

Portfolio Information

Adhesive Portfolio for Building Elements



Windows

Doors

Floors

Profiles

Composite elements

Insulation materials

Building textiles

Our Word is Our Bond

Jowat
Klebstoffe

A small icon of a Jowat adhesive can with the text 'JOWAT LEIME BETTMO' on it.

Powerful Adhesives for Building Elements

Always a Solution at Hand

Whether facades, doors or floor systems – every building element fulfils unique and essential functions and therefore has different requirements to meet in the manufacturing process. Powerful adhesives from Jowat are adapted to the individual applications and are specialists for efficient production processes, high environmental resistance and reliable bonding of diverse material combinations.

Modern and Energy-Efficient Construction with Jowat Adhesives

The construction sector is on a growth trajectory, reporting considerable gains in revenue every year, and demand for building elements is rising. At the same time, innovative solutions are needed which take into account the technological progress in the industry and meet the increasing requirements regarding energy-efficiency and sustainability.

A large variety of different materials facilitates unique, striking facades which also fulfil different essential functions: claddings made from environmentally-friendly and aesthetic wood, weathering-resistant and durable aluminum, or robust and much demanded concrete.

Going hand in hand with these new concepts, intelligent adhesive solutions play a major role in an increasing number of applications in the construction industry. Apart from facilitating the high durability necessary for building elements, high-performance adhesives also provide a considerable benefit to the manufacturing process and to the end product.

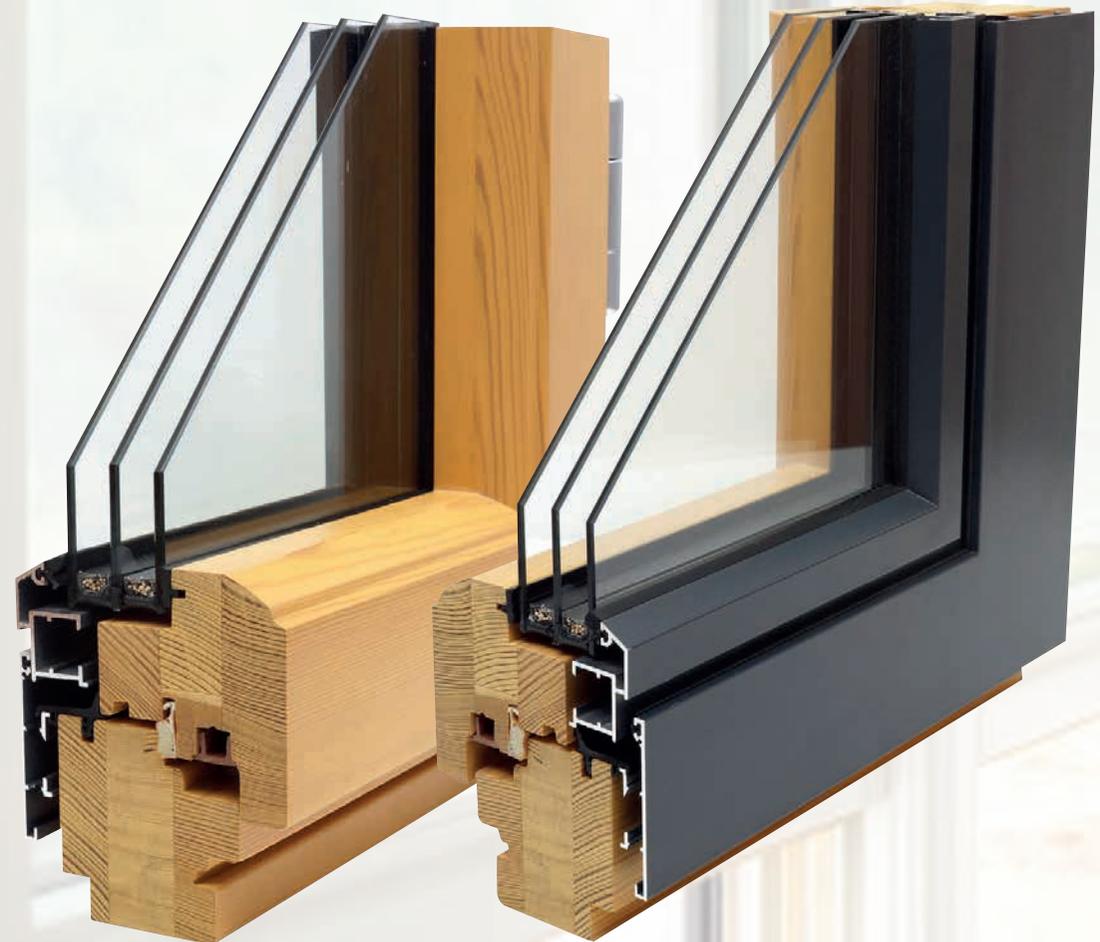




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Manufacturing and Laminating of Window Elements

Apart from providing protection against the weather, windows are also a source of light or fresh air. Established windows today are made from wood, plastic, aluminum or two-material composites that have to meet a wide range of additional functions. For instance, in regard to burglar resistance or thermal insulation. In addition to the design, functionality, and long-term weathering resistance, cost-effective production is also a major aspect.



