ViTRO®
CONSTRUCTION

INSTRUCTIONS

TERRACE ROOF

Thank you for purchasing our aluminium terrace roof!

You are now the owner of a high-quality and durable product.

Every roof installation is different, as the situation on site can always vary. These instructions describe the installation of a roof with 2.50 m-tall supports on a firm base surface. Please note that the procedure for supports that are encased in concrete differs in various aspects and is not described.

THE ROOF KIT CONTAINS:

Aluminium profiles

- Gutter
- Gutter cover
- Wall profile
- Wall cover
- Supports
- Fastening profiles for the supports
- Beam
- Aluminium cover
- Side aluminium cover
- Side caps, gutter
- Side caps, wall profile
- Stop plates, beam

Accessories

- Drainage pipe
- Elbow 90°
- Leaf catcher
- Aluminium cover seal
- Wall seal

For multi-skin sheet roofs

- Multi-skin sheets, clear or opal
- Anti-dust tape
- Condensation drips
- Sheet seal

For glass roofs

- Glass seal

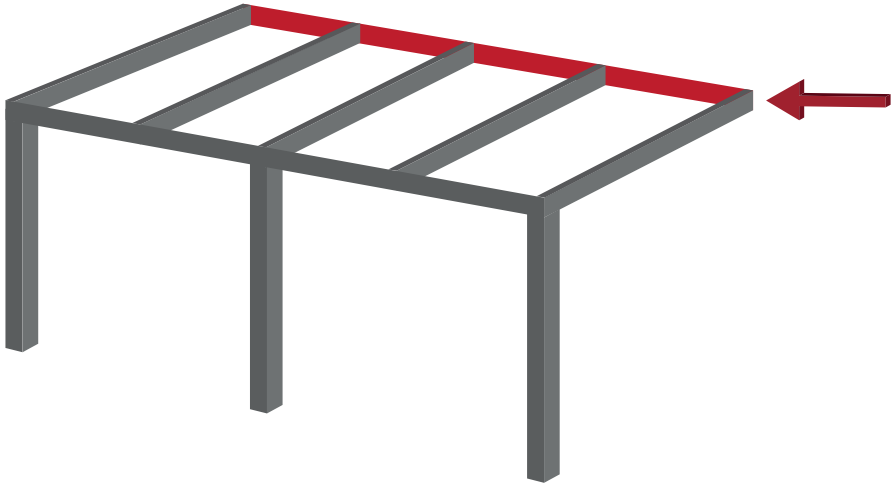
THE FOLLOWING TOOLS AND MATERIALS ARE GENERALLY NEEDED FOR THE CONSTRUCTION (not included in delivery):

- Rule
- Tube water level
- Spirit level
- Roof battens (two per support)
- Setting-out peg
- Screw clamps
- Hole saws 83 mm and 86 mm
- Screws 4.2 x 16 mm, 4.2 x 25 mm, 4.8 x 32 mm, 4.8 x 38 mm
- Silicone cartridge
- Cordless screwdriver
- Fastening material, depending on the base surface on which the fastening profiles for the supports are mounted – we recommend anchoring bolts FAZ II 10/10 A4

IDEALLY PREPARE AS FOLLOWS:

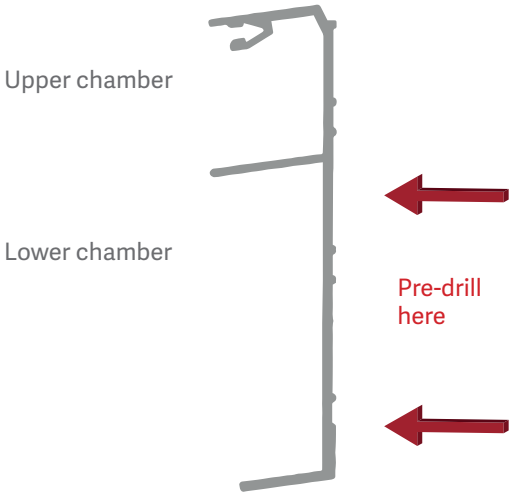
- Push inner core into the gutter
- Push inner core into the main beam
- Push inner cores into the beam
- Prepare installation of the LEDs
- Insert seals in beam and aluminium cover
- Pre-drill the gutter for the leaf catcher
- Cut the multi-skin sheets to size

Step 1: attach the wall profile

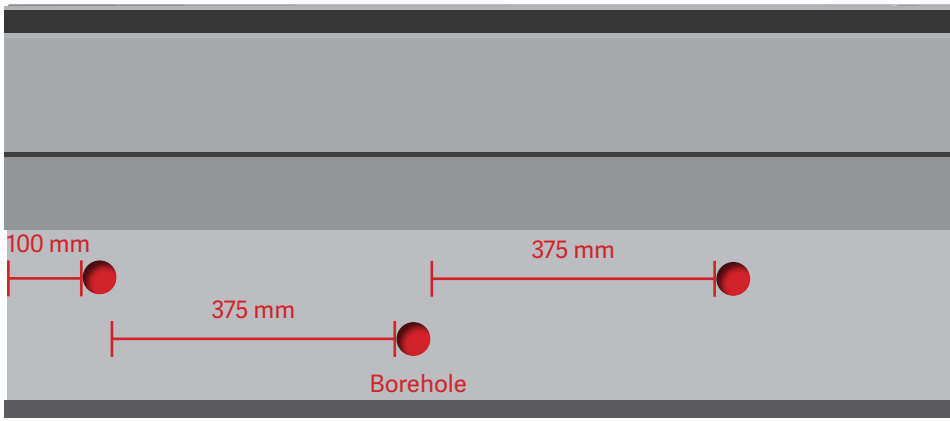


- Pre-drill the wall profile as follows (select size to match wall fastening):
  - First borehole 100 mm away from side edge
  - One borehole in the lower chamber roughly every 375 mm, alternately on the top and at the bottom

