

# Installation manual Facade



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# General notes on assembly

**On purchasing our facade profile you decided on a quality product. We would like you to enjoy our product for a long time. In this brochure we have put together some tips on assembly, care and maintenance.**

**Please note the following manual for successful assembly and always adhere to the local building regulations and situation during planning, execution and maintenance.**

In addition to the requirements of the assembly manual, please also note all known policies, such as Fachregeln 01 BDZ, ATV DIN 18334, DIN 18516, DIN 68800, DIN 18351 and the appropriate regulations in the construction regulations for the States (BauO), as well as the VOB in the current version. In Switzerland, the cantonal regulations, the ABB, as well as the regulations of the HBT1 and the SIA norms, as e.g. SIA 118/257, SIA 232/2, as well as the leaflets on assembly by the VSH must be taken into account. For Austria, the information from Holzforschung Austria and proHolz applies, as well as the respective construction regulations.

When planning and calculating the structural analysis, the construction regulations, as well as product and location specific wind pressure and the appropriate requirements for the connecting and fixing elements must be observed. With areas subject to static pressure, further extensions, such as e.g. awnings and porch roofs, may only be attached to the facade in agreement with your architect and structural engineer. If there are deviations from the requirements in the assembly manuals and regulations, the construction must be coordinated with the producer.

Consultation and planning should also take environmental impacts, such as e.g. rain, sun radiation, as well as possible dirt accumulation and the necessary maintenance intervals into consideration and these should be discussed. Depending on the location shades of colours may differ, e.g. by dust, dirt and soot layers. On busy streets it is possible that the optics will be hampered. It is also important when planning to make sure water can drain from bordering building components, as well as from the WPC facade, especially with white plastered facades.

Prior to assembly the profiles must be checked for colour and profiling differences that can occur due to several production batches. To prevent damage to the material the goods should be stored in a shelter from delivery up until and during assembly.

## Mounting

CREATIVE can be laid horizontally, as well as vertically. If it is vertically mounted, additional measures regarding underlying construction, rain-safety and UV resistance of the facade sheet must be coordinated with all participants, as this construction is not listed for all materials (valid also with wood) in the policies 01 BDZ. Additionally, each facade profile must be secured against slipping with a screw. Multistorey construction can require further fixation.

Please note the cover measure of the profiles during planning and execution of the facade: small ca. 66 mm, xl ca. 99 mm and xxl ca. 148 mm. The different widths can be mixed for a surface.

No special tools are required for processing the profiles, they can be cut and screwed similar to hard wood.

## Fire protection

When planning fire protection measures the regulations of the construction regulations of the States (e. g. BauO NRW) in combination with DIN 4102 / DIN EN 13501 must be adhered to. Following MBO exterior wall cladding made of normally flammable construction material may be used on buildings of building class 1-3 without special measures. But according to the construction regulations of the States, measures are required to prevent fire spreading across floors.

Our facade cladding is to be regarded concerning classification on fire behaviour according to DIN EN 13501-1 class E. Class E corresponds to the classification »B2 - normal fire behaviour« according to DIN 4102-1.

When using our facade profiles in building classes 4 – 5 there must be a suitable fire protection concept that must be agreed upon with the building supervisory board. Further information on fire protection measures in building classes 4 and 5, as well as for Switzerland, can be found in the Lignum-Dokumentation Brandschutz »7.1 Exterior walls construction and cladding«.

