



RIEDER

# Installation instructions öko skin 02/2017

## öko skin – application as facade cladding

öko skin concrete slats are installed as wall panels based on the principle of curtain-type, rear-ventilated facades. In order to ensure a sufficient rear ventilation of the complete system, adequate air circulation must

be provided behind the cladding. Rear-ventilated space is required for discharging moisture that comes from inside the building as vapour or has remained inside the structure after precipitation.

## Sizes

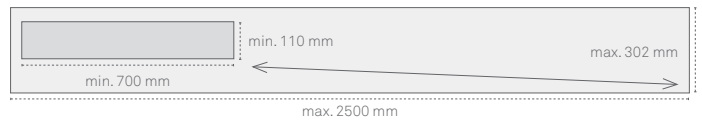
### öko skin standard

Format 1800 x 147 x 13 mm | Dead load 7.9 kg/slat  
Requirements: 3.6 slats per m<sup>2</sup> finished surface including 8 mm joint



### öko skin flex

Formats within a width from 110 to 302 mm and within a length from 700 to 2500 mm on request. Dead load 26 kg/m<sup>2</sup>



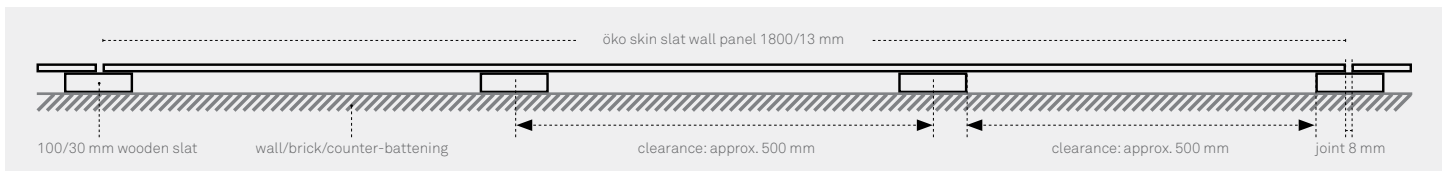
## Substructure

The slats must be mounted to a bending-resistant, stable and even substructure. In general öko skin is mounted to a simple or double framework of wooden slats (counter and main battening). Alternatively the substructure can also be made of aluminium or other sheet metal profiles. The substructure must be mounted to a suitable solid base, such as brickwork, concrete or wood. The cross section of the slats and the corresponding fasteners must be suitable and adequately dimensioned for the planned function of the facade.

The substructure must be made of sufficiently dried wood (15% ± 3%) with a cross section of at least 100 x 30 mm. The use of planed wooden slats is recommended, but not compulsory. The wood used must comply

with the guidelines for structural timber according to EN 338. The type of wooden slats used and the distance between slats depend on the desired patterning of the öko skin slat wall panels (patterning see next page). If öko skin slat wall panels are installed vertically on the ground and first floor of a building under average conditions, the distance between wooden slats should not exceed 600 mm. Owing to the advantages of concrete as a building material, öko skin can be mounted down to the floor. To protect the slats against soiling, 300 mm distance from the floor is recommended.

öko skin concrete slats with a length of 1800 mm are suitable for a substructure with approx. 600 mm distance between the wooden slats. Every öko skin slat must be mounted with at least four fasteners.



## Installation

öko skin concrete slats should be installed from the left side to the right side and from the bottom upwards. Glassfibre reinforced concrete is a natural material. The raw materials used for its production create a unique surface finish that is characteristic of concrete. This play of colours within a certain colour shade is intentional and enhances the vivid character of concrete as natural building material.

## Packaging

The slats are packed on wooden pallets with a protection plate. Opened pallets or individual slats must be protected from weather influences (for more information see "Handling instructions").

1 pallet öko skin 1800 x 147 mm:  
18 layers with 8 slats each (144 pieces; 38,1 m<sup>2</sup>),  
weight ca. 1143 kg

Packaging and palletising of öko skin flex depend on panel sizes.