Wall profile, side view



Wall profile, front view



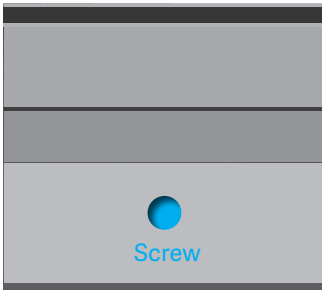
Step 1: attach the wall profile

- Mark the lower edge of the wall profile on the wall

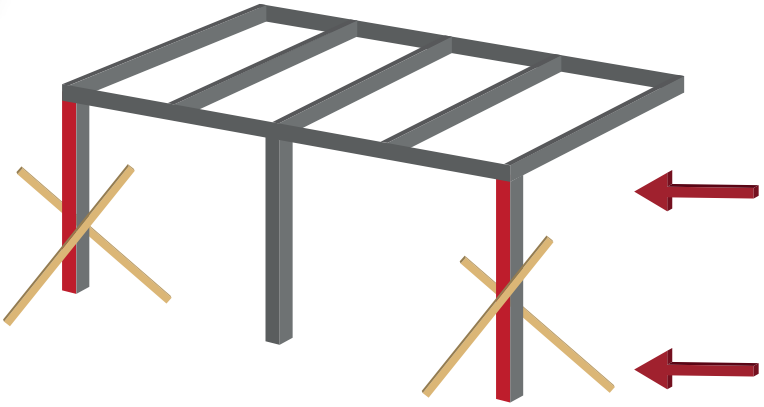
- Keep to a downward incline of at least 8 degrees where possible (approx. 14 cm height difference per metre)

- Apply a silicone seam for the back of the wall profile
- Place the lower edge of the wall profile against the marking

- First fasten the wall profile on one side through a pre-drilled hole
- Align the profile with a spirit level
- Fasten the profile through all pre-drilled holes



Step 2: preparing and setting up the supports

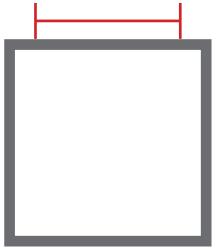


Supports

Fasten the roof battens to the supports with screw clamps

Always start with the outer supports even for roofs with more than two supports!

- Cut the support that the drainage pipe will be mounted in to size
- Use the **86 mm** hole saw to drill a hole in the support at the point where that drainage water is to exit
- Insert the elbow into the drilled hole with the wide side facing inwards
- Push the drainage pipe into the support and connect it to the elbow
- Mark out the upper edge of the support on the drainage pipe
- Pull the drainage pipe back out from the support



Support
cross section
110 x 110 mm

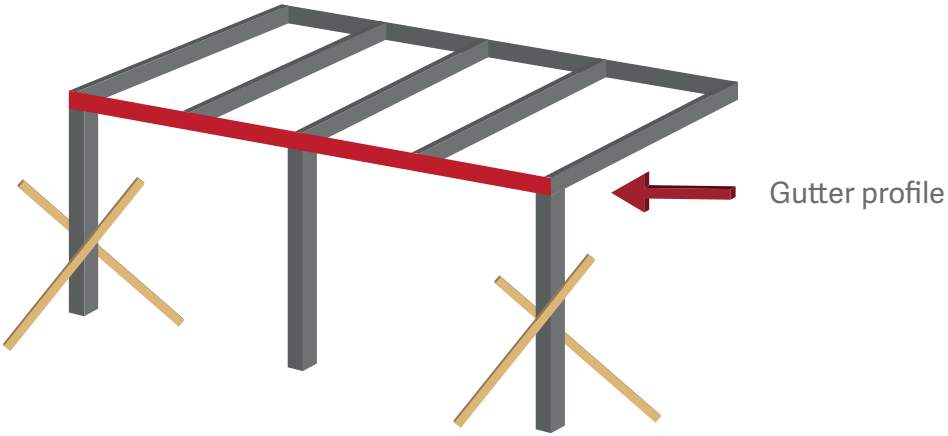
Step 2: preparing and setting up the supports

- Apply a second marking in accordance with the profiles used, as shown in the following table:

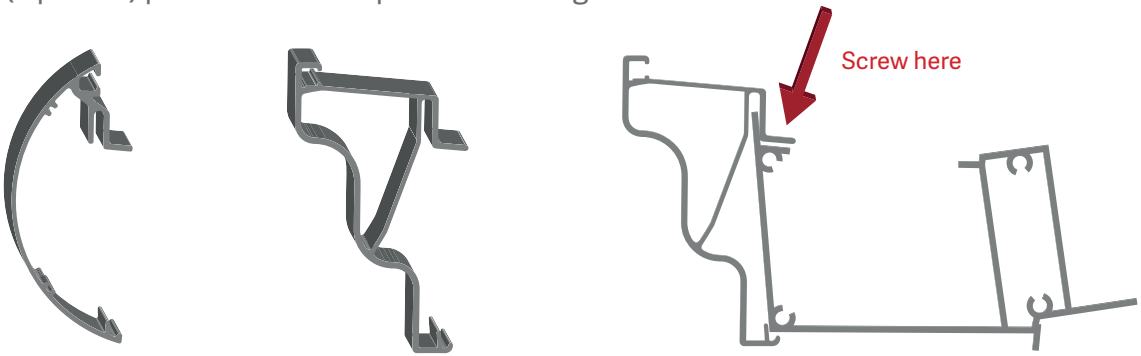
Profile	Position of marking 2
Gutter	40 mm below marking 1
Gutter + beam, small	91 mm above marking 1
Gutter + beam, large	121 mm above marking 1
Megagutter	20 mm below marking 1
Megagutter + beam, small	111 mm above marking 1
Megagutter + beam, large	141 mm above marking 1