**Classification see table below**

Component	Required construction material class according to MBO for buildings with a height of top edge of the floor of the highest storey in which a common room is possible.		
	<b>Building classes 1 – 3</b> <b>h ≤ 7 m</b> <b>≤ 2 NE   ≤ 400 m<sup>2</sup></b> detached and non-detached buildings	<b>Building classes 4 – 5</b> <b>7 &lt; h ≤ 22 m</b> <b>NE ≤ 400 m<sup>2</sup></b> other buildings incl. underground rooms	<b>Building classes 5</b> <b>h &gt; 22 m</b> Special constructions etc. **
Subconstruction	B 2	B 2 *	A
Cladding	B 2	B 1	A
Insulation	B 2	B 1	A
Anchoring means	A	A	A

\* only permissible with horizontal fire barriers in every second storey

\*\* Special constructions include high-rise buildings, buildings with more than 1600 sqm floor space on each floor, sales rooms, etc. (MBO § 2)

## Spray water protection

### Gap to bordering components and buildings

Depending on the underlying construction used and laying of the facade profiles, care must always be taken to maintain sufficient spray water protection. With wooden subconstructions the spray water gap to the ground, or respectively flooring must be at least 300 mm.

#### Image 1

With constructive measures, such as a 200 mm wide gravel strip (grain size 16/32), the gap can be reduced to 150 mm. **Image 2**

Keep a gap to bordering building parts or e. g. ramps, of at least 200 mm. With an aluminium subconstruction the gap to the flooring can be reduced to 50 mm if this construction has been discussed and clarified with the building owner. If these gaps cannot be observed, then measures, such as e. g. installation of grates at doorways and walls or facades are necessary.

## Metal covers

### Water drain construction

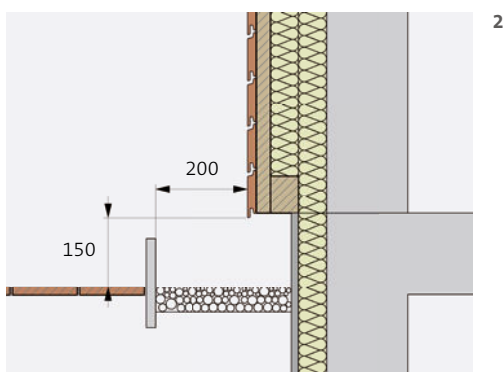
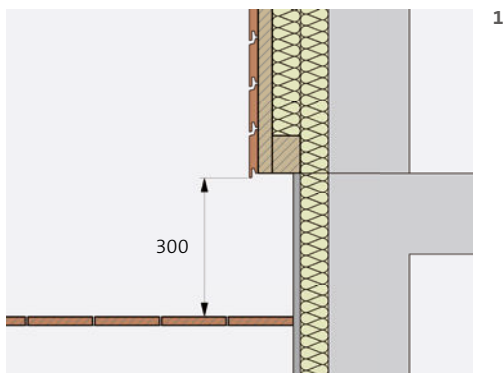
When planning and executing metal cover strips, as well as corners made of metal, either eloxed aluminium or stainless steel products should be used. Water must be able to drain in such a way that the metal will not oxidate. Additionally the draining of surface water from roofs or bordering building parts must be observed.

### Subconstruction wood or aluminium

The underlying construction onto which the facade profiles are fixed can be made of wood or aluminium profiles. The quality of the wooden subconstruction (base and load slats) must correspond to at least S10 according to DIN 4074-1 and, depending on the chosen cladding version, a suitable kind of wood should be used. Aluminium profiles require general building supervisory board approval for use as a load-bearing underlying construction. Due to fire protection requirements, aluminium subconstructions are mandatory for certain building heights, or respectively building classes.

### Anchoring the subconstruction

The necessary connecting agents for fixing / anchoring the underlying construction to the outer wall, are not within NATURinFORM's delivery scope. The products used must correspond to a valid norm, or there must be an abZ, ETA or abP for these products. With timber frame construction the base slats may be screwed or nailed.



- 1 With wood subconstructions the spray water gap to the ground, or respectively the floor surface must be at least 300 mm.
- 2 The gap can be reduced to 150 mm using constructive measures, such as a 200 mm wide gravel strip (grain size 16/32).

