

## Instructions for Use Dynamic Bond

for the bonding of facade cladding with KOMO-certified bonding system Dynamic Bond

### METALS - HPL - FIBRECEMENT

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#### Dynamic Bond

- For panels up to the maximum diagonal.
- Based on MS-hybrid-polymers, one component.
- Cures by humidity.
- Dynamic Bond is isocyanates- and solvent free.
- High quality product with KOMO certificate.
- Fire class B-s1,d0 according to EN 13501-1.
- Can be used throughout the year.
- Durable product.

#### Working details and design

*This bonding system is meant for **ventilated** façade constructions.*

Between insulation and cladding an air space (cavity) of 20 mm is required:

- To avoid large temperature differences in front of and behind the panels.
- Due to the ventilation condensation and moisture are evaporated.
- The thermal insulating capacity is retained.
- Don't apply the metal trim directly against the façade panel!
- Always consult the instructions for use of the panel manufacturer.

*Dynamic Bonding Systems advises the upper and lower side of the façade should be provided with a minimum ventilation opening of 100 cm<sup>2</sup>/m<sup>1</sup>.*

#### Weight of the façade panels

In horizontal applications such as ceilings or canopies we advise a maximum centre-distance of 400 mm. It will also be necessary to temporarily support the panels until the adhesive is fully cured. The main support rails should be mounted square to the façade support rails because of the needed ventilation.

#### Maximum panel size

The elastic properties of Dynamic Bond prevent possible deformation of the façade panels due to thermal expansion. This means that façade panels with a maximum diagonal can be bonded with Dynamic Bond.

#### Minimum joint width

Follow the guideline of the panel manufacturer. From an aesthetic point of view, we recommend a joint of 10 mm.

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### **Supporting wall structure**

The construction of the supporting wall structure is a very essential element when bonding façade cladding. This supporting structure is often executed in aluminium, wood or a combination of these materials and should be tested to valid national guidelines. Fixing structures need to be installed according to manufacturer's and supplier's instructions.

- Determine the exact dimensions of the façade surface with regard to gridlines and levels.
- Check the supporting wall structure (concrete: pressure or tension zone, or brickwork).

### **Aluminium supporting structure (according to EN-AW-6063)**

- Attach the supporting point and sliding point upright to each other.
- Cut the insulating layer where the fixed and/or sliding points will be fixed (the possibility of insulation leaks will be reduced).
- The vertical elements, L- or T- profiles are connected which sustain the cladding slabs. Note: one fixed point and multiple sliding points by means of screws through slotted holes per length.
- Check the supporting structures regarding flatness and strength!
- The support centre distance depends on the bending strength of the panel, thickness and the panel manufacturer's instructions. Every panel has to be applied onto a minimum of two vertical elements.
- The number of fixing points per m<sup>2</sup> of the supporting structure is determined by the weight of the façade panel and the calculated wind load/tension to the façade panels.
- Bonding of the panel directly onto the aluminium is possible after the Dynamic Clean has fully evaporated (5-10 minutes).

**Remark: if the aluminium profiles are provided with a coating, it should be determined if the coating on the aluminium is the weakest part of the construction. Bonding of the panels is therefore not possible!**

### **Supporting structure: untreated pinewood or preserved wood**

- The double-layer horizontal fixing structure must be fixed using static tested angle brackets on top and bottom.
- Place insulation and damp proof foil according to the manufacturer's instructions.
- Apply the vertical fixing structure. The minimal thickness of the vertical supporting batten is 19 mm. Determine the minimal thickness of the vertical supporting batten according to the national guidelines.
- When bonding onto (impregnated) wood always use for preserving the Dynamic Protect. Use the Dynamic Protect all around for untreated pinewood and only on the bondable side when having preserved impregnated wood.
- The wood must be dry (humidity percentage < 18%, drying class 2, air dried).
- The support centre distance depends on the bending strength of the panel, thickness and the panel manufacturer's instructions. Every panel has to be applied onto a minimum of two vertical elements.
- For bonding onto other types of (preserved) wood: consult our helpdesk.