- Trim the drainage pipe at the second marking
- Push the drainage pipe back into the support from above
- Mark the front edges of the supports
- Place the support for the drainage in the correct position and fasten it with two roof battens; to do this hammer two setting-out pegs into the floor and fasten the roof battens to them
- Position the second support correctly and use a tube water level to adjust the height to match the first support, add a marking roughly 10 mm higher and cut the support to this size

Step 3: preparing and applying the gutter profile



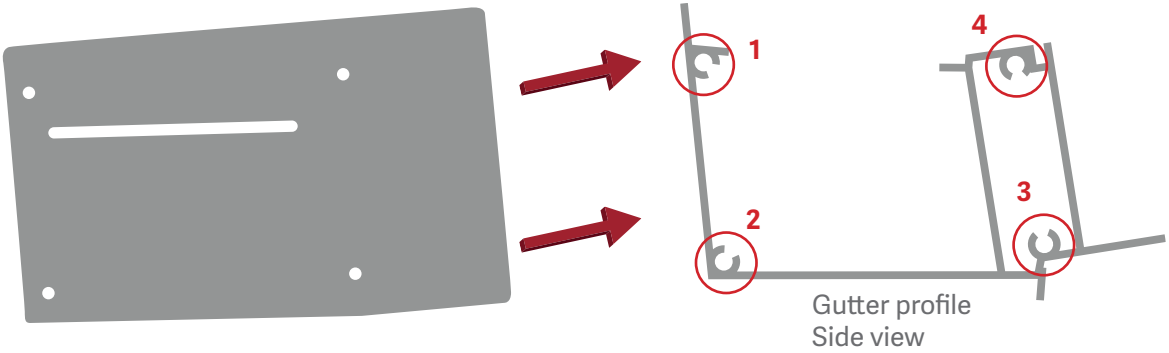
- (Optional) push attachment piece onto the gutter from the side



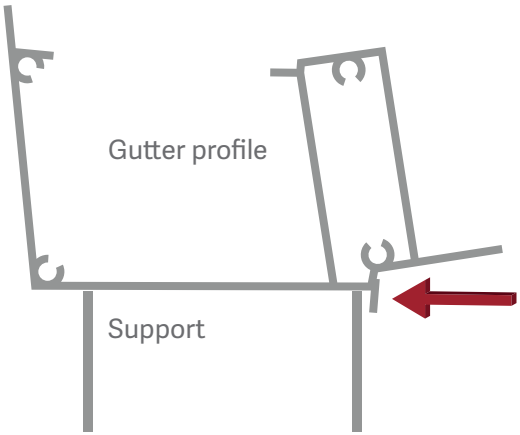
- Fasten attachment piece to the gutter with 4.2 x 16 mm screws, roughly 15 mm from the outer edge on the left and right; pre-drill additional screw connections over the entire length with a spacing of roughly 500 mm (pre-drill with a 3.5 mm bit, but do not drill all the way through!)

Step 3: preparing and applying the gutter profile

- Screw side caps to the gutter profile with 4.2 x 25 mm screws (do not pre-drill!)



- Screw no. 4 should not be screwed tight yet
- Seal the inside of the side cape with silicone
- Place the gutter on the supports and position it correctly

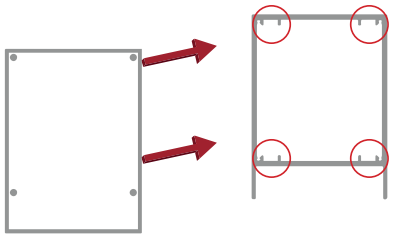


- Screw each support with two 4.2 x 16 mm screws roughly 15 mm from the support edge (pre-drill with a 3.5 mm bit)

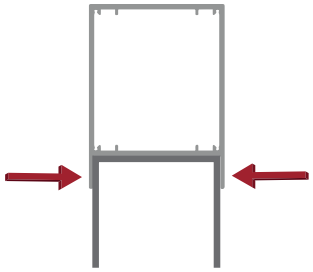
- Use a spirit level to check that there is a slight downward incline towards the support with the drainage pipe

Optional: Mounting the main beam

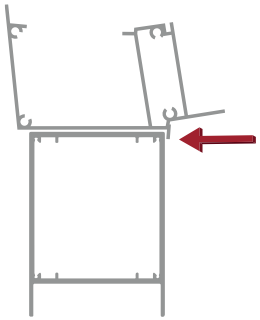
- Use an 83 mm hole saw to pre-drill the main beam from above and below centrally at the point located above the support with the drainage pipe
(a slightly larger recess can be drilled here, provided that it is fully covered by the support from below)



- Screw side caps to the main beam with 4.2 x 25 mm screws (do not pre-drill!)
- Place the main beam on the support and position it correctly