Adhesives for Wood Windows

	Based on	Type	Open time [min]	Classification	Remarks
Jowacoll® 102.26	PVAc	2 components	7–10 at 20°C	D4 WATT91 > 7 N/mm ²	„all-rounder“, also for HF presses
Jowacoll® 107.20	PVAc	1 component	9–11 at 20°C	D4 WATT91 > 7 N/mm ²	ready-to-use without addition of hardener
Jowacoll® 102.50	EPI	2 components	8–12 at 20°C	D4 WATT91 > 7 N/mm ²	for wood species that are difficult to bond
Jowapur® 685.30	PUR prepolymer	1 component	25–35 at 20°C	D4 WATT91 > 7 N/mm ²	high resistance to water and heat

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Tensile Shear Strength



The determination of heat resistance in accordance with the testing standard DIN EN 14257 (Watt 91) achieves tensile shear strengths of > 10 N/mm² at 80° Celsius. For the manufacture of window scantlings, the recommendation is only > 7 N/mm². Several adhesive systems also considerably exceed the tensile shear strengths required for durability class D4 (according to DIN EN 204/205).

PUR Hot Melt Adhesives for Plastic Windows

	Based on	Viscosity [mPas]	Processing temperature [°C]	Open time [s]	Certificate	Remarks
Jowatherm-Reaktant® 604.15	PUR	~35,000 at 140°C	130–150	~35 at 140°C	-	long open time for complex geometries
Jowatherm-Reaktant® 604.17	PUR	~47,000 at 140°C	130–150	~25 at 140 °C	-	“all-rounder”, also for aluminum
Jowatherm-Reaktant® 604.20	PUR	~43,500 at 140°C	120–140	~30 at 140°C	RAL-GZ 716	high crosslinking speed
Jowatherm-Reaktant® 604.25	PUR	~25,000 at 140°C	120–140	~9 at 140°C	RAL-GZ 716	“all-rounder” with high initial strength
Jowatherm-Reaktant® 604.35	PUR	~25,000 at 140°C	120–140	~90 at 140°C	RAL-GZ 716	Long open time and high hot tack
Jowatherm-Reaktant® MR 604.90	PUR MR	~27,500 at 140°C	120 - 140	~30 at 140°C	RAL-GZ 716	no hazard labeling

Primers for Plastic Windows

	Solvent	Viscosity [s]	Processing temperature [°C]	Application amount [g/m ²]	Certificate	Remarks
Jowat® 406.78	MEK (methyl ethyl ketone)	~10 at 20°C	15–25	15–25	RAL-GZ 716	“all-rounder”, also for aluminum
Jowat® 406.84	VOC-reduced	~14 at 20°C	15–25	8–16	RAL-GZ 716	low application amount, no hazard labeling
Jowat® 406.85	VOC-free	~12 at 20°C	15–25	8–10	RAL-GZ 716	for application systems via felt and vacuum
Jowat® 406.87	MC (methylene chloride)	~12 at 20°C	15–25	40–70	-	fast flash-off, non-flammable
Jowat® 406.89	MC (methylene chloride)	~12 at 20°C	15–25	40–70	RAL-GZ 716	fast flash-off, non-flammable



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Testing Procedure of the Technical Appendix in Accordance with RAL-GZ 716, As of July 2020

1. Adhesion of the foil to the carrier profile at 23 °C
 - Peel resistance ≥ 3.0 N/mm
(or foil stretching or foil tearing ≥ 3.0 N/mm)
2. Adhesion of the foil after exposure to hydrolysis / thermolysis
 - 42 days storage at 70 ± 2 °C, 95 ± 3 % relative humidity
 - Peel resistance at 23 °C ≥ 1.5 N/mm
(or foil stretching or foil tearing ≥ 1.5 N/mm)
3. Identification (IR spectrum)
 - Adhesive and solids content of the primers

Manufacturing of Interior and Exterior Doors

Doors are an important aspect in the overall appearance of a building and can also influence the living atmosphere. To provide protection against wind, noise and burglary, they need to be high-performance products. Superior design does not stop at the doorstep. The variety in products and design possibilities is continuously growing. All requirements are coupled with the performance of the adhesives used in the product and in production.



