Textiles for the Roof, Walls, Facades and Floors

Comfort and energy efficiency have increasingly become central requirements for building projects. Technical textiles therefore have to fulfill different functions in buildings, too.

A major application of laminating adhesives in the construction industry is the manufacture of roof underlayment. These technical textiles generally consist of several layers of the most different materials which have been laminated to form a single composite. Depending on the requirements, the focus can be on either facilitating high vapor permeability or providing a vapor barrier. The bonding must be able to absorb mechanical stress, e.g. due to the anti-perforation protection, and the bonded composite must have high durability when exposed to UV light. Polyolefin-based (PO) adhesives have demonstrated to be a top choice for the lamination of polypropylene foils and nonwoven materials. However, reactive polyurethane (PUR) hot melt adhesives are preferred if superior bond strength and outstanding resistance to mechanical stress are required.

Pressure-sensitive hot melt adhesive, on the other hand, are well-established for bonding nonwovens with a more open structure, for example paint drop cloths. They are characterized by a very good range of adhesion and provide impressive bonding results with even challenging polyethylene foils.

Nonwovens with netting reinforcement are widely used in the construction of roads and dikes. The robust plastic netting can absorb high mechanical stress and the nonwoven separates the individual layers. Due to the manufacturing process, dispersion adhesives are generally chosen for this application. A high solids content ensures short drying times and high initial strength



Adhesives for the Manufacture of Building Textiles

	Based on	Viscosity [mPas]	Processing temperature [°C]	Reaction time [d]	Initial strength	UV tracer	Remarks
Jowatherm® PO 230.45	PO	~11,250 at 190°C	180–200	-	-	●	elastic, high heat resistance, long open time, UV-stabilized, e.g. for roof and facade underlining
Jowatherm® 245.00	SBC	~17,000 at 160°C	150–170	-	-	○	lamination of nonwovens with different foils, permanent tack, high cohesion
Jowatherm® PUR 630.20	PUR	~15,000 at 100°C	100–120	~3	●●◐	●	high initial strength, low processing temperature, first choice for roof and facade underlining
Jowatherm® PUR 630.30	PUR	~4,500 at 120°C	90–120	~3	●●○	●	low viscosity, excellent wash resistance, low processing temperature
Jowatherm® PUR 630.80	PUR	~14,000 at 120°C	100–130	~3 (~1)	●●●	●	THE “all-rounder,” top choice for textiles with high area density, shorter reaction time: 630.88
Jowatherm® PUR MR 630.99	PUR MR	~ 17,000 at 110°C	100–130	~ 5–7	●●●	●	no hazard labeling, universal application
Jowatherm® PUR GROW 631.20	PUR	~6,000 at 140°C	110–140	~3	●●●	●	bio-based (DIN-verified 22%), universal application
Jowatherm® PUR 638.20	PUR	~5,500 at 100°C	90–110	~3	◐○○	●	“all-rounder” with particularly low processing temperature for bonding sensitive materials, e.g. thin thermoplastic foils wide range of adhesion
Jowatherm® PUR 639.00	PUR	~10,000 at 100°C	100–120	~ 5–7	●○○	●	very long open time facilitates e.g. late joining through pressure, particularly soft feel, very wide range of adhesion
Jowacoll® 761.10	copolymer	~12,000 at 20°C	>10	-	-	○	dispersion adhesive with permanent tack for laminating and giving self-adhesive properties to difficult foils and textiles

Abrasive Materials and Cleaning Sponges

Technical textiles demonstrate their strength in many different industrial applications. For instance, emery paper is manufactured by laminating paper with velours. The composite material is then rolled and stored for about 24. hours before it is cut to size and packaged. Generally applied by slot nozzle or roller systems, laminating adhesives facilitate highly efficient manufacturing processes and support the properties of the end product. Due to the high mechanical stress and heat to which emery paper is exposed during use, the adhesive has to provide a high-strength bonding. The separate layers must remain bonded together until all the abrasive material has been worn down.

Therefore, PUR hot melt adhesives which are characterized by very high initial strength and optimum adhesion to resinated paper are the adhesive of choice for the lamination of emery paper. These characteristics play a crucial role as early as shortly after the lamination procedure and ensure optimum resistance in downline processing.

Although cleaning sponges have a significantly smaller abrasive effect compared to emery paper, the requirements for the adhesives used in their manufacture are high. High resistance to water and heat are key requirements in this bonding application to ensure that the cleaning sponges will not fall apart in hot water. In production, the high initial strength and optimum cutting and punching characteristics of Jowat PUR hot melt adhesives facilitate efficient manufacturing processes.