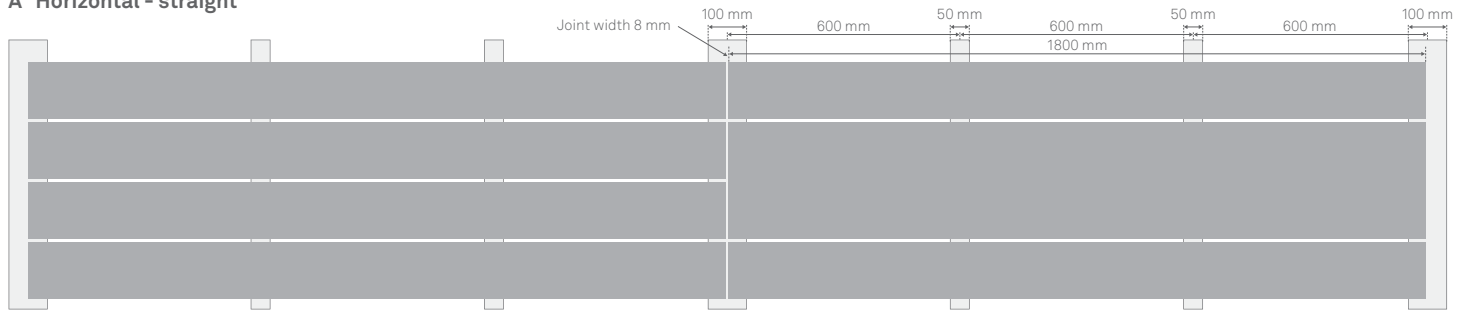
**When laying the slats please note that the colour intensity of the individual slats can vary (for more information see "Characteristics"). We recommend the mixing of concrete slats from various pallets and layers for an optimal installation result.**

# Patterning

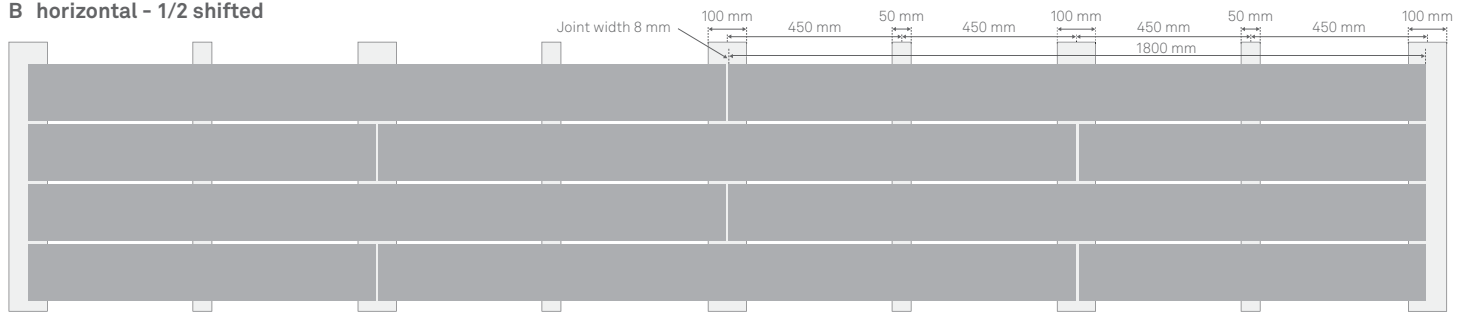
The following patterning for wooden substructures should be understood as sketches. They can be applied vertically and horizontally. öko skin slat wall panels are used as facade cladding and mounted on a substructure. The type of battening required depends on which laying pattern is chosen for the öko skin facade. öko skin slat wall panels can be installed both horizontally and vertically. The type of patterning (e.g. parallel, 1/2 shifted or 1/3 shifted) influences the complexity of sub-

structure and assembly. öko skin slats can be fastened with screws to a wooden substructure or with rivets or adhesive to an aluminium substructure. öko skin slats with 302 mm width can be alternatively installed as lap siding, where the concrete slats are fastened to the battens at an angle to form an overlapping joint. Please refer to country-specific regulations regarding mounting and installation!