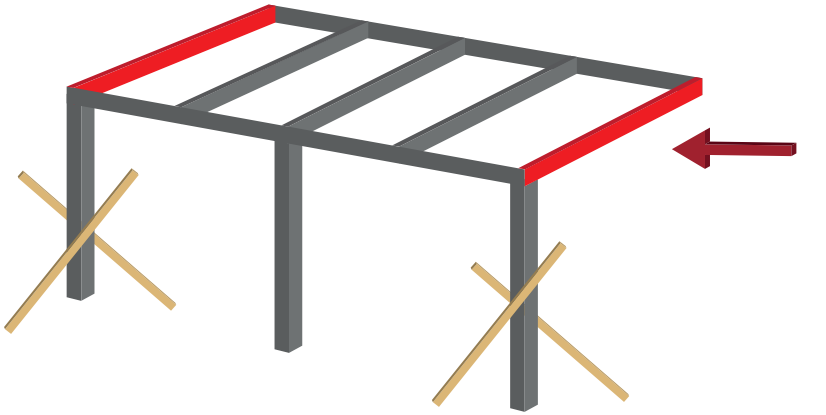
- Screw the main beam to the front and back of the support with two 4.2 x 16 mm screws roughly 15 mm from the support edge (pre-drill with a 3.5 mm bit)
- Place the gutter on the main beam and position it correctly



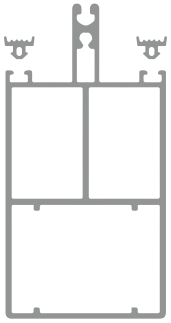
- Fasten the gutter with 4.2 x 16 mm screws, roughly 15 mm from the outer edge on the left and right; pre-drill additional screw connections over the entire length with a spacing of roughly 500 mm (pre-drill with a 3.5 mm bit)

- Use a spirit level to check that there is a slight downward incline towards the support with the drainage pipe

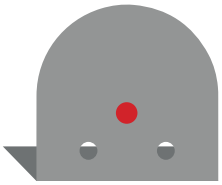
Step 4: preparing and applying the beam profile

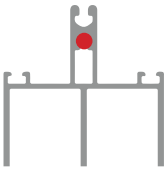


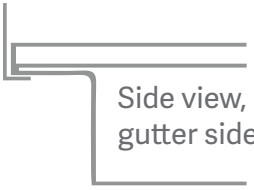
Beam profiles



- Insert glass/sheet seal into the beam on the left and right
- Allow the seal to protrude roughly 50 mm on the wall side of the beam profile
- Screw the stop plates to the gutter side of the support profile with a 4.8 x 32 mm screw, with the angle facing the beam







Side view, beam profile gutter side

CAUTION!

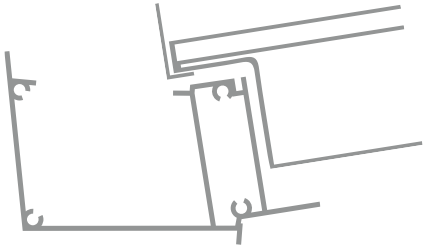
For glass roofs, allow the seal to protrude roughly 20 mm on the gutter side. When mounting the stop plates, push the seal backwards and screw on the stop plate. Alternatively, a rubber or cork buffer can be fitted between stop plate and glass.

Optional: installing the LED set

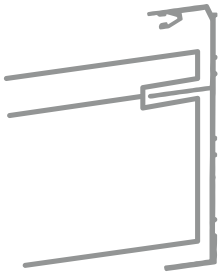
- Use a 28 mm hole saw to pre-drill the beam in which the LED spots are to be installed in the desired positions on the underside
- Insert the spots and lay the cable in the direction of the beam end that faces the wall profile
- Lay all cables in the wall profile in the direction of the LED set connection

Step 4: preparing and applying the beam profile

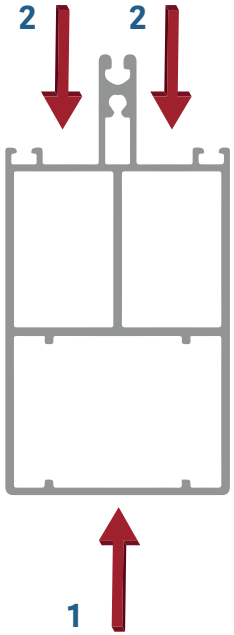
- Place one of the outer beams on the gutter profile first



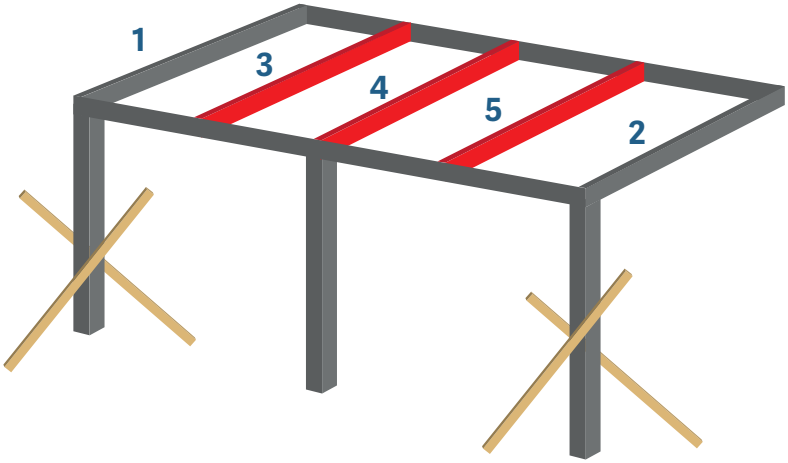
- Then push it into the wall profile until it is flush with the outer edge



- Drill through wall profile and beam from below with a 3.5 mm bit and fasten both with a 4.2 x 16 mm screw (see **1**)
- Also pre-drill from above to the left and right of the beam's fin and fasten wall profile and beam with one screw each (see **2**)
- Push the protruding rubber seal fully into the groove
- Fasten the beam to the gutter in the same way
- Fasten the other outer beam in the same way
- Align the roof precisely with a set square



Step 5: installing additional beams and the gutter and wall cover



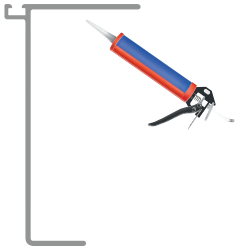
- The covers are normally delivered precut to size, with one cover piece 70 mm longer to level out any unevenness on site