### **Required width of the supporting beams**

- End battens and angle joints: 70 mm.
- Vertical battens: min. 45 mm.
- When open joints applicable: 95 mm.
- When joint profiles applicable: min. 95 mm.

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### Application bonding system

#### **Necessary materials:**

- Dynamic Bond®: Super strong, one component, elastic adhesive on hybrid-polymer base.
- Dynamic Clean®: Universal cleaner and degreaser.
- Dynamic Tape®: Double sided self-adhesive foam tape for the first (temporary) bonding of the cladding.
- Dynamic Protect®: Preserving material for (impregnated) wood.
- Dynamic SI Epoxy®: Impregnation for fibre cement panels.

#### **Needed quantity\***

Dynamic Bond 310 ml cartridge	2,5 m <sup>2</sup> / 7,5 m <sup>1</sup> (based on V-9x9mm)
Dynamic Bond 600 ml aluminium sausage	5 m <sup>2</sup> / 15 m <sup>1</sup> (based on V-9x9mm)
Dynamic Clean 500 ml aerosol	20 m <sup>2</sup>
Dynamic Clean 5 litre can	200 m <sup>2</sup>
Dynamic Tape 25 m roll, 12 x 3 mm	8 m <sup>2</sup>
Dynamic SI Epoxy 1 kg can	100 m <sup>1</sup> (based on 100 mm SI surface)
Dynamic Protect 1 litre can	300 m <sup>1</sup> (based on layer 19x45 mm)

\* based on a centre distance of 500 mm

#### **Working conditions**

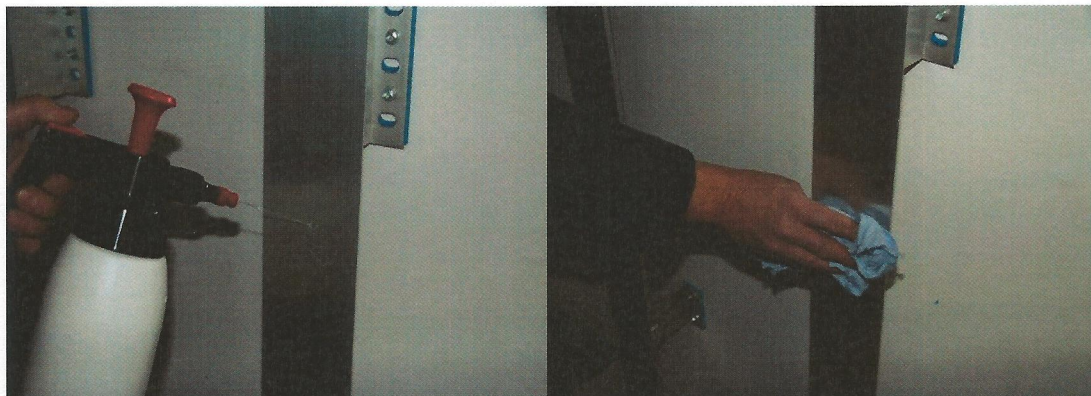
Recommended working temperature of the Dynamic Bond system is between +5°C and +40°C. The bondable surfaces must be clean, dry, and free from dust and grease. During the bonding process the relative humidity is maximum 90% and the substrate temperature must be 3°C higher than the dew point. In the event of diverging conditions we advise you to contact Dynamic Bonding Systems.

#### **Aluminium supporting structure (according to EN-AW-6063)**

On anodized and mill finish aluminium can be bonded directly (after using Dynamic Clean).

- The surfaces to be bonded must be dry, dust- and grease free. Use Dynamic Clean.
- Cover the front of the metal base construction with Dynamic Clean and wipe off in one direction, preferably using a paper tissue or a clean lint free cloth.
- Allow the Dynamic Clean to evaporate fully for 10 minutes.
- Ensure that the bondable surface is protected against dirt.