### Assembling and fixing the subconstruction

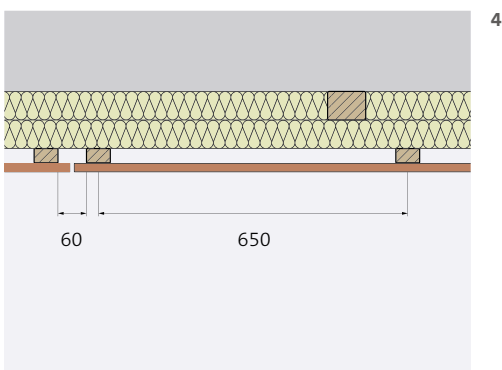
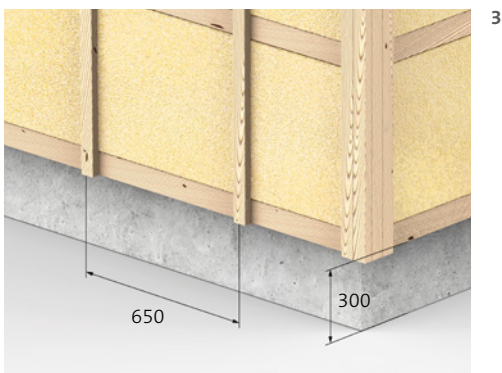
The wall must be constructed in such a way that the complete curtain facade incl. subconstruction can be safely attached and corresponds to the construction regulations and the prerequisites by the Fachregel 01 BDZ. The minimum measure for the base and load-bearing slats should not drop below 30 × 50 mm. The gaps of the load-bearing slats for the facade cladding can be adapted to the measurements for the insulation, the permissible gaps of max. 650 mm (middle – middle) must not be exceeded. For the gaps between the fixation points for the base and load-bearing slats made of wood, the static requirements regarding wind-load and building height must be observed. **Image 3**

When planning the load-bearing slats the lengths of the facade profiles should be considered, as on each longitudinal joint 2 load-bearing slats must be installed. The gap between the 2 load-bearing slats should be at least 60 mm to maximum 100 mm. **Image 4**

### Insulation

Curtain back-ventilated facades combined with suitable insulation materials improve the heat insulation in buildings. Therefore it is especially important to use insulation material that will function for a long time. When planning an installation, construction should be optimally coordinated. Heat insulation can only be installed using normed or construction supervisory board approved insulation materials. Shell construction and facade constructions can be coordinated and optimised regarding heat protection technology. The appropriate requirements of norms DIN 4108 / 13162 must be observed. Thereby the following basic principles must be observed, independent of the CREATIVE facade cladding.

- Insulation must be fitted directly against the framing wall; if necessary unlevel surfaces can be balanced out using compressable material.
- Thermal bridges must be avoided.
- The gap for the layer of air between insulation and cladding should be at least 20 mm, so that humidity can dry out again quickly.
- Base brackets made of metal for aluminium sub-constructions must be sealed against permeation, depending on the insulation material.



- 3 Gaps for the load-bearing slats for facade cladding can be adapted to the measurements of the insulation, but may not exceed 650 mm.
- 4 The gap between two load-bearing slats should be min. 60 mm to max. 100 mm.

### Using facade sheets

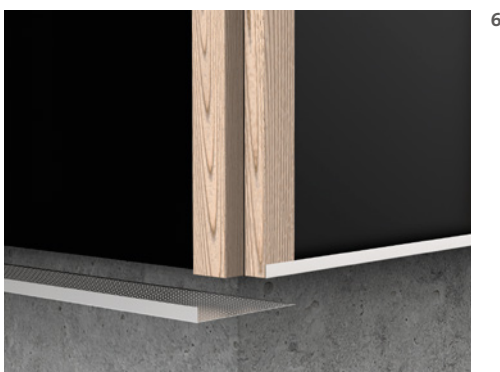
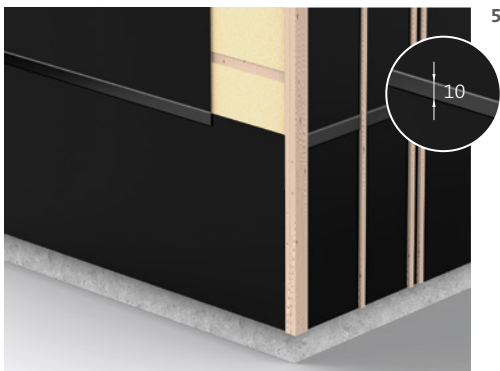
To achieve optimum insulation and to prevent the outer heat insulation layer from being permeated, facade sheets are directly mounted onto the insulation layer. This should be done before fixing the load-bearing slats. Facade sheets must be especially tear-resistant, vapour permeable and water draining.

