



# TECHNICAL SPECIFICATIONS

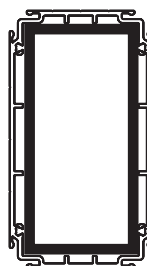
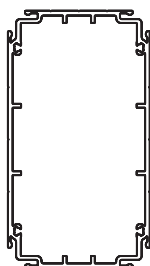
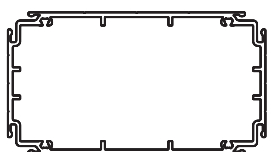
FOR THE BIOCLIMATIC PERGOLA

## **BIOFLEX** HARMONY Installation Manual

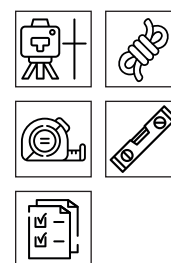
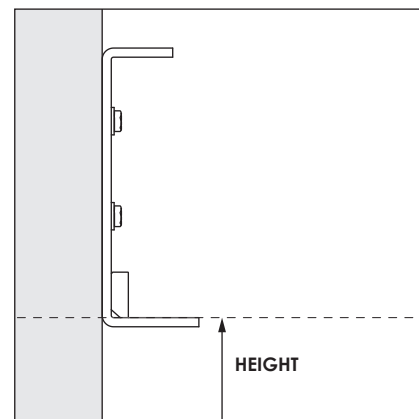
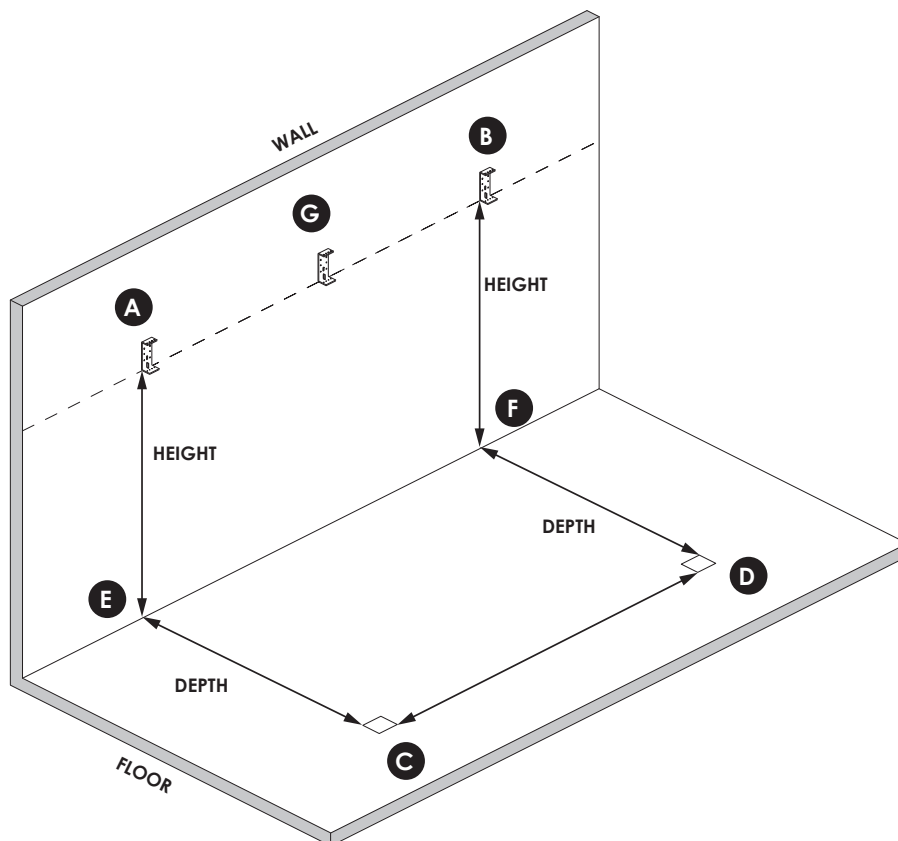
## SINGLE MODULE FEASIBILITY TABLE