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### ***Preserved impregnated wood or untreated pinewood supporting structure***

- In case of an exterior application, the untreated pinewood has to be protected all around with Dynamic Protect.
- Preserved impregnated wood has to be pre-treated on the bondable side with Dynamic Protect.
- The vertical frame construction must be dry (wood moisture percentage < 18%, drying class 2 (NEN-EN 5461), air dried) and free from dust and grease.
- For the application of Dynamic Protect use a clean, fine structure paint roller. Shake Dynamic Protect thoroughly before use.
- Apply Dynamic Protect in just one thin, full-cover layer!
- Do not use Dynamic Protect on painted wood, multiplex, aluminium or other types of metal.
- Dynamic Protect is not an adhesion primer and can be pre-processed after the drying time of 2 hours.



### ***Degreasing panels with Dynamic Clean***

The panel must be dry, clean, and free from dust and grease.

- Cover the back of the façade panel with Dynamic Clean and wipe off in one direction, preferably using a paper tissue or a clean cloth.
- Let the Dynamic Clean fully evaporate for 10 minutes.
- Please be aware that the bondable surface is protected against dirt.
- Dynamic Clean is not an aggressive degreaser and using it has no negative effect on the panels.

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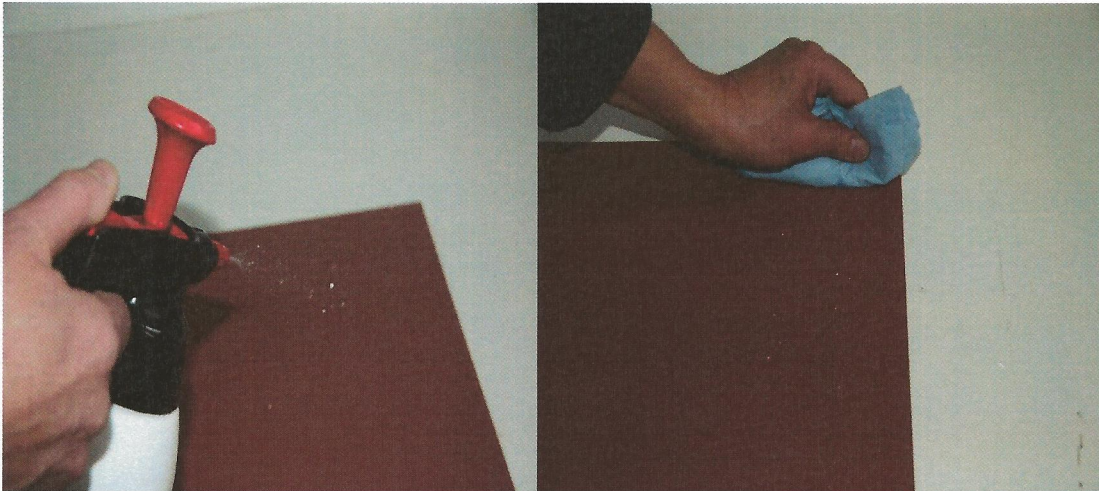
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**Note: if the panel has a protective foil on the backside we strongly recommend to sand lightly before cleaning with Dynamic Clean!**



**NOTE: ONLY FOR FIBRE CEMENT PANELS:**

**Pre-treatment of fibre cement panels with Dynamic SI Epoxy**

For optimum results, pre-treatment with Dynamic SI Epoxy is necessary.

- Before treatment the façade panel must be clean, dry, and free from grease. To achieve this use Dynamic Clean.
- Mix both components, component A (resin) and component B, (hardener) well **for minimum 2 minutes** with a stirrer or by shaking. Do not add water or other supplements. **Note: always use the full content of the packages!!**
- Apply Dynamic SI Epoxy vertically to the bondable area with a fine structure paint roller or brush in **one thin, but full cover layer of ± 10 cm wide.**
- Apply and process the Dynamic SI Epoxy within 30 minutes!
- Ensure that the treated adhesive surface is fully protected against dirt.