Hot Melt Adhesives for Interior and Exterior Doors

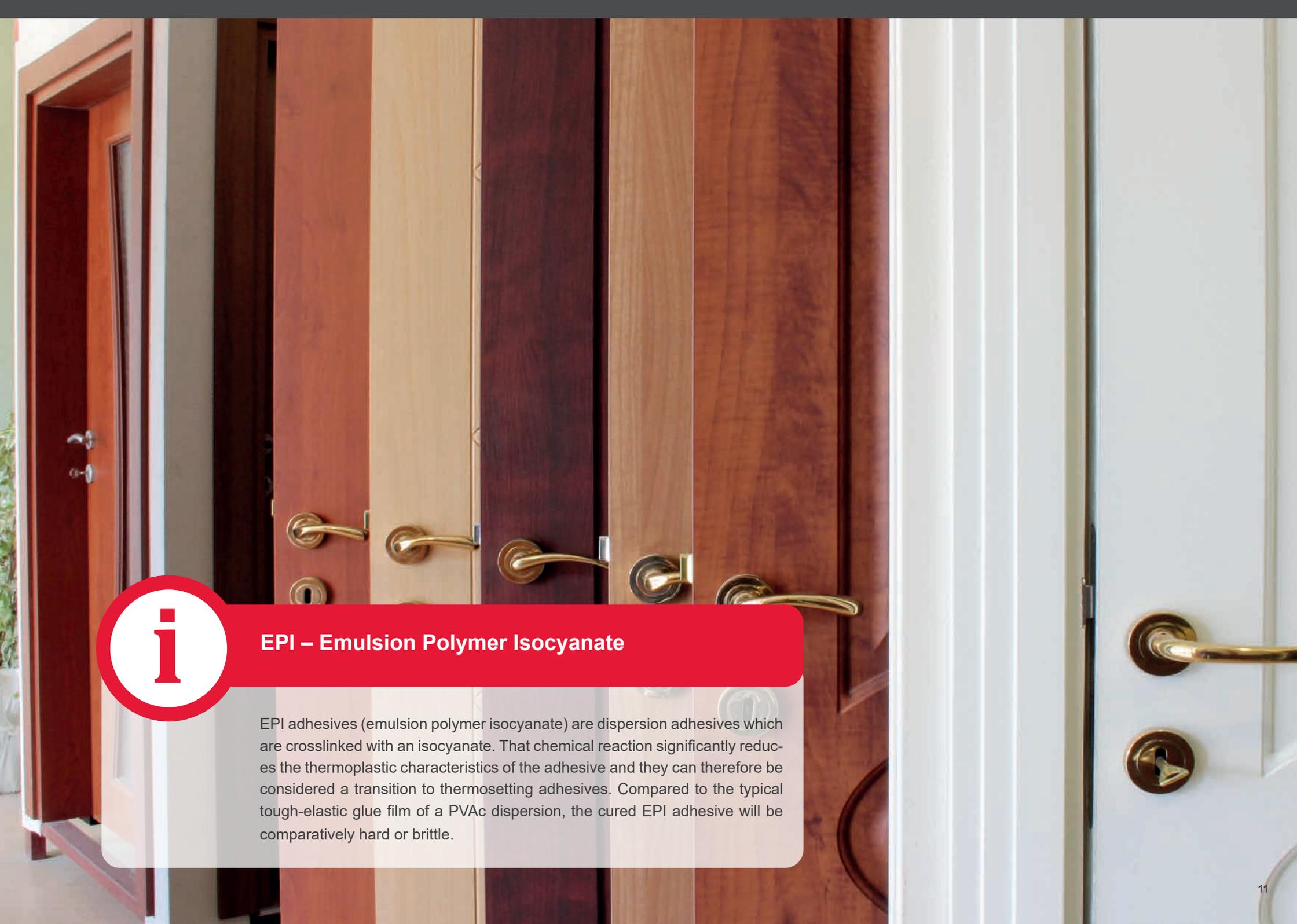
	Based on	Viscosity [mPas]	Processing temperature [°C]	Open time [s]	Application	Remarks
Jowatherm-Reaktant® 605.20	PUR	~37,000 at 120°C	130–150	~25 at 140°C	profile wrapping	classic choice for wrapping door frames
Jowatherm-Reaktant® 605.62	PUR	~30,000 at 120°C	130–150	~9 at 120°C	profile wrapping	high initial strength for wrapping door frames
Jowatherm-Reaktant® 609.00	PUR	~15,000 at 120°C	110–130	~240 at 120°C	flat lamination	high initial strength
Jowatherm-Reaktant® 609.30	PUR	~15,000 at 120°C	110–130	~180 at 120°C	flat lamination	classic choice for universal applications
Jowatherm-Reaktant® 609.36	PUR	~13,250 at 120°C	110–130	~300 at 120°C	flat lamination	wide range of adhesion, also to metals
Jowatherm-Reaktant® MR 609.90	PUR MR	~30,000 at 120°C	100–130	~180 at 120°C	flat lamination	no hazard labeling, high initial strength for high-tension bonding
Jowatherm-Reaktant® MR 609.93	PUR MR	~14,000 at 120°C	110–130	~180 at 120°C	flat lamination	no hazard labeling
Jowatherm-Toptherm® 221.00	PO	~23,200 at 120°C	180–200	~8 at 120°C	profile wrapping	high initial strength for wrapping door frames
Jowatherm-Toptherm® 221.80	PO	~11,500 at 120°C	180–200	~15 at 120°C	profile wrapping	“all-rounder” with high heat resistance and long open time
Jowatherm® 291.60	EVA	~5,550 at 200°C	170–190	~6 at 180°C	profile wrapping	“all-rounder” with wide range of adhesion