- If the gutter cover and wall cover are not cut on delivery, trim them to the required length
- Do this by removing 61 mm per beam from the total width of the roof
- Divide the resulting measurement by the number of fields
- Place the two covers on top of each other and cut them together
- Here too, leave a section slightly longer in each case

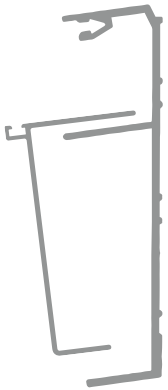
- Use one cover pair for one roof field

Step 5: installing additional beams and the gutter and wall cover

- Apply silicone to the upper leg of the wall cover

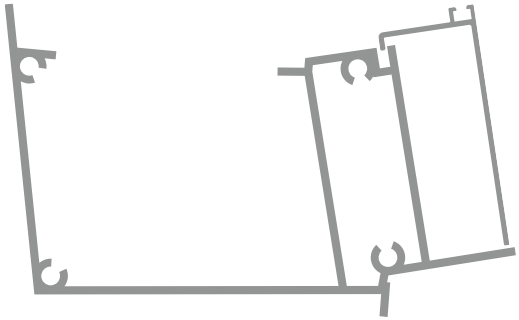


- Place the wall cover with the upper left on the centre fin of the wall profile



CAUTION!
If you intend to install LED spots, screw the wall cover to the wall profile from below instead of attaching it with silicone.

- Insert the gutter cover in the corresponding groove of the gutter profile



- Apply the next beam and fasten it as described in step 4
- Install the cover pairs and the beams alternately

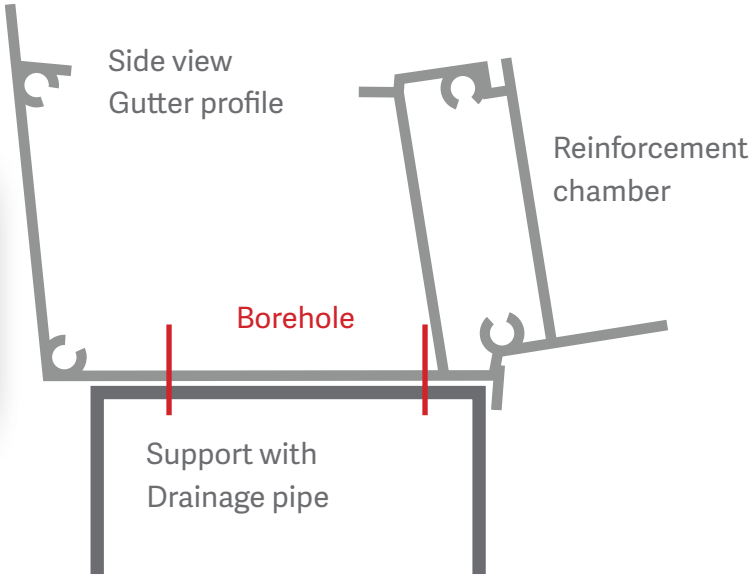
Step 6: cutting the drainage

- Use an 83 mm hole saw to cut into the gutter profile centrally over the support with the drainage pipe

CAUTION!

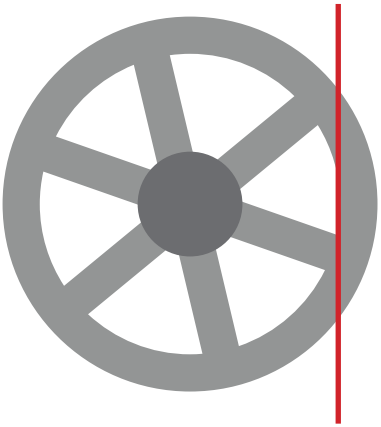
Take care not to damage the drainage pipe or the gutter's reinforcement chamber!

- Apply silicone to the edge of the hole

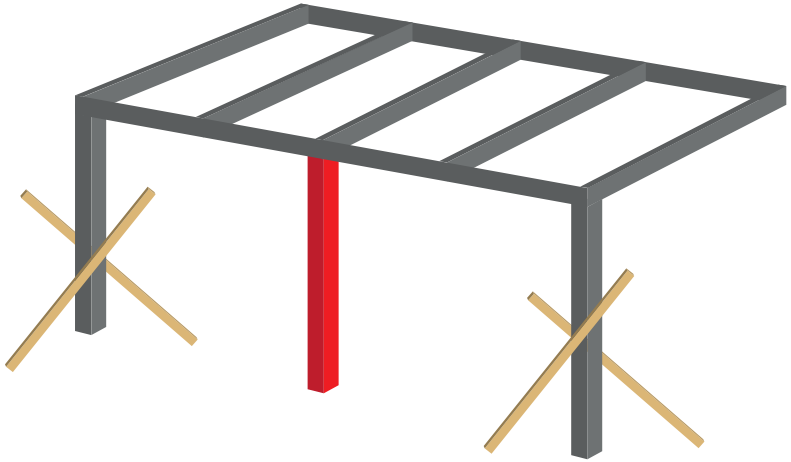


- Trim the ring of the leaf catcher as shown in the diagram
- Place the leaf catcher in the hole, with the cut edge facing the reinforcement chamber
- Press the leaf catcher firmly into the silicone
- Wipe away any excess silicone

View from above,
Leaf catcher



Step 7: installing further supports



- Measure the distance between floor and gutter at the point where the support is to be located
- Cut the support to this measurement + 3 mm
- Place the support in the required position, pushing the gutter up slightly
- Screw the support to the gutter as described in step 3

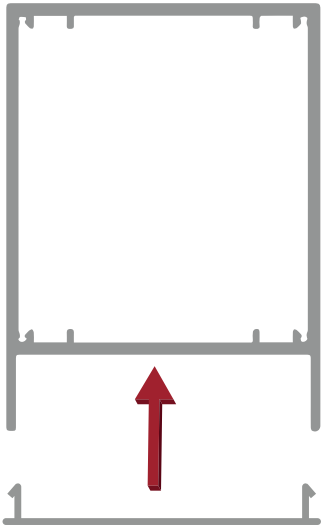
CAUTION!