PANEL NUMBER	DEPTH (D)	WIDTH (L)															
		1000	2000	3000	4000	4250	4500	4750	5000	5250	5500	5750	6000	6250	6500	6750	7000
3	1070	✓	✓	✓	✓	●	●	●	●	●	●	▨	▨	▨	▨	▨	▨
4	1300	✓	✓	✓	✓	●	●	●	●	●	●	▨	▨	▨	▨	▨	▨
5	1530	✓	✓	✓	✓	●	●	●	●	●	●	▨	▨	▨	▨	▨	▨
6	1770	✓	✓	✓	✓	●	●	●	●	●	●	▨	▨	▨	▨	▨	▨
7	2000	✓	✓	✓	✓	●	●	●	●	●	●	▨	▨	▨	▨	▨	▨
8	2230	✓	✓	✓	✓	●	●	●	●	●	●	▨	▨	▨	▨	▨	▨
9	2470	✓	✓	✓	✓	●	●	●	●	●	●	▨	▨	▨	▨	▨	▨
10	2700	✓	✓	✓	✓	●	●	●	●	●	●	▨	▨	▨	▨	▨	▨
11	2930	✓	✓	✓	✓	●	●	●	●	●	●	▨	▨	▨	▨	▨	▨
12	3170	✓	✓	✓	✓	●	●	●	●	●	●	▨	▨	▨	▨	▨	▨
13	3400	✓	✓	✓	✓	●	●	●	●	●	●	▨	▨	▨	▨	▨	▨
14	3640	✓	✓	✓	✓	●	●	●	●	●	▨	▨	▨	▨	▨	▨	▨
15	3870	✓	✓	✓	✓	●	●	●	●	▨	▨	▨	▨	▨	▨	▨	▨
16	4100	✓	✓	✓	✓	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	■	■
17	4340	✓	✓	✓	✓	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	■	■
18	4570	✓	✓	✓	✓	▨	▨	▨	▨	▨	▨	▨	▨	▨	■	■	✗
19	4800	✓	✓	✓	✓	▨	▨	▨	▨	▨	▨	▨	▨	■	■	✗	✗
20	5040	✓	✓	✓	✓	▨	▨	▨	▨	▨	▨	▨	■	■	✗	✗	✗
21	4270	✓	✓	✓	✓	▨	▨	▨	▨	▨	▨	■	■	✗	✗	✗	✗
22	5510	✓	✓	✓	✓	▨	▨	▨	▨	▨	▨	■	■	✗	✗	✗	✗
23	5740	✓	✓	✓	✓	▨	▨	▨	▨	▨	▨	■	■	✗	✗	✗	✗
24	5970	✓	✓	✓	✓	▨	▨	▨	▨	▨	▨	■	■	✗	✗	✗	✗
25	6210	✓	✓	✓	✓	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨
26	6440	✓	✓	✓	✓	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨
27	6670	✓	✓	✓	✓	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨
28	6910	✓	✓	✓	✓	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨

✓	System suitable for single module production without support
●	System suitable for single module production using horizontal middle support
▨	System suitable for single module production using vertical middle support
■	System suitable for single module production using reinforced vertical middle support
✗	System not suitable for single module production, number of modules should be increased
<b>NOTE:</b> In applications where the single module width exceeds 5500 mm, support posts must be used under the beam in areas with middle support profiles.	



## PRE-INSTALLATION MEASUREMENT AND AREA ANALYSIS



	SLOPE	
DEPTH	0 m - 3,5 m	2 cm
DEPTH	3,5 m - 7 m	4 cm

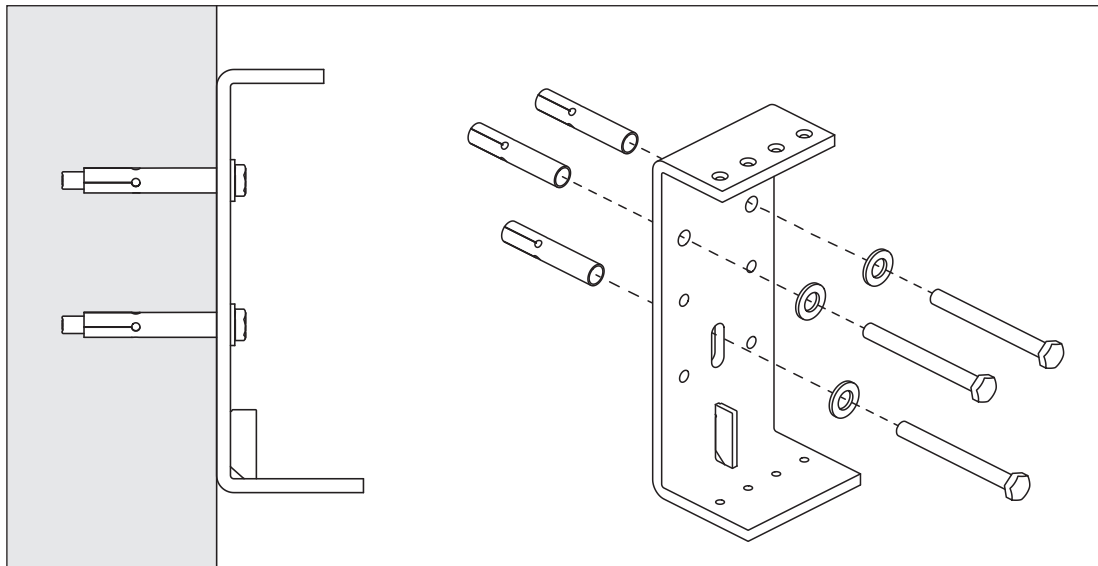
- The location of point A is determined first.
  - The height difference between points E and C is calculated.
  - This difference is added to the height measurement specified in the work order.
  - The elevation required based on the slope and inclination is also added to this value.  
→ As a result of these calculations, point A is established.
- The same procedures are applied for point B.
  - The height difference between points F and D is added to the height measurement in the work order.
  - The defined elevation for the required slope is also added.
  - Additionally, the height difference between points E and F should be measured and included in the calculation for point B (to ensure the steel constructions on the wall are at the same level).