UF Adhesives for Interior and Exterior Doors

	Based on	Min. pressing temperature [°C]	Pot life [h]	Pressing time at 100 °C [s]	Application	Remarks
Jowat® 950.20	UF resin	70	~7 at 20°C	~60	interiors	hot curing
Jowat® 950.40	MUF resin	20	~4 at 20°C	~150	interiors and exteriors	high water resistance, also cold curing

Dispersion Adhesives for Interior and Exterior Doors

	Based on	Viscosity [mPas]	Open time [min]	Classification	Remarks
Jowacoll® 102.50	EPI	~11,000 at 20°C	1–4 at 20°C	D4 (2K) WATT91 > 7 N/mm ²	high resistance to water heat
Jowacoll® 103.10	PVAc	~11,000 at 20°C	4–8 at 20°C	D3	“all-rounder”
Jowacoll® 103.30	PVAc	~12,500 at 20°C	6–12 at 20°C	D3 WATT91 > 7 N/mm ²	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® GROW 105.85	PVAc	~8,000 at 20°C	4–8 at 20°C	D3 WATT91 > 7 N/mm ²	„All-rounder“ based on renewable raw materials (>20%)
Jowacoll® 124.00	PVAc	~9,500 at 20°C	5–7 at 20°C	D2	surface glue, optimized for short pressing times
Jowacoll® 124.79	PVAc	~19,500 at 20°C	8–10 at 20°C	D2	veneering glue for minimal bleed-through
Jowacoll® ER 147.00	copolymer	~8,000 at 20°C	1–3 at 20°C	D2	low emission
Jowacoll® 148.00	copolymer	~12,000 at 20°C	1–3 at 20°C	D2	“all-rounder”
Jowacoll® 148.70	copolymer	~10,000 at 20°C	1–4 at 20°C	D2	wide range of adhesion for demand surfaces



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EPI – Emulsion Polymer Isocyanate

EPI adhesives (emulsion polymer isocyanate) are dispersion adhesives which are crosslinked with an isocyanate. That chemical reaction significantly reduces the thermoplastic characteristics of the adhesive and they can therefore be considered a transition to thermosetting adhesives. Compared to the typical tough-elastic glue film of a PVAc dispersion, the cured EPI adhesive will be comparatively hard or brittle.

Manufacturing of Floors

Unlimited design possibilities, a seemingly infinite selection of materials and structures with many layers mark the wide variety in the flooring industry. The design of the floor system is a major factor in the appearance of a room.

Whether at home, in the office or in industrially used spaces – floors are exposed to many different types of stress. The choice of the right adhesive goes hand-in-hand with the requirements and the stress to be expected.

Jowat supplies many adhesives to facilitate flooring systems, from the classic laminate or parquett to modern modular design floors with maximum strength and quality.



PUR Hot Melt Adhesives for Laminate, Vinyl and Design Floors

	Based on	Viscosity [mPas]	Processing temperature [°C]	Open time [s]	Remarks
Jowatherm-Reaktant® 600.17	PUR	~7,000 at 120°C	110–130	~60 at 120°C	transparent, for transparent foils
Jowatherm-Reaktant® 603.80	PUR	~11,000 at 120°C	110–130	~25 at 120°C	transparent and UV-stable for transparent foils
Jowatherm-Reaktant® 609.00	PUR	~15,000 at 120°C	110–130	~240 at 120°C	high initial strength
Jowatherm-Reaktant® 609.30	PUR	~15,000 at 120°C	110–130	~180 at 120°C	“all-rounder”
Jowatherm-Reaktant® MR 609.90	PUR MR	30,000 at 120°C	100–130	~180 at 120°C	no hazard labeling, high initial strength for high-tension bonding
Jowatherm-Reaktant® MR 609.93	PUR MR	14,000 at 120°C	110–130	~180 at 120°C	no hazard labeling