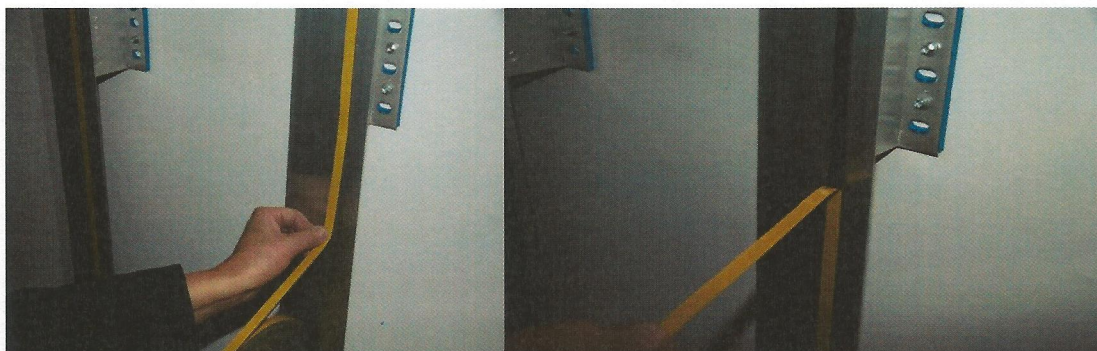


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**Note: bonding of the panels is only possible after the prescribed drying time of minimum 12 hours.**

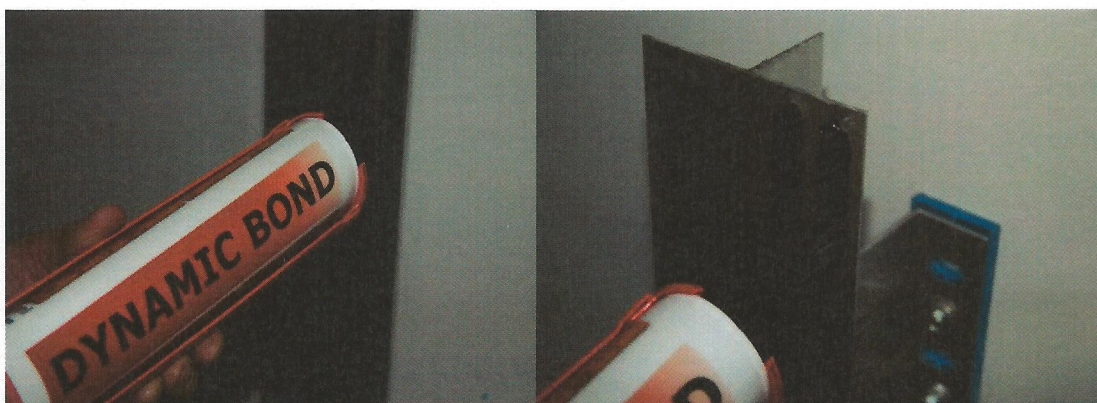
### **Application of Dynamic Tape**

- Dynamic Tape provides the first adhesion of the panel and guarantees the minimum required glue bead thickness of 3 mm.
- Apply the Dynamic Tape after the Dynamic Clean is evaporated or the Dynamic Protect has fully dried.
- Position the Dynamic Tape vertically in an unbroken strip on the vertical wooden or metal frame. Then press down the Dynamic Tape firmly and cut with a sharp knife.
- Remove the protective layer before applying the glue bead!