PUR Hot Melt Adhesives for the Manufacture of Cleaning Sponges and Abrasive Materials

	Based on	Viscosity [mPas]	Processing temperature [°C]	Reaction time [d]	Initial strength	UV tracer	Remarks
Jowatherm® PUR 630.30	PUR	~4,500 at 120°C	90–120	~3	●●○	●	low viscosity, excellent wash resistance, low processing temperature
Jowatherm® PUR 630.80	PUR	~14,000 at 120°C	100–130	~3 (~1)	●●●	●	THE “all-rounder,” top choice for textiles with high area density, shorter reaction time: 630.88
Jowatherm® PUR MR 630.99	PUR MR	~17,000 at 110°C	100–130	~5–7	●●●	●	no hazard labeling, universal application
Jowatherm® PUR GROW 631.20	PUR	~6,000 at 140°C	110–140	~3	●●●	●	bio-based (DIN-verified 22%), universal application
Jowatherm® PUR 639.00	PUR	~10,000 at 100°C	100–120	~5–7	●○○	●	very long open time facilitates e.g. late joining through pressure, particularly soft feel, very wide range of adhesion
Jowatherm® PUR 639.50	PUR	~8,000 at 120°C	~120	~1–3	●○○	●	standard for cleaning sponges, optimized resistance to hydrolysis, improved cutting and punching characteristics

Upholstered Furniture and Mattress Ticking, Carpets

Cover fabrics of furniture and mattresses are exposed to a lot of stress during their use. These woven fabrics can be very delicate and are therefore laminated on the reverse side or coated with an adhesive to increase their resistance. Home textiles can be made from a variety of materials, for example cotton, linen, half-linen or viscose fibers. Apart from contributing to increased comfort, their primary function is to protect the furniture—in some applications even against fire. Mattress ticking is characterized by high abrasion resistance plus durability and additionally firms up mattresses. Textiles with fewer wefts are more likely to deform under mechanical stress. To prevent fiber movement and to increase strength, textiles are laminated with a nonwoven material for reinforcement.

High-quality cover fabrics with more wefts are coated on the reverse side with an adhesive to increase the durability of the textile. Whether the cover fabrics of furniture and mattresses are laminated or coated—the hot melt adhesive is applied using roller applicators. These adhesives have been adapted to the specific requirements of the individual application types and provide the fast setting and resistance necessary to prevent the movement of warp and weft in textiles.



Hot Melt Adhesives for the Manufacture of Home Textiles

	Based on	Viscosity [mPas]	Processing temperature [°C]	Reaction time [d]	Initial strength	UV tracer	ECO Passport by OEKO-TEX®	Remarks
Jowatherm® PO 239.75	PO	~9,000 at 190°C	150–190	-	-	○	●	high hot tack, free of blocking, transparent, e.g. for coating of mattress ticking
Jowatherm® 254.70	EVA	~16,000 at 170°C	160–180	-	-	○	●	for coating the reverse side of cover fabrics, carpets, etc. to improve resistance and anti-slip effect
Jowatherm® PUR 630.30	PUR	~4,500 at 120°C	90–120	~3	●●○	●	●	low viscosity, excellent wash resistance, low processing temperature
Jowatherm® PUR 630.80	PUR	~14,000 at 120°C	100–130	~3 (~1)	●●●	●	●	THE “all-rounder,” top choice for textiles with high area density, shorter reaction time: 630.88
Jowatherm® PUR MR 630.99	PUR MR	~17,000 at 110°C	100–130	~5–7	●●●	●	●	hazard-free labeling, universal application
Jowatherm® PUR GROW 631.20	PUR	~6,000 at 140°C	110–140	~3	●●●	●	●	bio-based (DIN-verified 22%), universal application
Jowatherm® PUR 638.20	PUR	~5,500 at 100°C	90–110	~3	◐○○	●	●	“all-rounder” with particularly low processing temperature for bonding sensitive materials, wide range of adhesion, for membrane lamination

Functional Clothing and Shoes

Membranes and textiles are laminated using thermoplastic and reactive hot melt adhesives. Moisture-curing PUR hot melt adhesives meet high requirements for a broad spectrum of adhesion to different materials, high bond strength with even small application amounts, a low processing temperature, and the resistance necessary in processes such as washing or sterilization. In membrane laminating applications, hot melt adhesives support special characteristics such as breathability, fire retardancy or sound absorption in the end product. A wide range of adhesion is also essential, due to the different bonding properties of membranes made from PP, PE or PU.