Dispersion Adhesives for Laminate, Vinyl and Design Floors

	Based on	Viscosity [mPas]	Open time [s]	Remarks
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® 148.20	copolymer	~20,000 at 20°C	1–3 at 20°C	high-viscosity for absorbent materials
Jowacoll® 148.70	copolymer	~10,000 at 20°C	1–4 at 20°C	wide range of adhesion for demanding surfaces

PUR Hot Melt Adhesive for Parquett

	Based on	Viscosity [mPas]	Processing temperature [°C]	Open time [s]	Remarks
Jowatherm-Reaktant® 605.20	PUR	~35,000 at 140°C	130–140	~ 60 at 140 °C	“all-rounder”
Jowatherm-Reaktant® 605.80	PUR	~23,000 at 140°C	120–140	~ 40 at 140 °C	for high feed speeds

Dispersion Adhesives for Parquett

	Based on	Viscosity [mPas]	pH value	Open time [min]	Durability class	Remarks
Jowacoll® 103.10	PVAc	~11,000 at 20°C	~3.0 at 20°C	4–8 at 20°C	D3	“all-rounder”
Jowacoll® 103.30	PVAc	~12,500 at 20°C	~3.0 at 20°C	6–12 at 20°C	D3 WATT91 > 7 N/mm ²	D3 for short pressing time
Jowacoll® 103.70	PVAc	~10,000 at 20°C	~6.0 at 20°C	5–7 at 20°C	D3	pH-neutral for wood species sensitive to discoloring
Jowacoll® 102.26	PVAc	~7,000 at 20°C	~5.4 at 20°C	7–10 at 20°C	D4 (2K) WATT91 > 7 N/mm ²	D4 for high water resistance
Jowacoll® 102.50	EPI	~11,000 at 20°C	~7.0 at 20°C	8–12 at 20°C	D4 (2K) WATT91 > 7 N/mm ²	EPI for difficult wood species

Sealing of Floor Click Profiles

	Basis	Viscosity [mPas]	Processing temperature [°C]	Appearance	Remarks
Appretur Jowapur® 678.05	1C PU	~ 70 at 20 °C	> 10	brownish	very fast flash-off

Manufacturing of Profiles

Whether baseboards or cornice rails – carrier substrates wrapped with a virtually unlimited variety of lamination materials are in great demand. Carrier profiles are made from solid wood, wood-based materials, plastic and increasingly also aluminum and other metals.

The technology for applying the adhesives is also advanced constantly. Today, the preferred technology are slot nozzles with adjustable widths. Feed speeds have doubled several times over the past years, and today, modern manufacturing lines can achieve speeds of over 100 m/min.



PO Hot Melt Adhesives for Profiles

	Based on	Viscosity [mPas]	Processing temperature [°C]	Softening range (Kofler) [°C]	Open time [s]	Remarks
Jowat-Toptherm® 221.00	PO	~23,200 at 200°C	180–200	~115	~8 at 190°C	wide range of adhesion, for high feed speeds
Jowat-Toptherm® 221.80	PO	~11,550 at 200°C	180–200	~115	~15 at 190°C	“all-rounder” with high heat resistance
Jowat-Toptherm® 222.10	PO	~22,200 at 200°C	180–200	~115	~10 at 200°C	“all-rounder” for roller applicators
Jowat-Toptherm® 224.00	PO	~3,800 at 200°C	170–190	~95	~20 at 190°C	basic product for thin papers and foils
Jowat-Toptherm® 224.10	PO	~9,000 at 180°C	170–190	~95	~7 at 180°C	“all-rounder” with high initial strength for high feed speeds
Jowat-Toptherm® 225.00	PO	~71,000 at 200°C	190–210	~120	~8 at 190°C	high viscosity for veneers and CPL
Jowat-Toptherm® 236.50	PO	~8,000 at 200°C	180–200	~110	~15 at 190°C	low viscosity for thin foils, hard adhesive joint

EVA Hot Melt Adhesives for Profiles

	Based on	Viscosity [mPas]	Processing temperature [°C]	Softening range (Kofler) [°C]	Open time [s]	Remarks
Jowatherm® 280.30/31	EVA	~50,500 at 200°C	180–200	~ 90	~6 at 190°C	for veneers and Kraft paper
Jowatherm® 291.45	EVA	~5,500 at 200°C	170–190	~ 85	~18 at 180°C	long open time for complex geometries
Jowatherm® 291.50	EVA	~12,200 at 200°C	180–200	~ 105	~3 at 190°C	For CPL, hybrid adhesive with high heat resistance
Jowatherm® 291.60	EVA	~5,550 at 200°C	170–190	~ 80	~6 at 180°C	“all-rounder” for thin foils