The distance between two supports must not exceed 3500 mm in multi-skin sheet roofs, and 3000 mm in glass roofs.

An alternative design is only permitted if it has undergone structural engineering checks and the required load-bearing products are used.

Optional: applying a beam cover

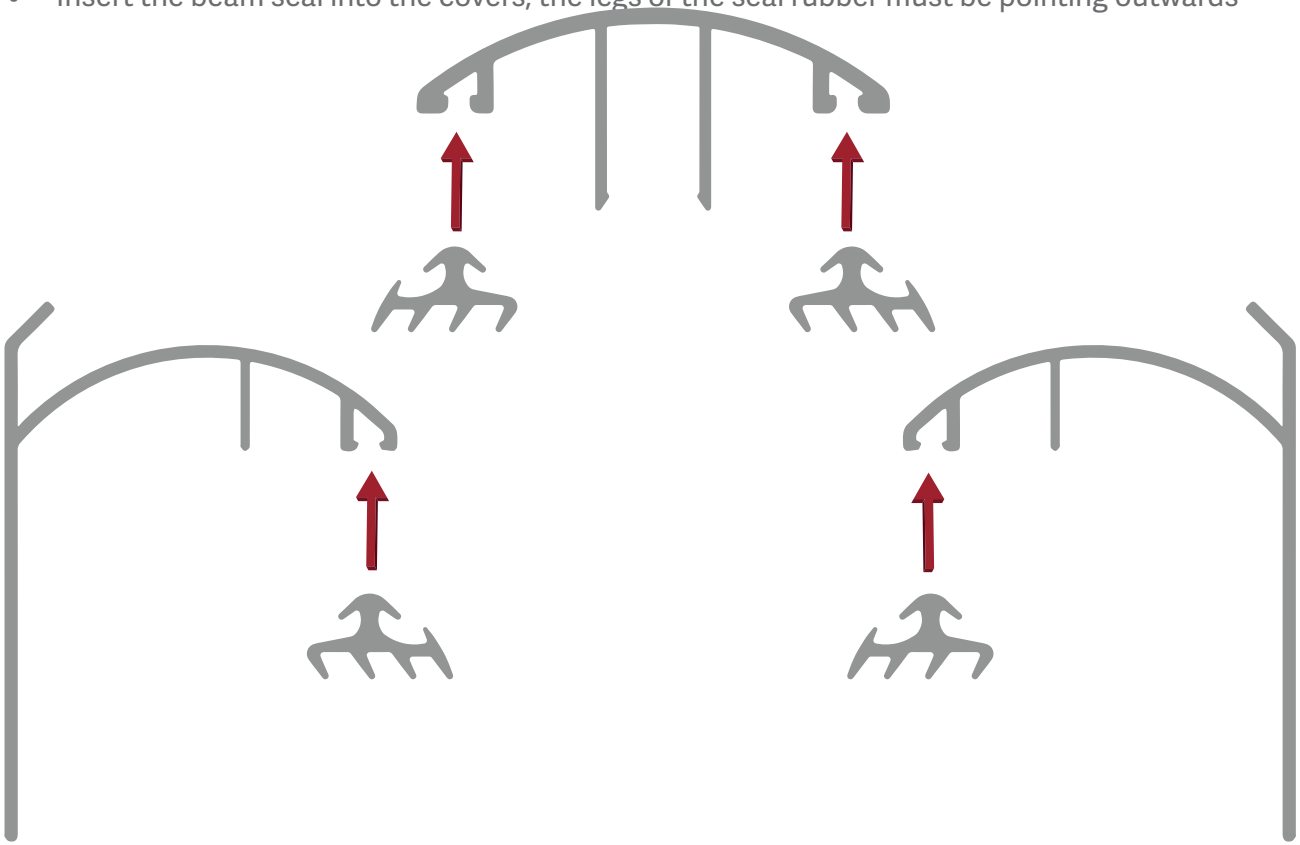
- The cover for the main beam is generally delivered untrimmed, in the length of the main beam
- Measure the distance between the supports on the top, below the gutter
- Cut the cover for the main beam to this size
- Push the cover into the recess between the two legs of the main beam from below



- The cover for the main beam does not need to be screwed or bonded
- Hammer the cover firmly in place with a rubber mallet