Medical textiles are important aids in health care and fulfill a variety of essential functions. For instance, pressure-relieving mattress toppers help prevent bedsores, and surgical gowns are a both hygienic and breathable work attire. Other daily used items such as surgical drapes which consist of a nonwoven laminated with special foils. Adhesives used for the laminating of membranes have to promote the liquid-absorbing properties of the composite material.

Hot melt adhesives are applied in a diamond pattern which allows the textile to absorb liquids into the uncoated space between the adhesive.

Incontinence pads are primarily laminated using reactive PUR hot melt adhesives. The pads are generally made from a cotton textile and membrane composite. PUR hot melt adhesives impress in this application with their wash resistance at high temperatures and their sterilization resistance.



Hot Melt Adhesives for Clothing Manufacturing

	Based on	Viscosity [mPas]	Processing temperature [°C]	Reaction time [d]	Initial strength	Wash resistance	UV tracer	ECO Passport by OEKO-TEX®	Remarks
Jowatherm® 299.75	EVA	~49,000 at 180°C	170–190	-	-	-	○	○	for hot sealable coating of plastics e.g. in the shoe industry, colorless variant: 299.77
Jowatherm® PUR 630.30	PUR	~4,500 at 120°C	90–120	~3	●●○	●●●	●	●	low viscosity, excellent wash resistance, low processing temperature
Jowatherm® PUR 630.80	PUR	~14,000 at 120°C	100–130	~3 (~1)	●●●	●●●	●	●	THE “all-rounder,” first choice for textiles with high GSM, shorter reaction time: 630.88
Jowatherm® PUR MR 630.99	PUR MR	~17,000 at 110°C	100–130	~5–7	●●●	●●●	●	●	hazard-free labeling, universal application
Jowatherm® PUR GROW 631.20	PUR	~6,000 at 140°C	110–140	~3	●●●	●●●	●	●	bio-based (DIN-verified 22%), universal application
Jowatherm® PUR 633.40	PUR	~13,000 at 100°C	90–110	~5–7	●○○	●●○	●	●	high vapor permeability for bonding breathable membranes, very wide range of adhesion
Jowatherm® PUR 637.10	PUR	~14,100 at 100°C	90–110	~3	●○○	●●●	●	●	outstanding wash resistance, very low processing temperature for bonding sensitive materials, also for medically hygienic textiles e.g. incontinence pads, surgical drapes or screen print coating systems
Jowatherm® PUR 638.20	PUR	~5,500 at 100°C	90–110	~3	◐○○	●●●	●	●	“all-rounder” with particularly low processing temperature for bonding sensitive materials, wide range of adhesion, first choice for membrane lamination
Jowatherm® PUR 639.00	PUR	~10,000 at 100°C	100–120	~5–7	●○○	●●○	●	●	very long open time, facilitates e.g. late joining through pressure, particularly soft feel, very wide range of adhesion e.g. for PTFE membrane laminations

Textiles in the Automobile

Adhesives play a key role in the manufacture and assembly of the interior parts in an automobile. Jowat meets current process requirements and supplies products for the bonding procedures used—with tried-and-proven adhesive solutions and also adapted to specific applications.

- Lamination of instrument panels, door and side panels, center consoles, and A, B and C pillar trims
- Lamination of headliners and convertible tops
- Lamination of seat covers and backrests
- Lamination of composite materials for deadening and noise insulation

Jowat supplies a broad portfolio of tailor-made adhesives with very high heat resistance which reaches far beyond the main applications of press laminating and vacuum deep drawing.

The hot melt and dispersion adhesive portfolio provides a wide choice of initial strengths and reactivation temperatures, edgefolding characteristics, heat and UV resistances as well as non-blocking products for the precoating of rolled materials—all adapted to specific applications.



PUR Hot Melt Adhesives for the Lamination of Automotive Interiors

	Based on	Viscosity [mPas]	Processing temperature [°C]	Open time [s]	Reactivation temperature [°C]	Reaction time [d]	Remarks
Jowatherm® PUR 642.00	PUR	~23,000 at 140°C	110–150	~10 at 140°C (90 µm film)	> 70	~3	all established application methods and tools, good roller processing characteristics
Jowatherm® PUR 642.30	PUR	~20,000 at 140°C	110–150	~45 at 140°C (90 µm film)	> 70	~3	high creep resistance, long open time, good initial strength
Jowatherm® PUR MR 642.90	PUR MR	~23,000 at 140°C	110–150	~3 at 140°C (90 µm film)	> 75	~7	hazard-free labeling, good resistance to plasticizers, low VOC and fogging values
Jowatherm® PUR 613.79	PUR	~35,000 at 140°C	~140	~15 at 140°C (90 µm film)	> 70	~3	high strength, low creep tendency
Jowatherm® PUR 613.10	PUR	~20,000 at 140°C	130–160	~1 at 140°C (90 µm film)	> 55	~5	low reactivation temperature, also for hot forming
Jowatherm® PUR 613.90	PUR	~44,000 at 140°C	~140	~25 at 140°C (90 µm film)	> 65	~7	for backrests with cotton urea resin, tack-free, low creep tendency
Jowatherm® PUR 630.80	PUR	~14,000 at 120°C	100–130	~300 at 140°C (90 µm film)	> 55	~3 (~1)	long open time due to pressure in the bondline, good wash resistance, for soft lamination. 630.88 for shorter reaction time