To allow the wall to be able to dry to the outside, it must be ensured that vapours can permeate the facade sheet. Depending on the laying direction of the facade cladding CREATIVE, it is also necessary that the facade sheet be UV resistant. (DIN EN 13859-2). The sheets must be overlapping by min. 10 cm. Borders with doors and windows are usually glued. The producer's guidelines and laying manuals for the products must be observed. **Image 5**

### Back ventilation and small animal protection

There must be a gap of at least 20 mm between the wall construction and the facade cladding CREATIVE to ensure sufficient back ventilation.

There must be at least 50 cm<sup>2</sup>. airing vents per facade metre and an appropriate protection grid (small animal protection). There is no need for insect screens with facade cladding. **Image 6**



- 5 Facade sheets must be mounted overlappingly by min. 10 cm and must be tear-resistant, vapour permeable and water draining.
- 6 Protection grids (small animal protection) with suitable holes or slits for airing must be mounted.

### Protection against driving rain

When laying the facade cladding CREATIVE horizontally, even with a joint gap of ca. 5 mm on the back and ca. 8 mm on the front, sufficient protection against driving rain according to DIN 4108-3 in all stress groups is guaranteed (given by the bracket profile)

Image 7

### Note on cutting the facade profiles to size

When determining the length and cutting the facade profiles, the following basic points must be observed.

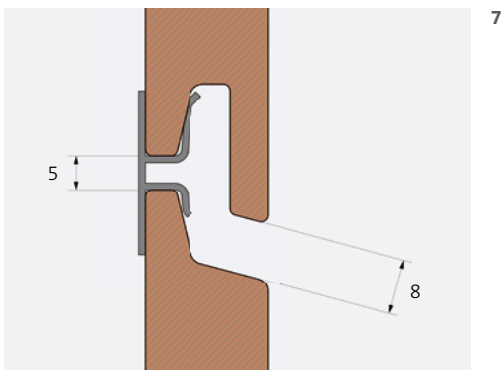
- The shortest profiles must if possible always be laid on at least 3 load-bearing slats. If that is not possible, the gaps between the load-bearing slats should be reduced to ca. 400–450 mm.
- On all facade corners, longitudinal borders, niche covers and other building parts, there must be a gap of at least 6 mm. With very long facade surfaces it can be necessary to increase the gap.
- If the facade profiles are mounted vertically, the gap should be increased to 10 mm if possible and a suitable border, e. g. using Alu Z-profiles should be created.

### Notes on using accessories for mounting facade profiles

Only use our fitting facade brackets and screws to mount our facade profiles. If you have to screw the material on visibly in certain places, drill 2 mm more than the screw shaft and use at least A2 stainless steel screws.

see pages 10, 11

When choosing connection and fixing elements you should also consider the required corrosion resistance class (CRC) for the respective location and utilisation.