PUR Hot Melt Adhesives for Profiles

	Based on	Viscosity [mPas]	Processing temperature [°C]	Open time [s]	Remarks
Jowatherm-Reaktant® 605.20	PUR	~35,000 at 140°C	130–150	~25 at 140°C	classic
Jowatherm-Reaktant® 605.62	PUR	~30,000 at 140°C	130–150	~9 at 140°C	“all-rounder”
Jowatherm-Reaktant® 605.65	PUR	~37,500 at 140°C	130–150	~32 at 140°C	base type
Jowatherm-Reaktant® 605.80	PUR	~23,000 at 140°C	120–140	~9 at 140°C	for high feed speeds
Jowatherm-Reaktant® MR 605.90	PUR MR	~22,500 at 140°C	130–150	~20 at 140°C	no hazard labeling
Jowatherm-Reaktant® 608.00/01	PUR	~90,000 at 120°C	110–140	~8 at 140°C	high cohesion for veneers and CPL

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Only in the Right Packaging, Will the Adhesive Be Perfectly Adapted to the Process.

Jowat adhesives are renowned all over the world for their efficiency. The choice of the optimum supply form and packaging can release the full potential in the manufacturing process of the customer. Apart from legal requirements and technical data for a packaging solution, other major factors in the choice of the packaging are convenience and sustainability. Jowat therefore provides a wide range of packaging solutions adapted to the corresponding process.



Manufacturing of Composite Elements

Modern compound elements or sandwich assemblies have only become possible thanks to the use of modern high-performance adhesives. Today, large composite elements have become essential in many fields. They are used for insulating systems, building elements, but also as facade cladding and in many more fields.



1-Component PUR Prepolymers for Composite Elements

	Based on	Viscosity [mPas]	Processing temperature [°C]	Open time [min]	Pressing time [min]	Certificate	Remarks
Jowapur® 685.12	1C PUR prepolymer	~6,000 at 20°C	>10	7–12 at 20°C	20–30 at 20°C	A.1/3.18 e	fast surface adhesive with IMO approval
Jowapur® 685.32	1C PUR prepolymer	paste-like at 20°C	>10	25–30 at 20°C	80–90 at 20°C	-	assembly adhesive with long processing time
Jowapur® 685.33	1C PUR prepolymer	~5,900 at 20°C	>10	25–30 at 20°C	60–70 at 20°C	A.1/3.18 e	surface adhesive with IMO approval and medium processing time
Jowapur® 685.61	1C PUR prepolymer	~6,800 at 20°C	>10	57–63 at 20°C	125–135 at 20°C	-	surface adhesive with long processing time
Jowapur® 687.40	1C PUR prepolymer	~8,000 at 20°C	>10	30–40 at 20°C	105–120 at 20°C	A.1/3.18 e	very wide range of adhesion

PUR Hot Melt Adhesives for Composite Elements

	Based on	Viscosity [mPas]	Processing temperature [°C]	Open time [min]	Certificate	Remarks
Jowatherm-Reaktant® 609.00	PUR	~15,000 at 120°C	110–130	~4 at 120°C	A.1/3.18 e	high initial strength and long open time
Jowatherm-Reaktant® 609.30	PUR	~15,000 at 120°C	110–130	~3 at 120°C	A.1/3.18 e	“all-rounder”
Jowatherm-Reaktant® 609.36	PUR	~13,500 at 120°C	110–130	~5 at 120°C	A.1/3.18 e	wide range of adhesion e.g. for bonding glass
Jowatherm-Reaktant® 609.38	PUR	~33,000 at 120°C	120–140	~6 at 120°C	A.1/3.18 e	high initial strength and very long open time
Jowatherm-Reaktant® 609.50	PUR	~25,000 at 120°C	120–140	~1,5 at 120°C	-	high initial strength for high-tension bonding
Jowatherm-Reaktant® MR 609.90	PUR MR	~30,000 at 120°C	100–130	~3 at 120°C	-	no hazard labeling, high initial strength for high-tension bonding
Jowatherm-Reaktant® MR 609.93	PUR MR	~14,000 at 120°C	110–130	~3 at 120°C	A.1/3.18 e	no hazard labeling



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PUR Hot Melt Adhesives with Hazard-Free Labeling

