

BONDING OF WALL CLADDING PANELS FOR VENTILATED FACADE CONSTRUCTIONS WITH KOMO CERTIFICATE

KOMO 21067/22-2024

INSTRUCTIONS FOR USE

JAMES HARDIE
HARDIE PANEL



TWINBOND PANEL

- Suitable for all panel sizes.
- Mono-component MS polymer.
- Cures by humidity.
- Solvent, phthalate and isocyanate free.
- Quality product, with KOMO certification.
- Suitable for use all year round, depending on the weather conditions and temperature.
- Durable.



MATERIALS REQUIRED:

- **TwinBond Panel:** very strong, permanent elastic MS polymer-based adhesive
- **TwinBond Clean:** universal cleaning and degreasing product for chemical contamination
- **TwinBond Foam:** universal cleaning and degreasing product for natural contamination
- **TwinBond Tape:** double-sided adhesive tape used for primary bonding of the panel and to maintain the 3 mm adhesive thickness
- **TwinBond WP 1K:** wood impregnation
- **TwinBond SIP 2K-FAST** two-component substrate impregnation

QUANTITY TO BE USED (BASED ON A CENTRE DISTANCE OF 500 MM)

TwinBond Panel 310 ml cartridge	7.5 m V-nozzle 9 x 9 mm
TwinBond Panel 600 ml sausage	15 m V-nozzle 9 x 9 mm
TwinBond Clean 500 ml aerosol	20 m ² depending on the pollution
TwinBond Clean 5l can	200 m ² depending on the pollution
TwinBond Foam 500 ml aerosol	depends on the pollution
TwinBond Tape 25 m roll 12X3 mm	25 lm
TwinBond WP 1K 1 L can	250 à 300 m length
TwinBond SIP 2K-FAST 1 kg can (A en B)	100 linear meters (based on an epoxy layer 100mm wide)

CONDITIONS FOR USE:

- Use the **TwinBond Panel** bonding system between +5°C and +40°C.
- Do not allow condensation to form on the surfaces to be bonded (condensation is not the same as a damp substrate).
- RH < 90% and substrate temperature > +3°C above dew point.
- Under other conditions, it is best to ask our advice.

Observe the following instructions in order to maintain an identical temperature in front of and behind the façade panels and to prevent the formation of condensation and stagnant moisture by adequate ventilation.

- An open ventilated cavity of at least 20 mm between the wall or insulation and the façade panels.
- A ventilation opening of at least 100 cm²/m on the top and bottom of the wall surface.
- Never allow the finish on the edge of the roof to sit tight against the façade cladding.
- Consult the panel manufacturer's instructions.

1. Regarding the façade panels

The elasticity of **TwinBond Panel** prevents possible deformation of the façade panels, for example due to thermal expansion. This means that façade panels of all sizes can be bonded.

For the minimum joint width, consult the façade panel manufacturer's instructions. For an attractive appearance, we advise a joint width of 10 mm.

For horizontal applications (such as ceilings and canopies), observe a maximum c/c spacing of 400 mm, which may mean support is required until the adhesive has dried. For ceiling and canopy applications, place the battens perpendicular to the façade

2. With respect to the supporting structure

The supporting structure is very important when bonding façade cladding because it transfers the loadbearing strength of the wall panels to the substrate of masonry, concrete, wood, etc. This supporting structure is usually made of aluminium, wood or a combination of the two, and must comply with the Eurocodes in force. The supporting structures must always be installed according to the façade panel manufacturer's instructions.

- Determine the correct dimensions of the facade surface with respect to the planning grid size and height gauge (axis and height gauge).
- Check the stability of the anchoring substrate (concrete: pressure zone, etc.)

Aluminium supporting structure (EN-AW-6063)

- Mount the brackets and sliders vertically above each other with the appropriate fastening materials.
- Make cuts in the wall insulation, if any, where a bracket or slider is present in order to minimise insulation leaks.
- Install the vertical L or T profiles and provide one fixed attachment point and several sliding points along each length, by putting screws through the slots.
- The number of attachment points per m² of the supporting structure is determined by the weight of the façade panel and the wind load and tensile force on the façade panels.

Pinewood supporting structure (untreated or preserved)

- The double-layer horizontal fixing structure must be fixed using static tested angle brackets on top and bottom.
- Install the insulation and any vapour-permeable film according to the supplier's instructions.
- The minimum thickness for the vertical battens that bear the panels is 19 mm. Determine the minimum thickness of the battens in accordance with the applicable guideline in your country.
- The wood must be dry (moisture percentage < 18% dryness class 2, wind dry) and must always be treated with the wood preservative **TwinBond WP 1K**. Wood is a natural product with a variable composition. Always do an adhesion test.
- Ask our advice about bonding to other types of preserved wood.

- End battens and corner joints: **70 mm.**
- Lock rails: **min. 45 mm.**
- At joint seams: **95 mm.**
- When using a joint profile: **min. 95 mm.**

Check the evenness and rigidity of the supporting structure. The c/c distance of the battens is dependent on the tensile bending strength of the panel, the thickness and the panel manufacturer's instructions. Each façade panel must be bonded to at least two vertical profiles.

3. Bonding to the supporting structure

A. Bonding to an aluminium supporting structure (EN-AW-6063)

Apply to a clean, stable substrate. If necessary, clean with **TwinBond Clean** and/or **TwinBond Foam**: apply, let it soak in, rub off with/(or: rub off any surplus with) a clean cloth, rub again with a dry cloth and then let it evaporate. It is possible to bond directly to aluminium and anodised aluminium. With coated aluminium, it is necessary to test the adhesion of the coating to the aluminium and the adhesion of the **TwinBond Panel** to the coating.