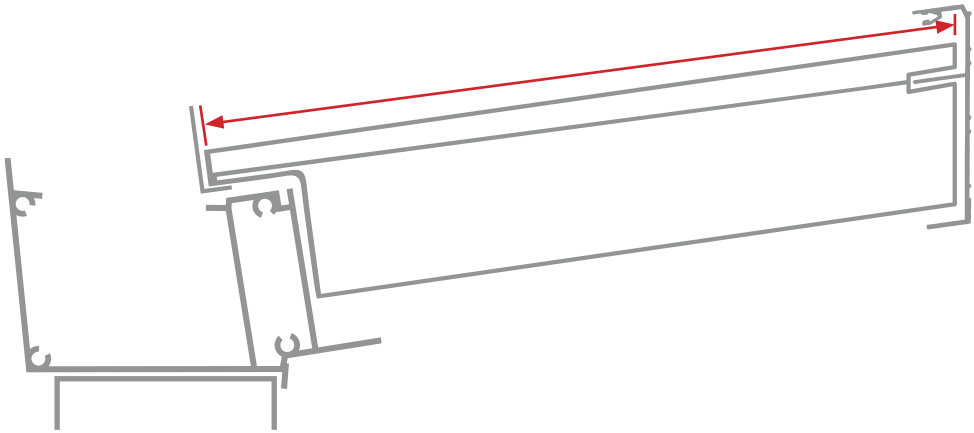
Step 8: preparing the aluminium cover

- Apply markings for the fastening holes to the beam, aluminium cover and side aluminium cover
  - First marking 100 mm away from the gutter side
  - Apply the further markings roughly every 500 mm
- Pre-drill the marked points with a 4.2 to 4.3 mm bit for multi-skin sheet panelling and with a 3.7 mm bit for glass panelling
- For the side covers, make sure to prepare a left and a right cover
- Insert the beam seal into the covers; the legs of the seal rubber must be pointing outwards



Step 9: Preparing the multi-skin sheets

- The six-skin sheets are normally delivered untrimmed
- To determine the correct width, measure out the clearance between two beams and add roughly 10 to 12 mm to this measurement
- Cut the multi-skin sheet to the determined width
- To determine the correct length, measure out the length of the top of the beam and subtract roughly 15 mm from this measurement
  (this step can also be performed before the beam is mounted)



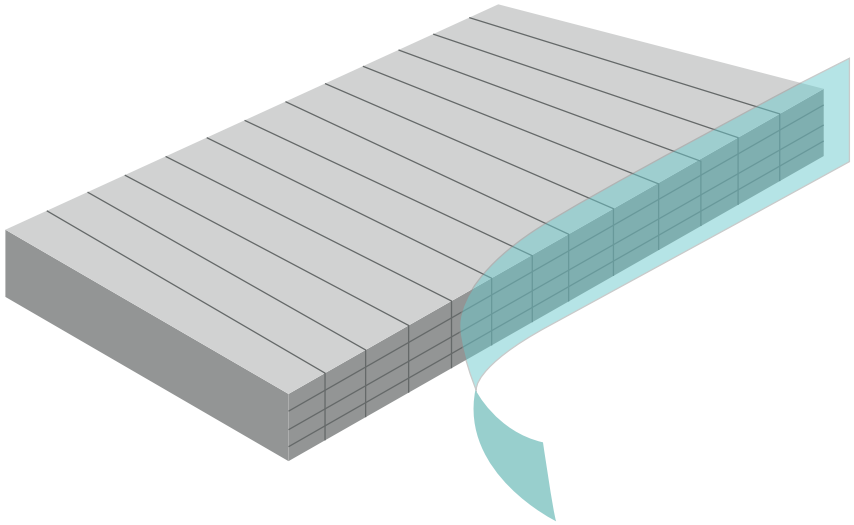
- Cut the multi-skin sheet to the determined length
- Remove the protective film from the sheets

CAUTION!

The sheets have a top side and a bottom side. This is marked on the film. An ID number is also printed on the top of the sheet on the length edge, making it possible to distinguish between the sides even without the film.

Step 9: Preparing the multi-skin sheets

- For easier handling, we generally only deliver perforated anti-dust tape
- Stick the anti-dust tape to one end of the sheets



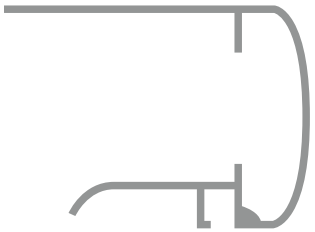
- Roughly 10 mm should protrude at the top and bottom, and roughly 40 mm on both sides
- Fold over the tape protruding at the top and bottom and fasten it
- Fold over the tape protruding at the sides and fasten it

- Stick the anti-dust tape on the other end of the sheet in the same way

Step 9: Preparing the multi-skin sheets

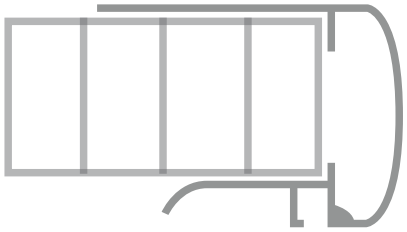
- The condensation drips are delivered in standard lengths of 980, 1050 or 1200 mm and must be cut to the correct multi-skin sheet width on site

Side view
Condensation drip



Underside

- Push the condensation drip onto the end of the multi-skin sheet



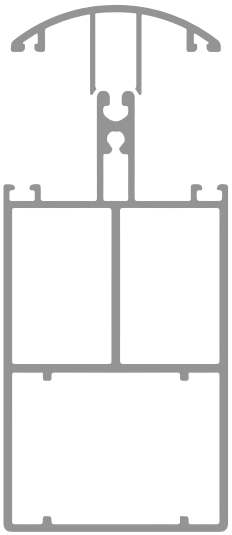
Multi-skin sheet

CAUTION!

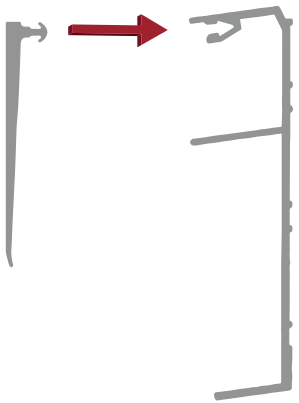
Condensate developing is a natural process. The polycarbonate multi-skin sheets are slightly permeable to gas and vapour. This means that the hollow chambers of the sheets cannot be fully sealed. Incoming air can thus fog up the hollow chambers in some weather conditions, resulting in condensation in the chambers. Applying anti-dust tape with filters on the underside of the sheet allows the condensate to escape/evaporate.