7 Creative's construction provides sufficient protection against driving rain that is ca. 8 mm.

# Accessory system

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## Subconstruction



### Facade bracket set

Req. small: ca. 27 pieces / sqm  
Req. xl: ca. 18 pieces / sqm  
Req. xxl: ca. 12 pieces / sqm  
Packaging unit: à 100 pieces



### Starting and end bracket

Requirements depend on  
the amount of the slats used  
in the subconstruction  
Packaging unit: à 10 pieces

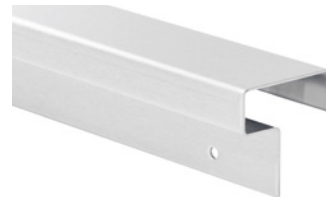
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## Corner options



### Facade corner

50 × 50 mm wide  
248 cm long  
Packaging unit: à 1 piece



### Facade cover

50 × 20 mm wide  
248 cm long  
Packaging unit: à 1 piece

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## Special construction options



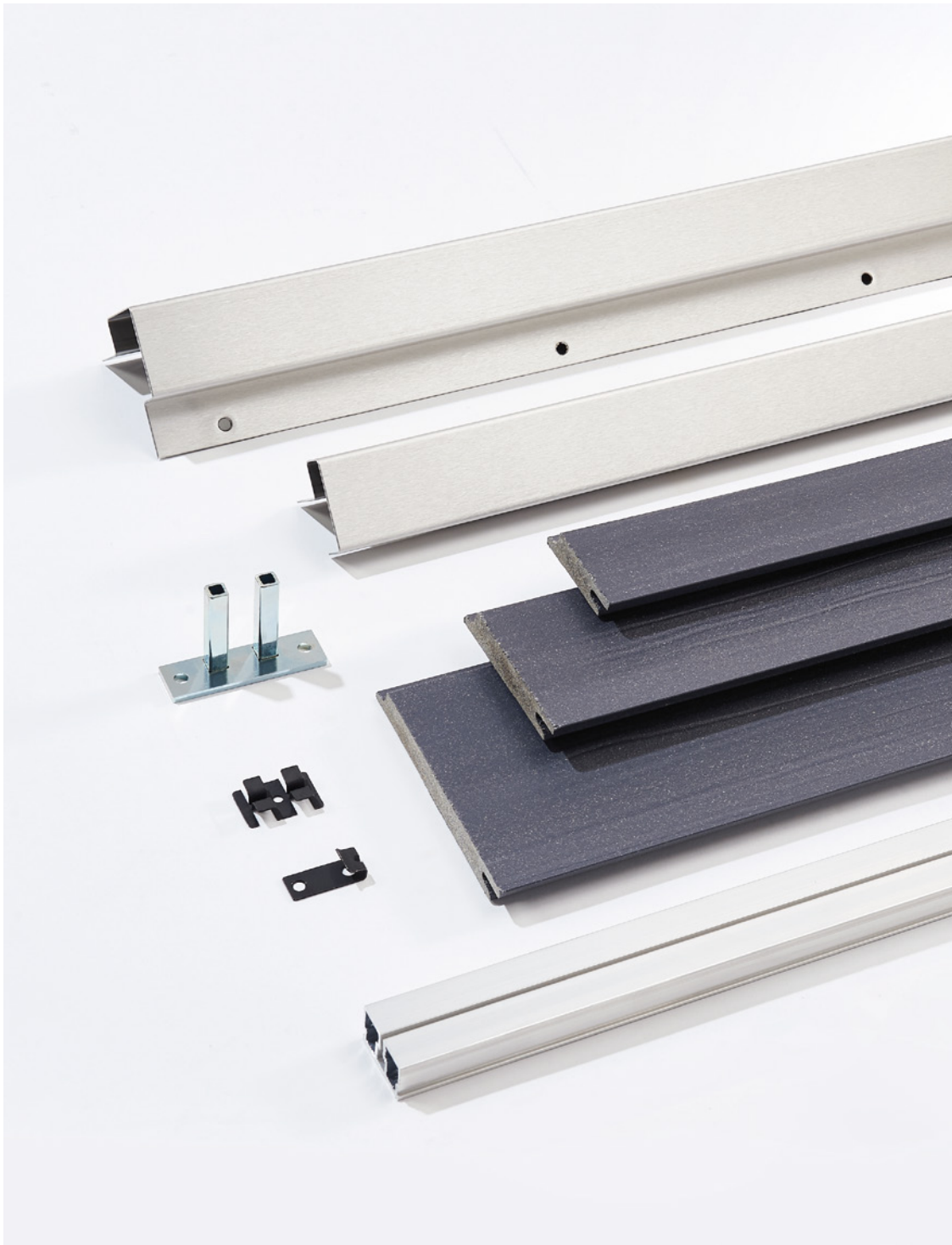
### System profile

22,5 × 40 mm wide  
400 cm long  
Packaging unit: each 1 piece or  
in a hub with 100 pieces



### Construction foot

80 × 23 × 54 mm  
for aluminium construction strip  
Packaging unit: à 1 piece



Besides classic accessories there are accessories available for special constructions, such as carports or privacy shields. The system profile, as well as the construction foot can be used for these options.