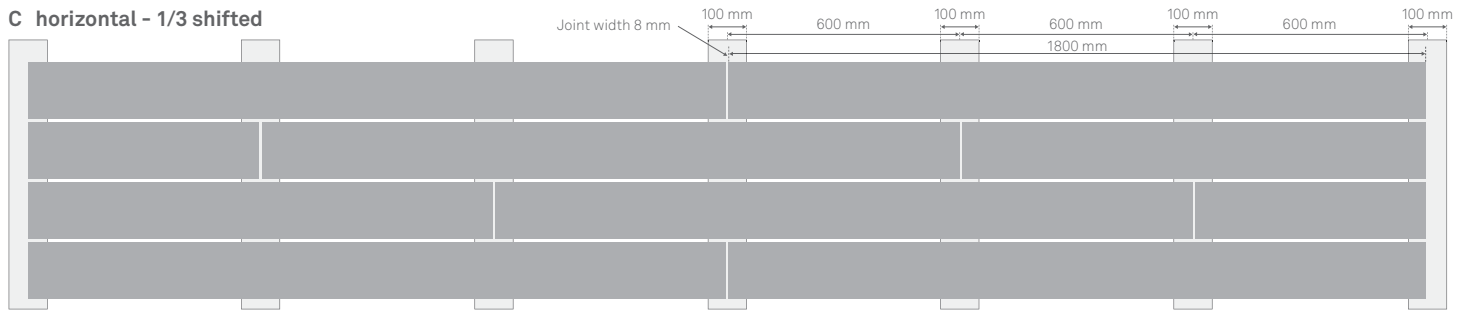
**A Horizontal - straight**



**B horizontal - 1/2 shifted**



**C horizontal - 1/3 shifted**



**A horizontal - straight**



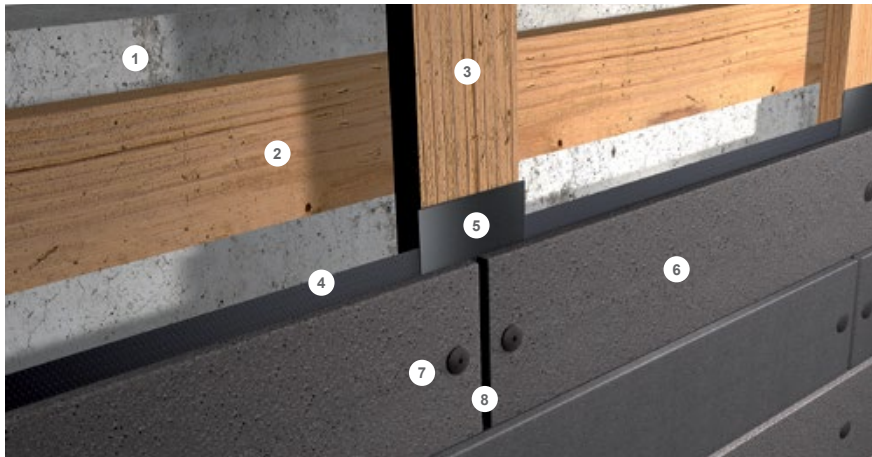
**B horizontal - 1/2 shifted**



**C horizontal - 1/3 shifted**

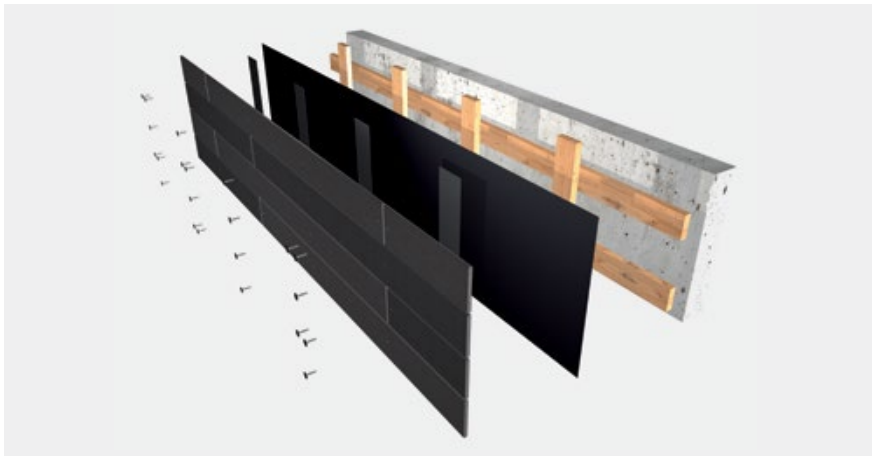


# Structural assembly: wooden substructure with screws



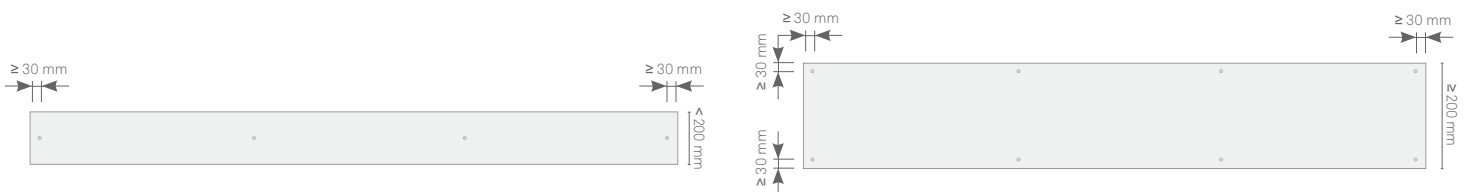
## Assemblies

- 1 wall / brickwall
- 2 counter-battening (vertical) e.g. wooden slats, optional insulation
- 3 main battening (horizontal) e.g. wooden slats 100/30 mm, distance between slats depending on patterning 450 - 600 mm
- 4 flexible sheets for waterproofing / protective membrane e.g. DuPont™ Tyvek UV Facade
- 5 waterstop / joint tape e.g. made of rubber, neoprene; width 110 mm
- 6 öko skin slat wall panels
- 7 screw 4,8/38 mm, coated with colour of slat wall; centrally drilling 6 mm
- 8 joint 8 mm

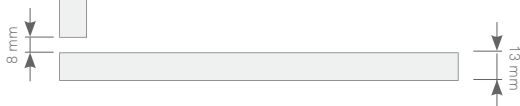


## Drilling dimensions

Drill holes must have a minimum distance of 30 mm from the edge to avoid tearout.



**Open corner**  
Joint width 8 mm



**Closed corner**  
Mitre cut, joint width 5 mm



# Structural assembly for lap siding and terrace flooring

on request: oekoskin@rieder.cc