**WARNING: After this stage, the height difference between points A and B should be checked. The other steel construction must be aligned according to the steel construction at the higher point.**

- The positions of the wall connection steel constructions between points A and B (e.g., G) are determined.
  - For this process, a laser pointer, level, or string is used between points A and B.
- To determine the exact length measurements of the posts:
  - The height difference between points C and D is measured.
  - This difference is taken into account when determining the post lengths.

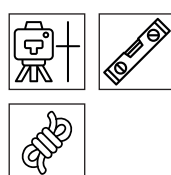
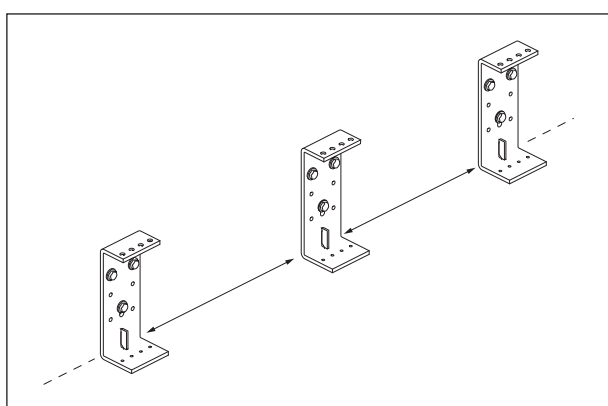
# 1. INSTALLATION OF WALL STEEL CONSTRUCTION AND WALL-SIDE BEAM

## 1.1



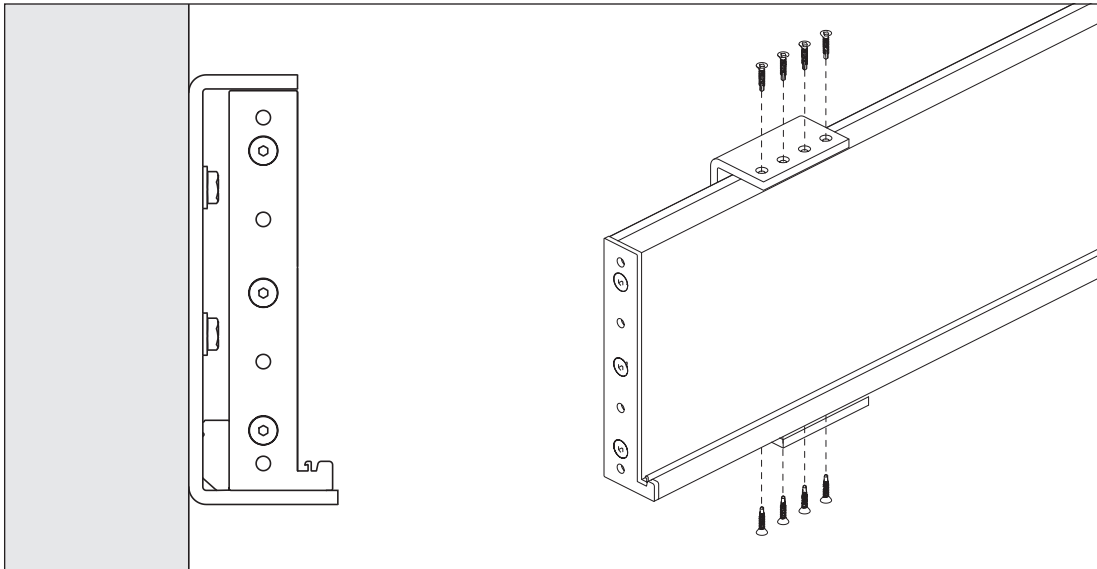
- Considering height measurements and ground slope, the wall connection steel constructions at the start and end points are positioned accordingly.
- Markings are made on the wall surface through the connection holes of the steel constructions. The vertical alignment of the steel construction is checked using a level at this stage.
- Suitable mounting hardware for the specific wall must be used!
- Ø16 holes are drilled at the marked points, and anchors are inserted.
- Then, the steel constructions are fixed to the wall using M10 washers and M10x100 bolts.

