



☆☆☆☆☆ **Jowacoll® Five Star**  
**102.49**



**Perfect for assemblies with exposure to direct weathering and bonding of formed parts (high dimensional stability)**

**Especially for bonding**

- **modified wood, e.g. Accoya® or thermally treated wood**
- **hard wood species and species with high resin content**
- **tropical wood species, e.g. teak and meranti**
- **wood with moisture content up to 15 %**

**Easy to process like glue, strong like PUR**





## The five-star glue

When mixed with 15 percent of Jowat® Crosslinking Agent 195.60, the powerful two-component adhesive Jowacoll® Five Star 102.49 facilitates very strong bondings. With high resistance to water and good resistance to dry heat (see “Tensile strength”), the product ensures reliable and stable assemblies even under extreme conditions. In combination with an adequate surface protection, Jowacoll® Five Star 102.49 with crosslinking agent Jowat® 195.60 are therefore perfect for outside applications.

The high solids content of Jowacoll® Five Star 102.49 ensures short setting times even on wood with reduced moisture absorption. Therefore, almost any wood species can be bonded. Formed parts bonding is another application where Jowacoll® Five Star 102.49 shows its strength. Due to a very hard glue film, the adhesive withstands the high tensions and keeps the substrates perfectly in shape.

**Bond strength according to EN 14257 (WATT 91):**  
**10,4 N/mm<sup>2</sup>**

**Classification according to EN 204:**  
**Durability class D4**

Jowacoll®  
 Five Star 102.49

Durability class	Conditioning sequence	Min. values according to EN 204 in N/mm <sup>2</sup>	Average value of adhesive strength in N/mm <sup>2</sup>
D4	1	≥ 10	11,3
D4	3	≥ 4	7,9
D4	5	≥ 4	5,6

### INFO: EPI adhesives

EPI (Emulsion Polymer Isocyanate) adhesives are dispersion adhesives, which use isocyanate for crosslinking. The chemical reaction reduces the thermoplastic behavior of the adhesive significantly. Therefore, this adhesive type is considered to be a transition to thermosetting adhesives. Compared to the typical tough-elastic glue film of a PVAc dispersion, the cured EPI adhesive is hard to brittle.

### INFO: Tensile strength



The tensile strength results of the heat resistance tests according to EN 14257 (Watt 91) at 80 °C are >10 N/mm<sup>2</sup>.

The results are therefore better than the recommended value of only >7 N/mm<sup>2</sup> for window scantling manufacturing. The tensile strength is also considerably higher than the requirement for the D4 durability class (according to EN 204/205).



## Application

Copolymer dispersion for bonding hard wood species (e.g. oak, beech), species with high resin content (e.g. pine), tropical wood species (e.g. teak, meranti), wood with moisture content up to 15 %, as well as chemically (e.g. Accoya®) and thermally treated wood. For assemblies exposed to direct weathering, with adequate surface protection, e.g. for window scantlings, formwork panels, doors, outside furniture, furniture for moist environments, parquet manufacturing, sandwich elements and window manufacturing.

## Directions for use

Jowacoll® Five Star 102.49 has to be processed with Jowat® crosslinking agent 195.60. The mixing has to be carried out very thoroughly. The best mixing results are achieved with power agitator blades. After mixing with the Jowat® Crosslinking Agent 195.60, do not close the containers tightly, since they may burst due to formation of CO<sub>2</sub>. Stir well before use. For application by brush, spatula, nozzle or roller. Avoid contact with iron, tanniferous wood may discolour. The materials to be bonded must be free of grease and dust, and match perfectly.

We recommend that all materials coming into contact with the glue are made of high-quality stainless steel (German V4A or better) or of inert plastics (e.g. Teflon, PP or polyamide). Avoid contact with other metals (e.g. zinc, brass, copper, aluminium, etc.). For more information, contact the equipment manufacturer or our technical support.

### Mixing ratio:

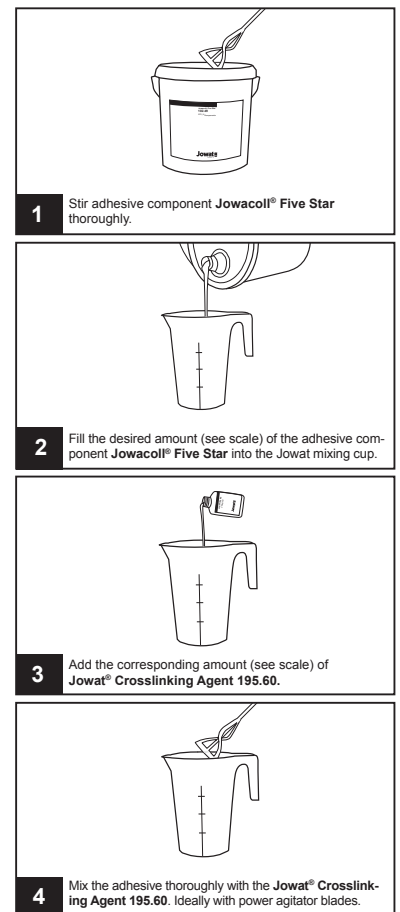
Jowacoll® Five Star 102.49 with Jowat® Crosslinking Agent = 100 : 15 ppw

Min. temperature for materials glue and ambient air	15 °C (not identical with MFFT)
Pot life	approx. 2 h (dep. on homogeneity)
Glue application	one-sided
For high-quality requirements	two-sided
Application amount	150 - 200 g/m <sup>2</sup>
Open assembly time	up to 10 ± 2 min
Pressure	≥ 5 bar; atm; kg/cm <sup>2</sup>
Min. pressing time at 20 °C	approx. 25 min

Longer pressing times will result in higher strength, according to all test methods. Tested at 6 - 10 % wood moisture, following EN 204/205 with an application amount of approx. 150 g/m<sup>2</sup>, one-sided application.

## Technical data

### Mixing in Jowat mixing cups:



Mixed adhesive must be used up as fast as possible, at the latest after 120 minutes. Remaining adhesive must be disposed according to the Safety Data Sheet and the Jowat mixing cup has to be cleaned thoroughly.

## Jowacoll® Five Star 102.49 + Jowat® 195.60

Type	2-component
Durability class	D4
Solids content [%]	approx. 60
Viscosity at 20 °C [mPas]	approx. 11,000 (Brookfield)
Density [g/cm <sup>3</sup> ]	approx. 1.5
pH value	approx. 7
Minimum film-forming temperature (MFFT)	approx. 5 °C

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**Jowat – Kleben erster Klasse**  
**Jowat – first class bonding**

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