### **Apply glue bead**

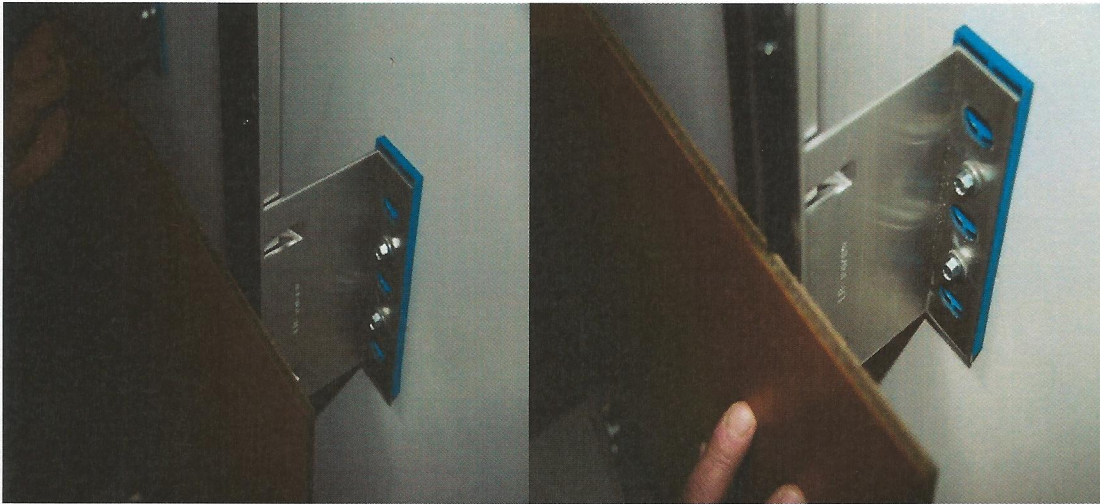
- To obtain the prescribed width/thickness of minimum 12 x 3 mm use the supplied V-nozzle. The V-shape is necessary to prevent air bubbles being trapped and guarantees the calculated output.
- Then cut open the cartridge or sausage, fit the nozzle and apply the glue bead.
- Apply the adhesive 10 mm away from the Dynamic Tape in an unbroken required V-shape bead.



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### ***Attach panels***

- After the prescribed drying time of Dynamic SI Epoxy the façade panel can be applied.
- Press the cleaned side of the panel slowly against the adhesive to enable possible correction. Press down the panel firmly when it is correctly positioned, so that the façade panel makes good contact with the Dynamic Tape.
- Place the façade panel within 10 minutes, otherwise a skin will form on the adhesive!



### ***Guarantee***

Dynamic Bonding Systems guarantees that the Dynamic Bond bonding system meets the technical specifications as described in the relevant technical information sheets.

Primary conditions:

- The applier has to meet and follow the instructions for use from Dynamic Bonding Systems and the guidelines from the panel manufacturer.
- The products are only used as a system (Dynamic Bond, Dynamic Tape, Dynamic Clean, Dynamic Protect, Dynamic SI Epoxy).
- Contact our helpdesk and always ask for a written confirmation if the application deviates from the guidelines!

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### Product Information Dynamic Bond bonding system

	<b>Dynamic Bond</b>	<b>Dynamic Tape</b>	<b>Dynamic Clean</b>	<b>Dynamic Protect</b>	<b>Dynamic SI Epoxy</b>
<b>Base</b>	One component, Hybrid MS-Polymer	Double sided self-adhesive tape	Cleaner and degreaser	Mixture for the treatment of (preserved) wood	2-component surface improver
<b>Type of surface</b>	Metals,HPL- and fibrecement	Every surface	Every surface	(Preserved) wood	Fibre-cement
<b>Working temperature</b>	+5°C to +40°C	+5°C to +40°C	+5°C to +40°C	+5°C to +40°C	+5°C to +40°C
<b>Drying time</b>	Ca. 3-4 mm per 24 hours	N.a.	10 minutes to evaporate	2 hours	12 hours
<b>Condition of the surface</b>	Clean, dry and free of grease	Clean, dry and free of grease	N.a.	Clean, dry and free of grease	Clean, dry and free of grease
<b>Packaging</b>	310 ml cartridge/600 ml sausage	Roll 25 meter (12 x 3 mm)	Aerosol 500 ml/5 l can	Can 1 l	Can 1 kg
<b>Shelf life</b>	18 months *	18 months *	18 months *	12 months *	12 months *
<b>Details</b>	Open time is 10 minutes	None	None	Wood moisture percentage < 18%	Open time is 30 minutes

\* in original, closed and undamaged packaging stored at a cool and dry place.

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