POR Hot Melt Adhesives for the Lamination of Automotive Interiors

	Viscosity [mPas]	Processing temperature [°C]	Open time [s]	Reactivation temperature [°C]	Application methods	Remarks
Jowatherm® POR 629.72	~17,500 at 190°C	160–190	~8 at 170°C (90 µm film)	>100	nozzle roller	short open time, high initial strength
Jowatherm® POR 628.32	~3,500 at 190°C	140–190	~240 at 170°C (90 µm film)	>75	nozzle roller spraying	long open time, spraying possible
Jowatherm® POR 628.97	~10,250 at 190°C	160–190	~50 at 170°C (90 µm film)	>90	nozzle roller	wide range of adhesion, high creep resistance

PO Hot Melt Adhesives for the Lamination of Automotive Interiors

	Viscosity [mPas]	Processing temperature [°C]	Open time [s]	Reactivation temperature [°C]	Possible applications	Remarks
Jowatherm® PO 221.00	~23,200 at 200°C	180–200	~8 at 190°C (120 µm film)	>120	surface edgefolding assembly	“all-rounder,” good initial strength
Jowatherm® PO 230.20	~4,800 at 190°C	170–190	~15 at 190°C (120 µm film)	>110	surface edgefolding assembly	wide range of adhesion
Jowatherm® PO 238.20	~18,000 at 200°C	180–200	~10 at 190°C (120 µm film)	>120	surface edgefolding	tack-free, very good adhesion to TPO foils
Jowatherm® PO 238.80	~25,000 at 200°C	180–200	~4 at 190°C (120 µm film)	>170	surface edgefolding assembly	high heat resistance, i-panels may also be possible

PU Dispersion Adhesives for the Lamination of Automotive Interiors

	Processing temperature [°C]	Viscosity [mPas]	Pot life [h]	Reactivation temperature [°C]	Spraying	Initial strength	Surface tack	Final strengths	Edge-folding	Remarks
Jowapur® 158.97 + 5% 197.65	> 10	~ 304 at 20°C	4-8	> 60	●●●	●●●	●●●	●●●	●●●	real leather bonding, surface lamination incl. manual edgefolding
Jowapur® 157.07 + 5% 197.65	> 10	~ 280 at 20°C	4-8	1-sided > 65°C 2-sided: permanent tack	●○○	●●○	●●○	●●●	●●○	contact adhesive (cold bonding) when applied to both surfaces
Jowapur® 157.27 + 5% 197.65	> 10	~ 193 at 20°C	3-4	> 65	●●○	●●●	●●○	●●○	●●○	flocking of glove compartments, mechanical processes, used in Asia

Adhesives for Noise Insulation / Deadening

	Based on	Viscosity [mPas]	Processing temperature [°C]	Solids content [%]	Softening range [°C]	Remarks
Jowacoll® 761.10	copolymer	~ 12,000 at 20°C	> 10	65	-	pressure-sensitive dispersion adhesive with permanent tack, for giving self-adhesive properties to textiles/foams
Jowatherm® 245.85	SBC	~ 13,000 at 160°C	170-190	-	~ 105 (Kofler)	pressure-sensitive hot melt adhesive with permanent tack, for giving self-adhesive properties to textiles/foams

Manufacture of Filter Media

Cabin filters and activated carbon filters ensure a clean supply of fresh air inside the vehicle as well as in rooms and consist of several layers of filter materials joined together subsequently in the manufacturing process. The finished filter media protect people and remove fine dust, pollen, spores, soot, bacteria as well as from unpleasant odors and gaseous pollutants such as benzene or ozone.

Jowat hot melt adhesives facilitate superior lamination results with low application amounts in the manufacture of activated carbon filters and multi-layer filter media. The minimal adhesive application ensures that the maximally possible surface area of the activated carbon remains free after the binding to the carrier substrate for the actual purpose—filtering and purifying the air. Jowat adhesives developed for the lamination of filter media have a neutral odor and are additionally characterized by very low fogging and emission values.
Reactive PUR hot melt adhesives meet the heat resistance levels required by automotive manufacturers and facilitate the production of cabin filters in OEM quality.