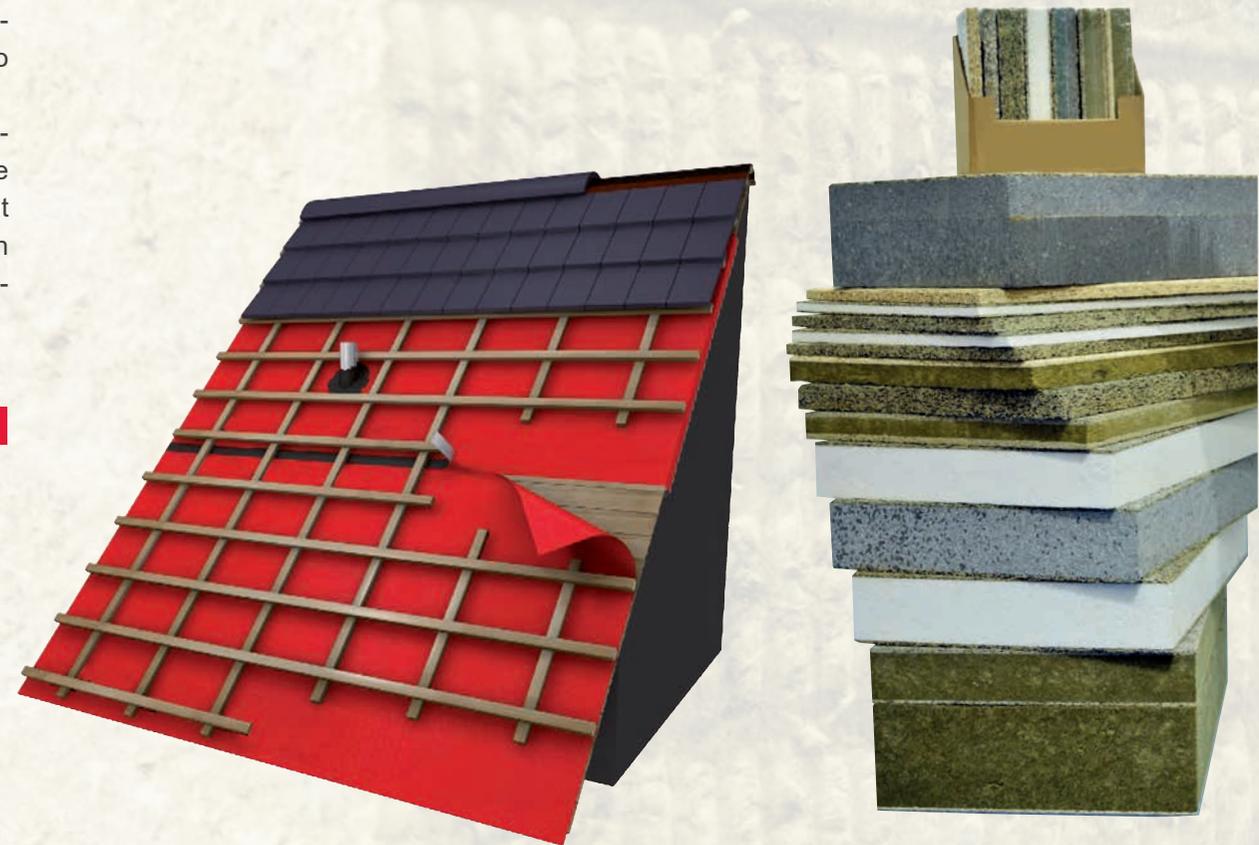


European legislators have classified one-component, moisture-curing PUR hot melt adhesives as hazardous material due to their content of free monomer isocyanate (mostly 4-4' methylene diphenyl diisocyanate – MDI). In addition, all processors of these products will require a training in their safe handling in future. The product family Jowatherm-Reaktant® MR supplied by Jowat provides PUR hot melt adhesives with a significantly reduced content of free monomer isocyanate (MR = monomer-reduced). In accordance with the current EU regulation, these adhesives are not required to be marked as hazardous material because the content of monomer MDI is less than 0.1 %. The required training as well as the related costs and personnel effort can become obsolete if the MR technology is chosen.

Manufacturing of Insulation Materials and Building Textiles

Energy considerations play a major role in the design and planning of buildings. In the beginning, roofs were insulated to prevent the loss of heat. Today, insulation provides many more functions and possibilities to protect buildings from heat, noise and fire aspects. In addition to mineral and synthetic materials, the use of plant-based substances is also growing.

Technical properties such as thermal conductivity or heat storage capacity are important details of these building products. However, the combination of different materials is frequently the decisive factor. Jowat supplies a wide range of adhesives for the manufacture of insulation materials and building textiles and thereby contributes to the optimization of the energy efficiency of buildings.