# Overview



**1 Load-bearing slats subconstruction**

The gap between two load-bearing slats with a longitudinal border should be min. 60 mm, max. 100 mm **Page 7**

**2 Facade sheets**

Sheets must be mounted overlappingly by at least 10 cm and be tear-resistant, vapour permeable and water draining **Page 3**

**3 Facade border**

**Page 10, 17**

**4 Spray water gap**

With wooden subconstructions the spray water gap to the ground, or respectively flooring must be at least 300 mm **Page 6**

**5 Starting bracket**

The first facade profile is mounted using the starting bracket, the last with a screw **Page 18**

**6 Protection grid (Small animal protection)**

The ventilation openings must be at least 50 cm<sup>2</sup> per facade metre and be fitted with an appropriate protection grid (small animal protection) **Page 8**

**7 Facade corner**

**Page 10, 16**

**8 Load-bearing slat corners**

To mount stainless steel facade corner and facade border profiles, additional load-bearing slats must be mounted **Page 16**

**9 Facade brackets**

The mounting brackets are put onto the prior facade profile with the short leg and then fixed with a screw **Page 19**





Facade profiles can be used as design highlights or for complete surfaces.

The facade corner is available to create a facade border made of stainless steel.

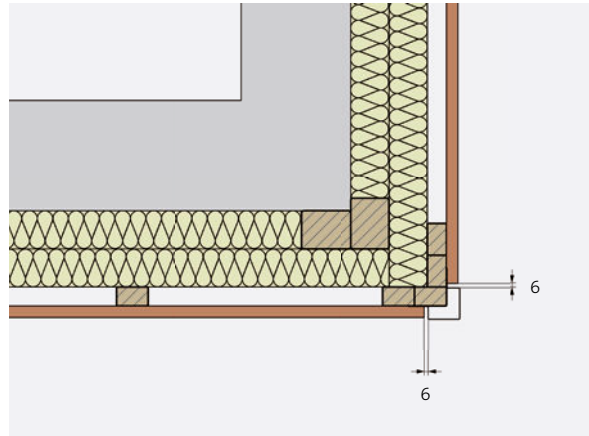
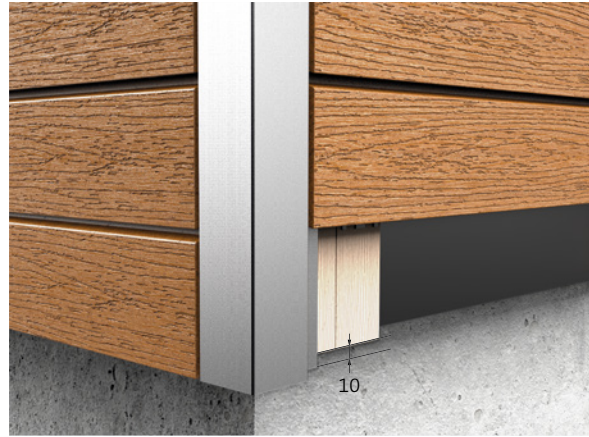