# Structural assembly: rivets or adhesive on metal substructure



## Rivets

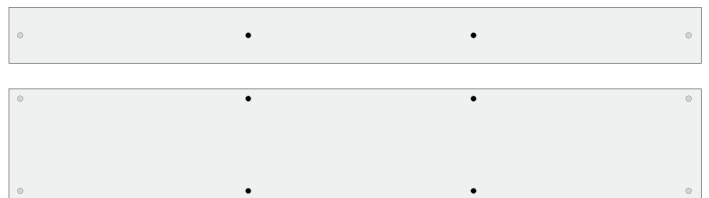
Fastening with rivets on vertical aluminium support profiles. Recommended rivets with special colours matching öko skin surfaces are available from different fastener manufacturers. Indicate the standard öko skin colour used and the manufacturer will give you a matching recommendation for the rivet colour.

### Preparation

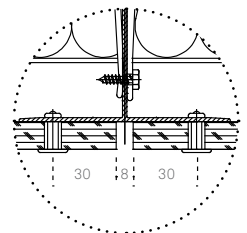
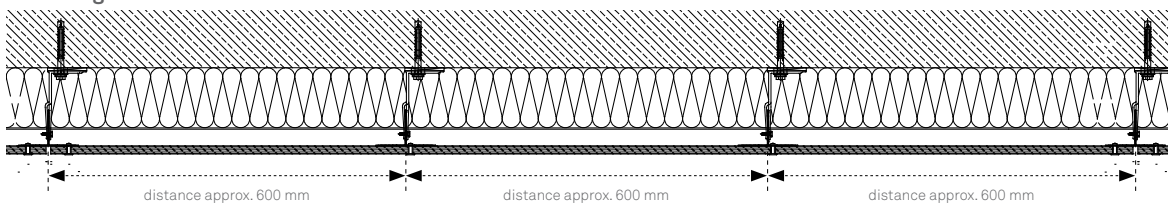
Holes in the substructure must be drilled using a centre sleeve to ensure the bore hole is centrally aligned. The bore diameter for the substructure is 5.1 mm. Two resp. four sleeves must be used per slat and they must usually be arranged in the centre point of the slat. There might be country-specific variations depending on the respective approval. The sleeves fix the slats; they are described as a fixed point. The rivets must be tightened using a rivet template matching the rivets. The rivet template has a load-distributing effect and creates a small clearance between rivet head and cladding board, with the result that movements in the cladding board can be absorbed.