## 1.2



- After installing the start and end steel constructions, the intermediate steel constructions are aligned along the axis created using a laser pointer, level, or string, and fixed using the same method. All steel construction connections are completed according to this reference line.

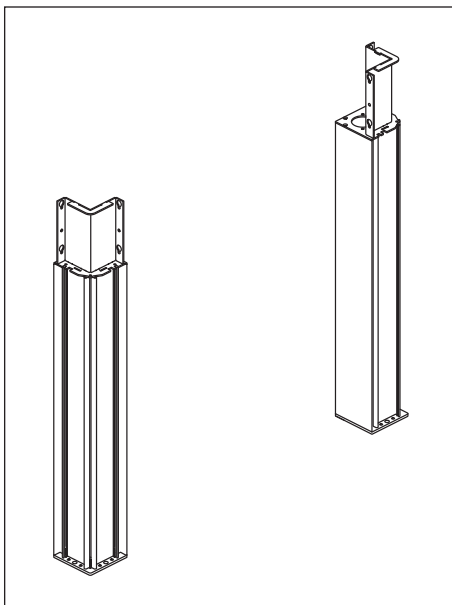
### 1.3



- After placing the steel constructions, the beam to be mounted on the wall is positioned as shown accordingly.
- Once the beam is brought to the correct position, it is fixed using YHB 4.8x25 MU screws.

## 2. COLUMN INSTALLATION

### 2.1



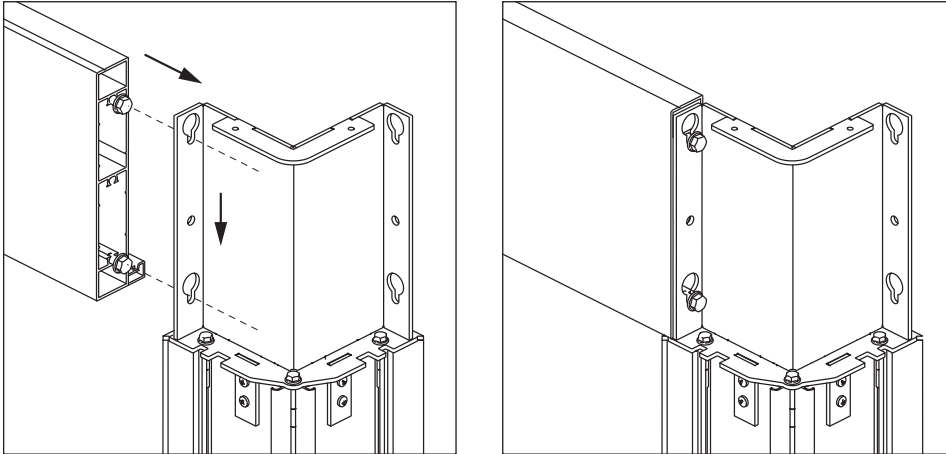
P05005



- Installation of the columns located at the front of the system begins. Height differences and ground slope on both axes directly affect the column lengths. According to these values, the ground steel construction is removed to the final dimensions of the columns and cut from the bottom to align with the ground.
- Then, the ground steel construction is reinstalled.
- The lower mounting parts of the columns are placed in their approximate positions. At this stage, the columns are not connected to the ground!