# Mounting facade profiles

# 1

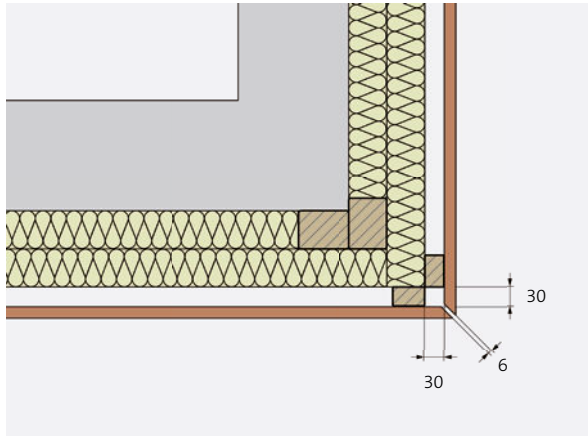
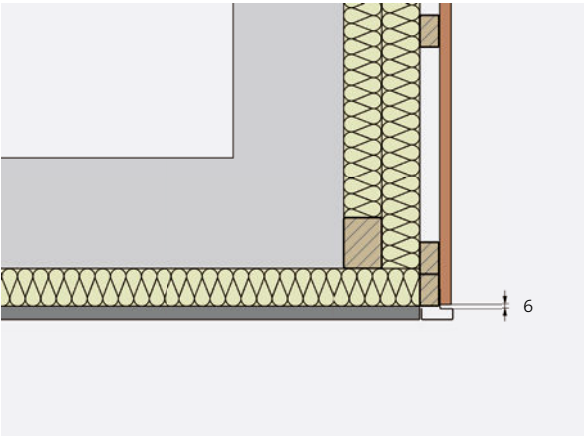
## Corners

Before mounting the facade profiles all the stainless steel profiles must be mounted in the facade corners.



### Stainless steel facade corners

Additional load-bearing slats need to be mounted to mount stainless steel profiles. Ex works all corner and border profiles are predrilled in a grid of 200 mm. Only use V2A screw for mounting. The corner and border profiles must be attached 10 mm lower than the load-bearing slat.



#### Facade corners with a mitre cut

Alternatively, you can do without the stainless steel profiles and cut the facade profiles at an angle. Thereby a gap of 6 mm must be noted. Facade profiles may not overlap the last load-bearing slat by more than 30 mm.

## 2

### Mounting the starting bracket for the lowest profile

Mount the starting / end bracket using the supplied screws in a line with the lower edge of the load-bearing slat. Make sure all brackets are horizontally aligned.



## 3

### Mounting the lowest profiles

Put the lowest facade profile on the starting bracket and keep the 6 mm joint gap to the stainless steel profiles or bordering components. The profile is ca. 10 mm above the load-bearing slat and the small animal protection grid that was mounted beforehand.



# 4

## Mounting the lowest profiles

The stainless steel facade brackets are now mounted onto the lowest facade profiles with the shorter side looking down and fixed using the accompanying screws.

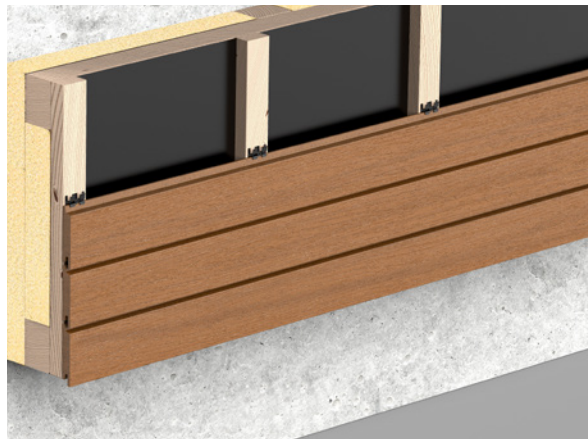


# 5

## Fixing further profiles

Now fit the next facade profiles into the mounting brackets. This way you can mount one profile after the other to the top. You can also mix different widths as you wish. All of NATURinFORM's facade profiles are mounted identically.