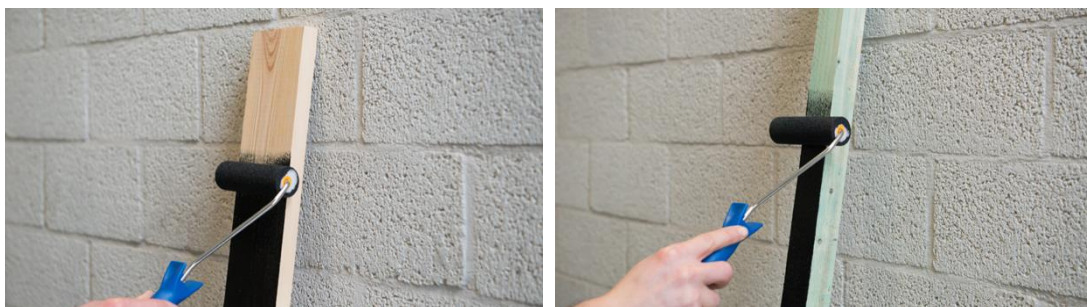


B. Bonding to a pinewood supporting structure (untreated or preserved)

Treat untreated wood all over with the wood preservative **TwinBond WP 1K**. Also treat preserved wood on the side to be bonded with **TwinBond WP 1K** (attractive, dark colour). The vertical battens must be dry (wood moisture percentage < 18% dryness class 2 (NEN-EN 5461), wind dry). Apply **TwinBond WP 1K** to clean, untreated wood.

- Shake **TwinBond WP 1K** well before use.
- Completely cover the surface with a thin layer of the product.
- Allow to dry for one hour before bonding with **TwinBond Panel**.

TwinBond WP 1K is not a primer and can be applied in advance. Never apply to painted wood, multiplex, aluminium or other metals.



Preparation of the façade panels

Clean with **TwinBond Clean** and/or **TwinBond Foam**: apply, absorb, rub off with/(or: rub off any surplus with) a clean cloth, Rub again with a dry cloth and then let it evaporate. Neither cleaner will affect the façade panels.

After cleaning and sanding, the surfaces to be bonded on the panels should be treated with **TwinBond SIP 2K**

TwinBond SIP 2K-FAST: Mix A and B components completely to a homogeneous mass. Process within 60 minutes after mixing. Apply on clean and dry surfaces with roller or brush. Minimum processing temperature: +5°C 90% R.H. After at least 2 to 3 hours drying time ready for further processing, ALWAYS check with a piece of TwinBond Tape whether **TwinBond SIP2K-FAST** has been sufficiently absorbed/dried before further processing. Fully dried after 12 hours and chemically resistant after 7 days.

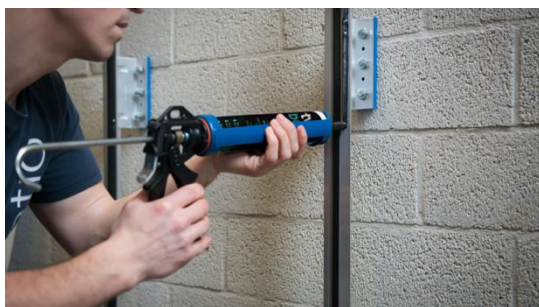
Attaching TwinBond Tape

- Attach to a clean, stable substrate. **TwinBond WP 1K** should be completely dry and **TwinBond Clean** should have evaporated completely.
- Attach **TwinBond Tape**, without any breaks, to the vertical battens.
- Press firmly into place and cut off.
- Remove the protective layer before applying the **TwinBond Panel**.



Applying TwinBond Panel

- The use of the nozzle provided guarantees the prescribed bead width and thickness of 12mm by 3 mm after pressing the panel into place. The V shape prevents air bubbles and wasted adhesive.
- Cut cartridge open and attach the nozzle; this happens automatically with the sausage nozzle. Apply the adhesive with the **Seal&Bond Gun** or the pneumatic **TwinBond Gun**.
- When applying **TwinBond Panel**, hold the nozzle at a 90° angle to the application to obtain a perfect V shape.
- Apply the adhesive at a distance of about 1 cm from the **TwinBond Tape** in an uninterrupted line.



Placing of the façade panel

- Attach the façade panel before a skin forms on the **TwinBond Panel** (+/-10 minutes) for an optimal adhesive surface.
- Press the clean side of the façade panel gently against the adhesive and correct the placing if necessary. Once the façade panel is correctly positioned, press firmly so that the panel uses the entire surface of the **TwinBond Tape**.



Guarantee

Novatech guarantees that the **TwinBond** glueing system meets the technical specifications described in the technical information.

Basic conditions

- Besides conforming to the **TwinBond Panel** Instructions for Use and the panel manufacturer's Instructions, the installer must also comply with the requirements formulated in BRL 4104.
- The **TwinBond** system is to be applied as such (**TwinBond Panel**, **TwinBond Tape**, **TwinBond Clean**, **TwinBond SIP**, **TwinBond Foam** and **TwinBond WP 1K**).
- The Instructions for Use must be complied with strictly, unless it must reasonably be assumed that they are incorrect in the case in question; if necessary contact Novatech, which will offer assistance (always request written confirmation).