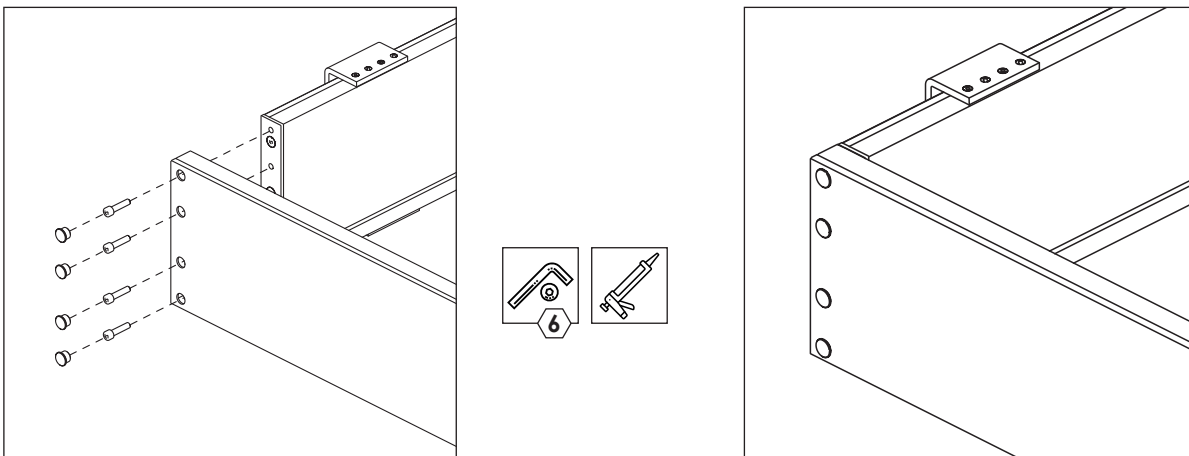
### 3. INSTALLATION OF BEAMS PERPENDICULAR TO THE WALL

#### 3.1



- Beams perpendicular to the wall are hung onto the columns by passing through the bolt connection holes on the columns. At this stage, the bolts are only for positioning; they are not tightened.

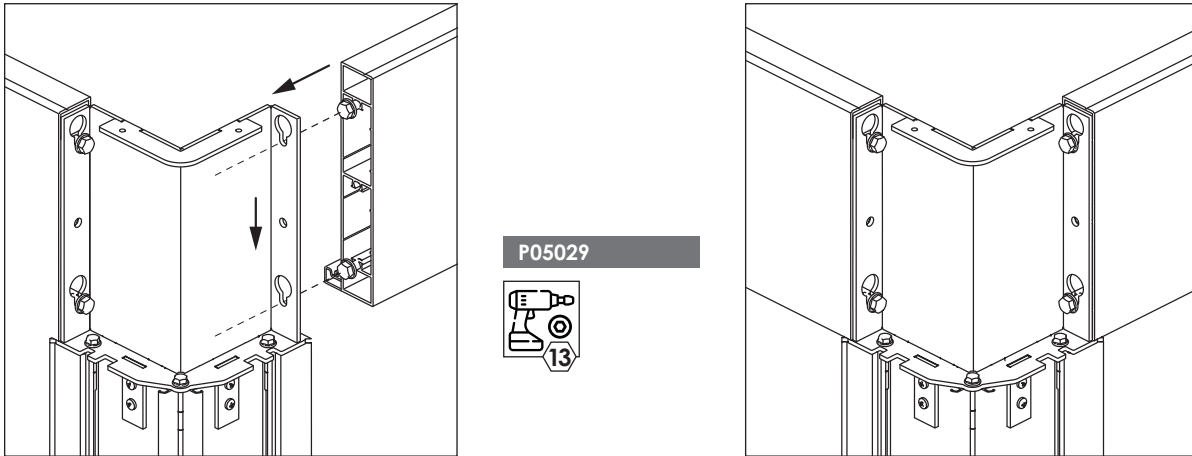
#### 3.2



- The beams perpendicular to the wall are connected to the wall beam by passing through the pre-drilled hex bolt holes and fastening with M8x35 hex bolts as shown in the diagram.
- After the connection is completed, the hole gaps are covered with plastic plugs.