Hot Melt Adhesives for Filter Manufacturing

	Based on	Appearance	Viscosity [mPas]	Processing temperature [°C]	Open time [s]	Remarks
Jowatherm® PO 238.75	PO	yellowish translucent	~ 15,000 at 170°C	160-180	~ 28 at 170°C (2 mm bead)	activated carbon binding, short open time for fast processes
Jowatherm® PO 263.45	PO	colorless opaque	~ 4,000 at 180°C	170-190	~ 24 at 180°C (2 mm bead)	laminating, wide range of adhesion
Jowatherm® PUR 613.40	PUR	yellowish translucent	~ 21,000 at 140°C	130-150	~ 10 at 140°C (2 mm bead)	laminating, tack-free and high initial strength
Jowatherm® PUR 614.18	PUR	colorless opaque	~ 8,000 at 110°C	100-120	~ 75 at 110°C (2 mm bead)	activated carbon binding, “all-rounder” with low application amount
Jowatherm® PUR MR 614.50	PUR MR	colorless opaque	~ 8,000 at 110°C	100-120	~ 75 at 110°C (2 mm bead)	hazard-free labeling, activated carbon binding, “all-rounder” for efficient application amount

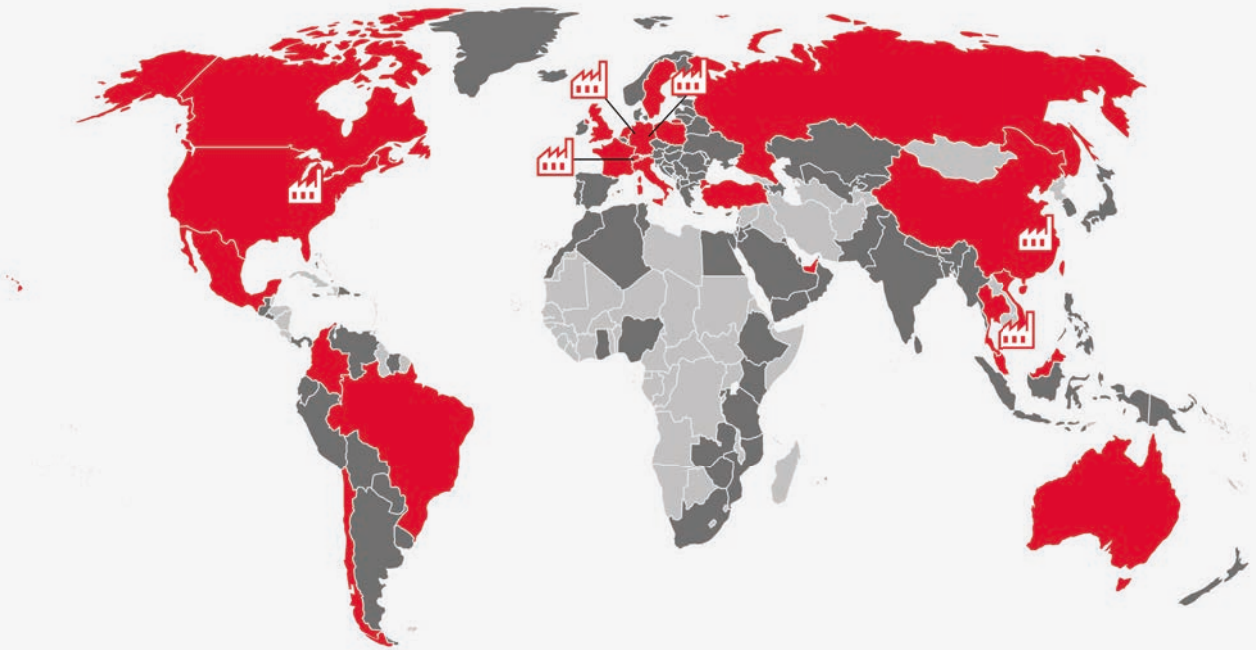
Jowat - Our Word is Our Bond

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 four 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 sales structure with 23 subsidiaries plus solution partners is guaranteeing local service with close customer contact.



Have We Sparked Your Interest?

Jowat actively supports innovation in the bonding of automotive parts and multi-layer components with a deep understanding of the materials to be bonded - be it special physical properties, different material combinations, requirements for high resistance and durability in exterior applications, or energy- and cost-efficiency and a growing variety of application fields.



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 decades, Jowat solutions for modern processes have been playing a key role in the optimization of products and processes—in a future-oriented and sustainable manner.

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.

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