Hot Melt Adhesives for Insulation Materials

	Based on	Viscosity [mPas]	Processing temperature [°C]	Softening range [°C]	180° peel strength [N/25 mm]	Loop tack [N/25 mm]	Remarks
Jowatherm® 245.00	SBC	~17,000 at 160°C	150–170	~85	~29	~32	high cohesion
Jowatherm® 245.60	SBC	~3,200 at 160°C	150–170	~85	~18	~32	optimized for spraying
Jowatherm® 245.85	SBC	~13,000 at 160°C	170–190	~105	~11	~19	high heat resistance

Hot Melt Adhesives for Building Textiles

	Based on	Viscosity [mPas]	Processing temperature [°C]	Remarks
Jowat-Toptherm® 230.45	PO	~11,500 at 190°C	180–200	“all-rounder” with wide range of adhesion
Jowatherm-Reaktant® 630.80	PUR	~11,000 at 120°C	110–130	“all-rounder” with high initial strength
Jowatherm-Reaktant® 638.20	PUR	~5,500 at 100°C	90–110	low processing temperature, high resistance to hydrolysis
Jowatherm-Reaktant® 639.00	PUR	~10,000 at 100°C	100–120	wide range of adhesion, long open time
Jowatherm-Reaktant® GROW 631.20	PUR	~8,000 at 140°C	110–140	contains renewable materials
Jowatherm-Reaktant® MR 630.99	PUR MR	~9,000 at 110°C	100–130	no hazard labeling

Jowat - Our Word is Our Bond

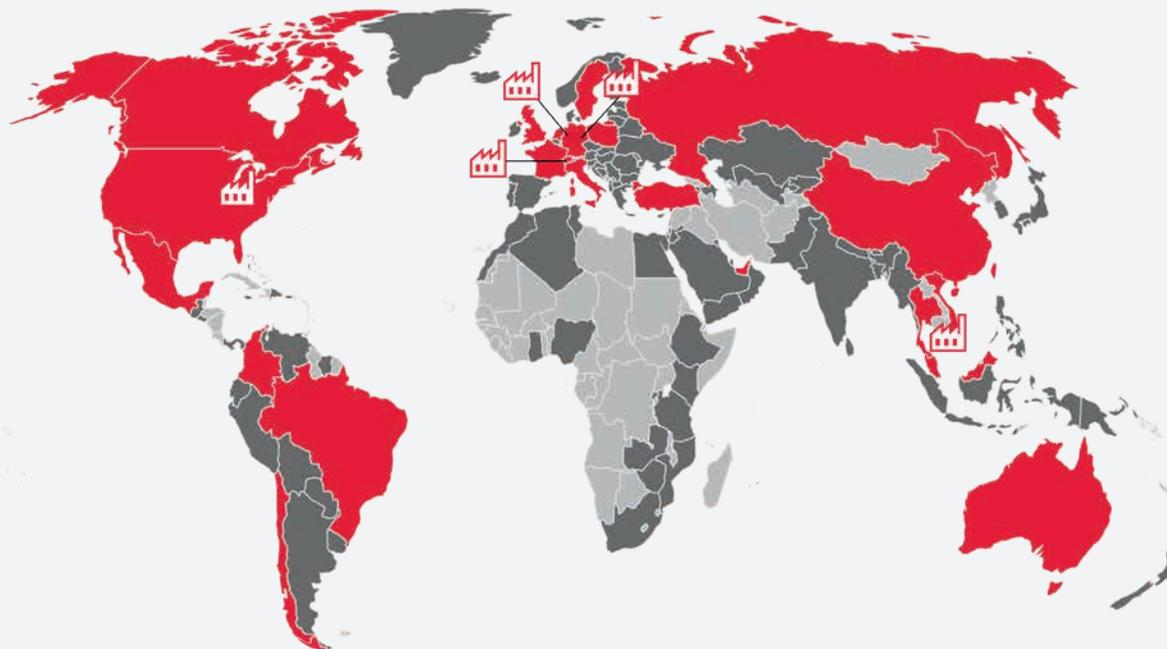
Jowat SE with headquarters in Detmold is one of the world's leading suppliers of industrial adhesives. These are mainly used in woodworking and furniture manufacture, in the paper and packaging industry, for graphic arts, in the textile, automotive as well as in the electrical industry. The company was 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, and Jowat Manufacturing in Malaysia. The supplier of all adhesive groups is manufacturing over 100,000 tonnes of adhesives per year, with about 1,200 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 innovations in the manufacture of building elements and draws on a deep understanding of the challenges in the building industry – be it special physical properties, different material combinations, requirements for high resistance and durability in exterior applications, 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 constant search for and testing of new, sustainable raw materials, to the development of innovative adhesive products in close contact with subsuppliers 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 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.



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