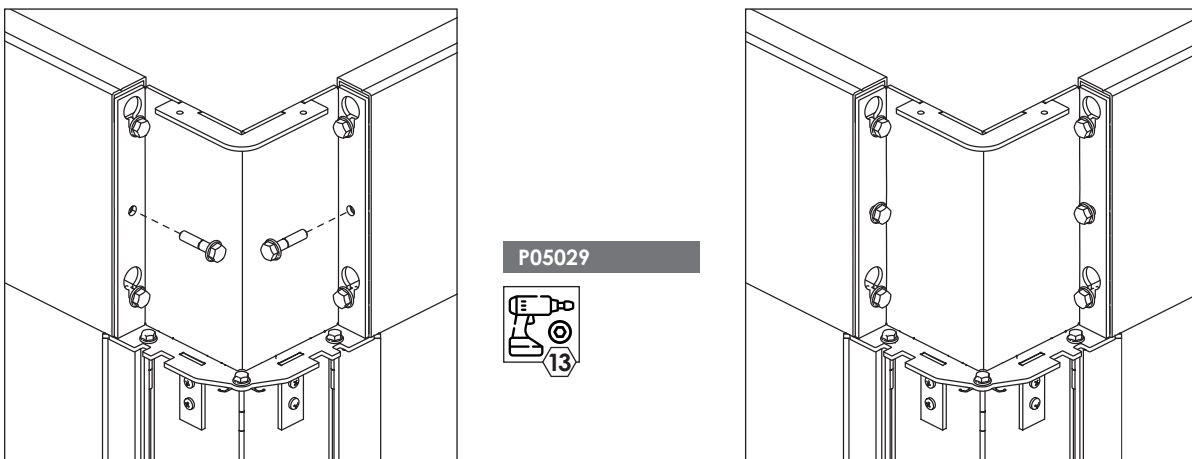
## 4. INSTALLATION OF FRONT BEAMS PARALLEL TO THE WALL

### 4.1



- The front beams are hung onto the columns through the bolt holes located on the corner connection construction.
- All corner beams are aligned and positioned accordingly.

### 4.2



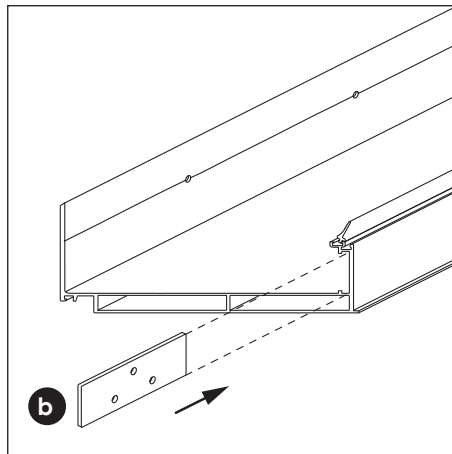
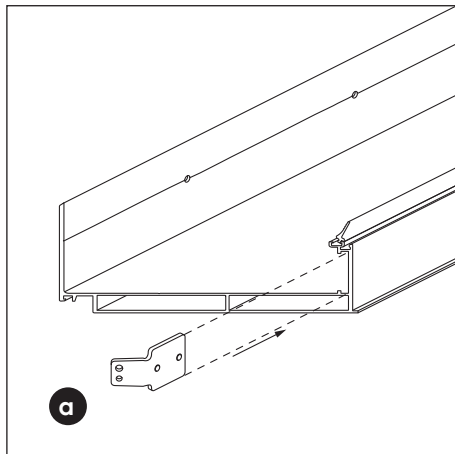
- The remaining connection points in the middle section are secured to the beam with bolts.

**SUGGESTION:** To facilitate fastening the bolt in the middle section, it can be pre-assembled and disassembled.

**NOTE:** At this stage, no beam bolts should be fully tightened!

## 5. INSTALLATION OF GUTTER PROFILES

### 5.1

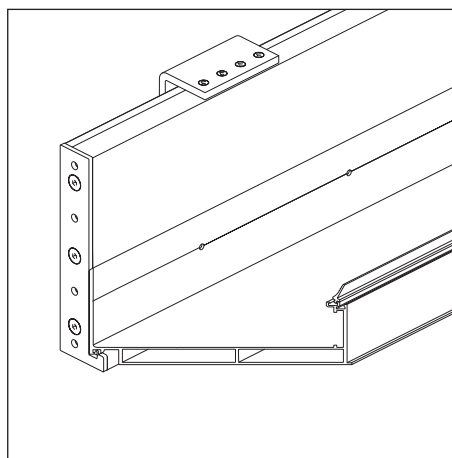
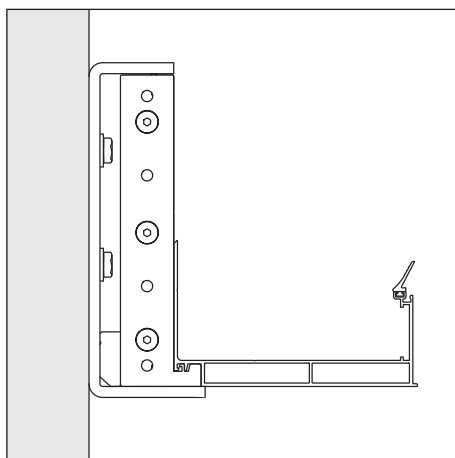


P05039

P05040

- The pulling channels in the gutters should be fitted with the corner pulling steel construction element (a) and, if applicable, the middle support steel construction elements (b) beforehand.