Step 10: inserting the multi-skin sheets

- Lay the multi-skin sheets with the condensation drip facing the gutter profile
- The sheets should be positioned 2 mm away from the cover fastening fin on the left and the right and rest on the stop plate
- Lay all sheets in place
- Place the aluminium cover with the two fins over the fin of the beam
- Place the side with the first borehole 100 mm away from the cut edge in the direction of the gutter profile
- Push the aluminium cover up to the stop plate
- Screw cover and beam with 4.8 x 38 mm screws (4.2 x 25 mm screws for glass panelling)
- Screw all covers to the beams

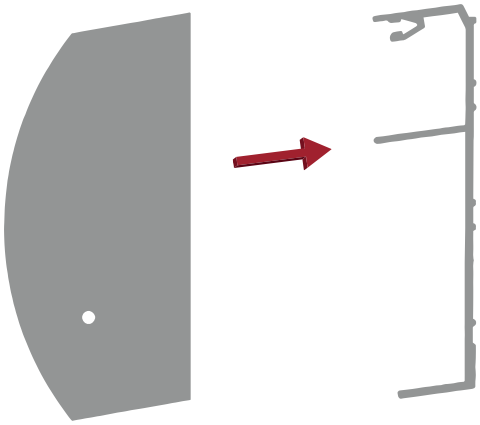


- Insert the wall seal in the upper groove of the wall profile

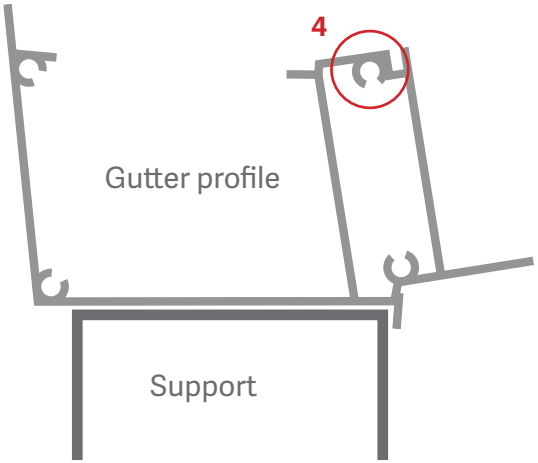


Step 10: inserting the multi-skin sheets

- Fasten the side caps of the wall profile to the wall profile with a 4.2 x 25 mm screw (pre-drill with a 3.5 mm bit)



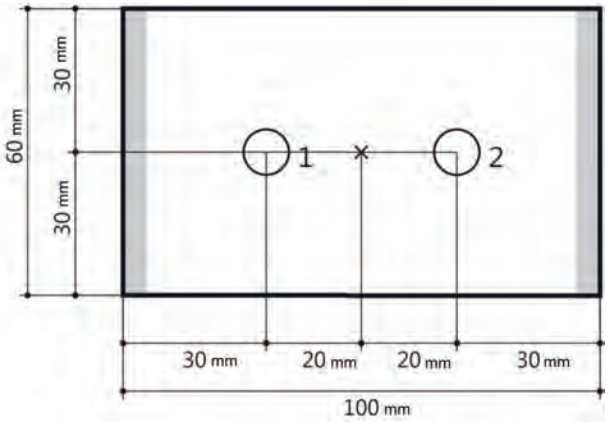
- Fasten screw no. 4 of the gutter cover



- Apply a seal between wall profile and wall

Step 11: anchoring the supports to the floor

- Use the spirit level to align the supports vertically
- Mark out the outline of the support on the floor
- Carefully push the support towards the wall to make the outline fully visible
- Do the same for all supports
- Pre-drill two holes into the fastening profile, in accordance with the fastening material
- Place the fastening profile in the drawn outline and mark out the boreholes on the floor
- Remove the fastening profile and pre-drill the holes in the floor
- Screw the fastening profile to the floor with the selected fastening material



- Carefully lift up the roof high enough to enable the support to be pushed over the fastening profile
- Realign the supports once using the water level
- Screw supports to the fastening profile each with two 4.8 x 38 mm screws on each side (pre-drill with 4.5 mm drill bit)

CAUTION!

Use shorter screws for the support with the internal drainage pipe.

YOU HAVE NOW SUCCESSFULLY COMPLETED THE INSTALLATION!

Maintenance and care

GENERAL

As outdoor structures and parts are exposed to the weather and to air pollution in the form of exhaust gases, smoke or airborne dust, they should be maintained and cleaned regularly, depending on the level of soiling. The surfaces and the appearance can be impaired by deposits resulting from rain. Observe the safety and usage instructions on the cleaning and care products.

ALUMINIUM SURFACES

Cleaning should be performed at least twice a year, or more often if necessary. In doing so, the surface temperature should not exceed 25°C and there should be no direct sunlight. Only use pH-neutral, solvent-free cleaning agents. Solvent-based cleaning agents will damage the surface of the powder coating. Do not use any abrasive or abrasive cleaning agents.

We recommend using the APT care kit.

GLASS SURFACES

Glass surfaces can be cleaned as needed, but at least twice a year, with water and a standard glass cleaner with no abrasive components. Do not use any alkali washing lyes, acids or cleaning agents containing fluoride.

MULTI-SKIN SHEETS MADE FROM POLYCARBONATE OR ACRYLIC

Cleaning should be performed at least once a year, or more often if necessary, with water and cleaning agent. Only use pH-neutral, solvent-free cleaning agents. Do not use any abrasive or abrasive cleaning agents. To prevent scratching, do not rub the sheets dry, just rinse them off with clear water.

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