With every row keep checking whether the facade profiles are still horizontally aligned. If there are any deviations, it is possible to try to align them again. When mounting further profiles observe the joint gap of min. 6 mm to fixed building components and all butt joints!



# 6

## Fixing the last profile

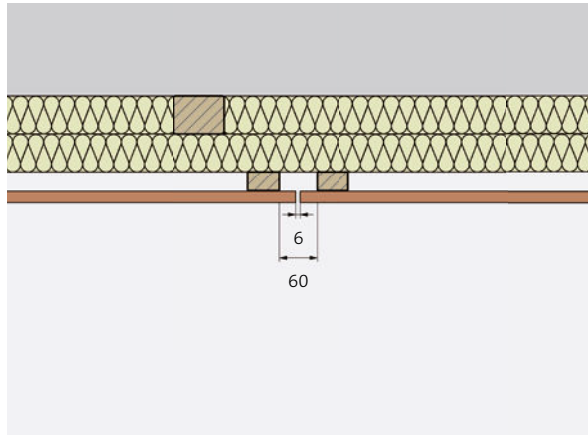
The topmost facade profile can be attached visibly or using the brackets. On windows or storey joints the facade profiles can be cut to the appropriate width. It can then be fixed using only a screw. For this the facade profiles must always be predrilled 2 mm larger than the screw shaft.



# 7

## Forming longitudinal joints between profiles

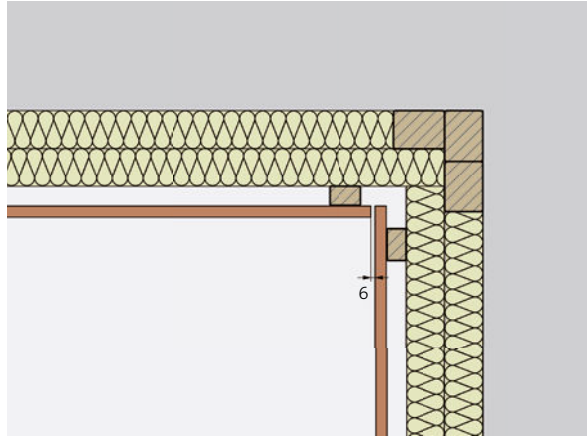
When the facade profiles meet longitudinally there must be a gap of at least 6 mm. The longitudinal joint must be right in the middle of two load-bearing slats. If possible the facade profiles should always be laid together.



# 8

## Creating inside corners

With inside corners a gap of at least 6 mm must be kept between the facade profiles and all fixed building components.



# 9

## Mounting and connections with window sills

Window and door connections are very important to maintain functioning weather protection.

The window sill should stand out from the facade profiles by at least 20 mm. Underneath the window sill a special frame should be mounted that is laid up the sides as well. The »Leitfaden zur Planung und Ausführung der Montage vom Fenstern und Haustüren« contain further information.



# 10

## Creating intrados on windows and doors

The gap from intrado boards to the window sill must be at least 10 mm and the gap between the intrado board to the facade profiles must be at least 6 mm. The window intrado can be made out of the CREATIVE profile or any other patio deck. The window intrado can also be made out of alternative materials.





#### **Order free samples**

We offer a large range of colour shades, as well as different surfaces for our facade system. But even the best photographic material is sometimes not sufficient to give you the best impression. Use our free-of-charge sample order option and see for yourself!



#### **Facade planner**

Based on our patio planner we now have also created the possibility to help your imagination regarding your facade. With only a few clicks on your laptop or smartphone we can give you a photo-realistic visualisation that will show you the diverse options open to you for creating your facade.

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