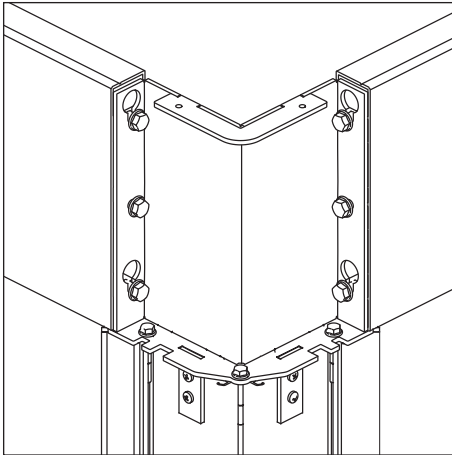
### 5.2



- After installing the pulling and middle support steel construction elements, the gutters are attached to their respective positions using the locking mechanism on the beams, as shown in the diagram.

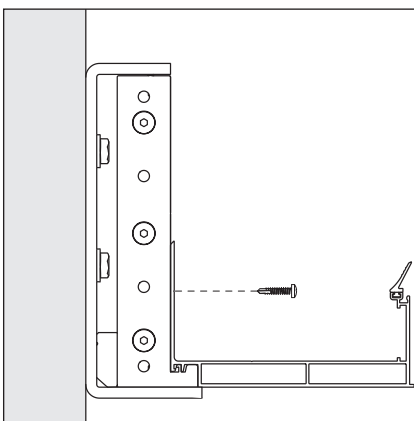
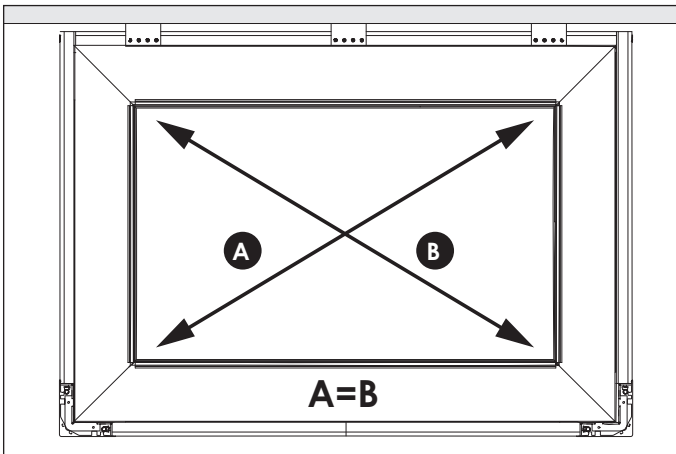
**NOTE:** Before installing the gutters, ensure that silicone is applied to the surfaces where the gutters join the beams.

### 5.3



- After the gutters are installed, the final tightening of all beam bolts partially connected in sections 3.1 and 4.2, which hang from the corner steel construction, is performed at this stage.

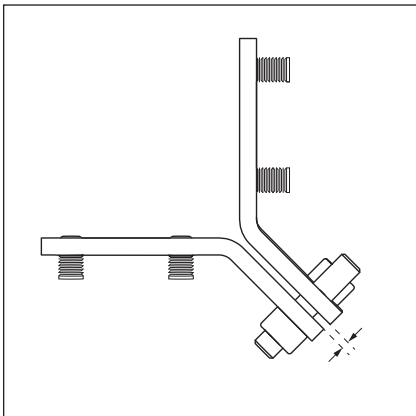
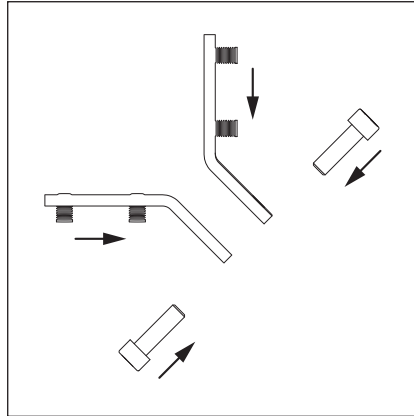
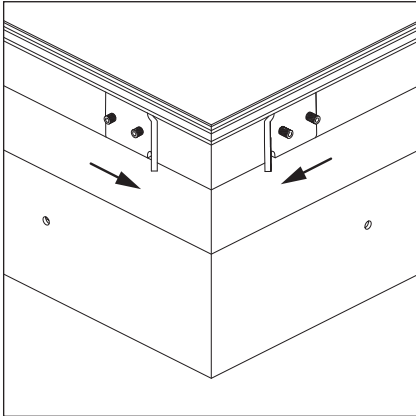
### 5.4