Floating and fixed points depending on patterning:

Floating point ◦ Fixed point •



### Fastening distances



## Adhesive

The slats can be fastened invisibly on an aluminium substructure using adhesive. All the recommendations from the adhesive manufacturer must be followed to ensure the best adhesion. The 'Sika Tack' system manufactured by Sika with the licence Z-10.8-408 or equivalent

must be used as an adhesive bonding mount. As a general rule, the manufacturer's processing guidelines must be observed. Only certified firms may perform adhesive work on the Sika Tack system.

# Processing

The slats can be cut to size and through-holes can be drilled directly on site; no special tools are required. öko skin concrete slats must be processed with care.

## Cutting

The slats can be cut to size at the building site using a hand-held circular saw equipped with a side bar (e.g. Festool plunge-cut saw TS 55 EBQ-Plus-FS, 5200 rpm). The visible side of the slats must face upwards. öko skin concrete slats can also be cut to size with a bench saw and a diamond saw blade.



## Saw blade

A slightly toothed, diamond circular saw blade is recommended for standard cuts, e.g. Focus "Profi Sprint" or similar, Ø 150 mm, hole diameter 22.5 mm, spacing ring for 20 mm.

A diamond circular saw blade with diamond impregnation, e.g. Focus Profi Ceramic Ø 150 mm or Focus Profi Carmina Turbo or a diamond key-hole saw blade are recommended for very fine cuts, e.g. mitres. Closed diamond impregnation reduces the cutting capacity by approx. 25 %.



## Drilling

The standard diameter for through-holes of facade screws 4.8 x 38 mm is 6 mm. We recommend standard stone drills, e.g. a Bosch „Blue Granite“ Ø 6 mm, l = 100 mm drill, for through-holes. The visible side of the slats must face upwards during drilling. For drilling through-holes, a wooden block must be placed underneath the to prevent tearout on the bottom side.

We recommend using a cordless screwdriver or a standard drilling machine (not in percussion mode).



## Screws

Facade screw e.g. A2, ISR T20, head 12 mm, 4.8 x 38 mm.

Screw heads are painted to match öko skin colour shades.

Requirement per m<sup>2</sup> of finished surface (for öko skin 1800 x 147 mm): approx. 16 pc., Packing unit: 250 pc.

Torx insert bit T20 to avoid damaging the powder coating.



We recommend the use of screws with partial thread.

Optional for vertical installation direction: Countersunk screws (stainless steel). Drill holes must be horizontally counterbored according to the diameter of the screw head used. Screws should not be tightened with too much force to avoid tearout (this applies in particular to holes near the edge). Minimum depth of insertion into the wooden slat is 23 mm.

## Rivets

Aluminium/Niro with head varnish, dimension 5 x 23 mm

Head diameter 14 mm, Clamping range 14.0 – 17.5 mm

Bore hole substructure 5.1 mm, bore hole öko skin slat 8 mm

Appropriate sleeves for the rivet: distance sleeve aluminium

Dimension 7.7 x 5.1 x 12 mm

The metal substructure must be decoupled as per EN 18516.



## IMPORTANT NOTE

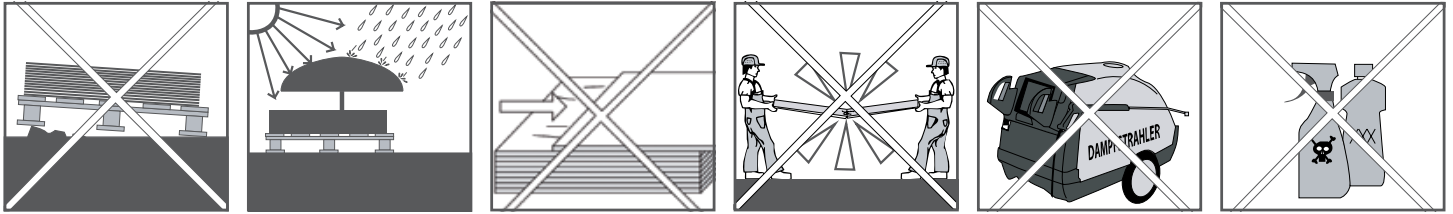
**Drilling and cutting dust has to be removed immediately and before installation thoroughly to prevent it from damaging or soiling the surface.**

Safety goggles and a fine dust mask are required for all drilling and cutting work. The use of a vacuum cleaner or compressed air equipment is recommended.



# Handling instructions

Instructions for the correct handling of öko skin slats to avoid damage. These handling guidelines have to be complied by all persons and companies involved in the transport and installation of öko skin slats.



## Storage space

Suitable storage space (dry and level) for öko skin concrete slats must be provided already during project planning, e.g. underground car park, warehouse etc. The slats must be placed on an even surface! Pallets must not be stacked upon each other at the building site.

## No leaning

Avoid swinging und deflection. Do not place slats on edges or corners without adequate protection (e.g. styrofoam or styrodur).

## Protection when stacking slats on top of each other

No stacking of slats without adequate protection between the individual layers. No glassfibre concrete or wood elements may be placed between layers of öko skin slats. Use only full-size intermediate layers. To adequately protect the slats from damage caused by friction, foam sheets must be placed on each slat.

## Protection against the elements

öko skin slat panels must be well protected indoors or under a roof until just prior to installation. A suitable protection against moisture must be guaranteed. The slats may only be removed from the packaging immediately before assembly. For short-term outdoor storage the pallet packaging should be opened in order to avoid condensation. The öko skin packaging foil is no adequate weather protection, the slats must be covered with a construction foil.

## Carefully twist slats – do not pull

Do not push or pull öko skin slats from the stack. Always turn the slats before lifting them. Eliminate friction between the slats.

## Correct carrying

Concrete slats must be manually handled in upright position! Use clean and white protective gloves and wear adequate personal protective equipment (PPE). Avoid swinging and deflection.

## Cleaning of slats before installation

If the slats are cut or drilled on site, cutting and drilling dust has to be removed immediately from the surface to prevent permanent dirt on the slats. Remove the cutting and drilling dust with a hand broom or vacuum cleaner. Make sure that the dust is not spread out over the entire surface. In most cases it should be sufficient to blow off the slats with compressed air to remove the remaining dust. Alternatively use the MC-Duroprop B cleaner and wipe the surface with a non-abrasive brush, sponge or microfiber cloth. Then rinse thoroughly with clean water. If the slats are not installed immediately after cleaning ensure that they are not stacked while wet. Position the slats at an angle during cleaning. For more details, refer to the “Cleaning instructions”.

## Cleaning systems

Do not use chemicals, stream-jet or high-pressure cleaning systems. Water jets with excessive pressure cause stripes on the concrete surface. For normal soiling the cleaning system MC Duroprop B manufactured by MC-Bauchemie ([www.mc-bauchemie.de](http://www.mc-bauchemie.de)) or equivalent products are recommended.



## Rieder Smart Elements GmbH

Mühlenweg 22 | 5751 Maishofen | Austria  
+43 6542 690 844 | [oekoskin@rieder.cc](mailto:oekoskin@rieder.cc) | [www.rieder.cc](http://www.rieder.cc)

**Important note** | All information provided in these instructions is based on the experience of Rieder Smart Elements GmbH and complies with the current state of technology. The scope of supply of Rieder Smart Elements GmbH includes öko skin concrete slats and facade screws, but explicitly excludes any assembly materials and sub-constructions. The applications described are examples and do not take into account specific site requirements. Specifications and suitability of the material for the intended purpose must be examined and verified individually for every project. Although we carefully examine the contents we cannot assume any liability for the accuracy, completeness and topicality of the information provided. The same applies to printing errors and subsequent alterations and amendments of technical specifications.