- The accuracy of the system frame is checked by taking diagonal measurements. Opposite measurements must be equal; tightening operations (see 5.3) should be performed simultaneously with these checks.
- After completing the squareness checks, the gutters are fixed to the beams at 300 mm intervals using 4.8x25 star pan head drill bit screws, referencing the guide lines.

## 6. INSTALLATION OF PULLING STEEL CONSTRUCTION

### 6.1

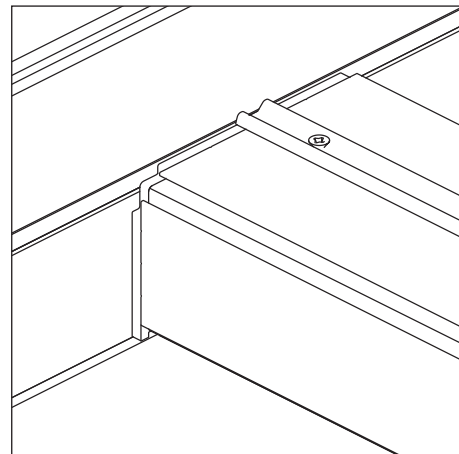
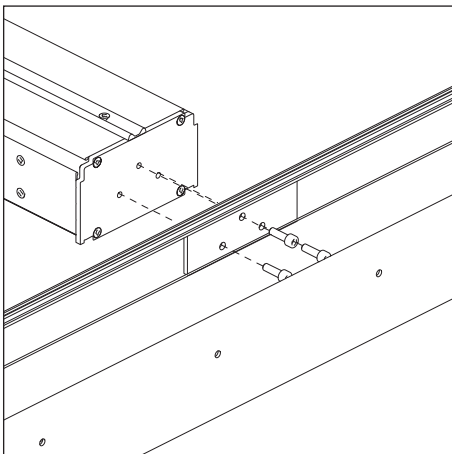


- The pulling steel constructions located on the gutters are slid parallel to the gutter surface and brought closer together.
- The steel constructions are fixed to the gutter with M6x10 set screws, leaving a specified pulling gap.
- Then, the pulling process is carried out by tightening the M6x20 hex bolts evenly and oppositely.

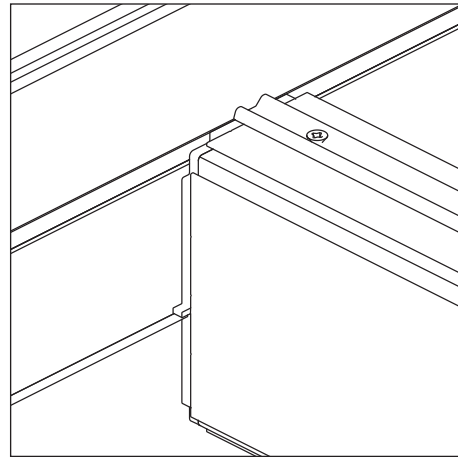
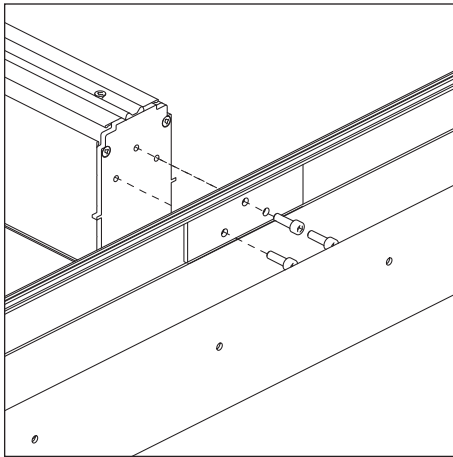
**NOTE:** When the pulling process is complete, a controlled gap should remain between the steel constructions.

## 7. INSTALLATION OF MIDDLE SUPPORT PROFILE

### 7.1 HORIZONTAL USE



## 7.2 VERTICAL USE

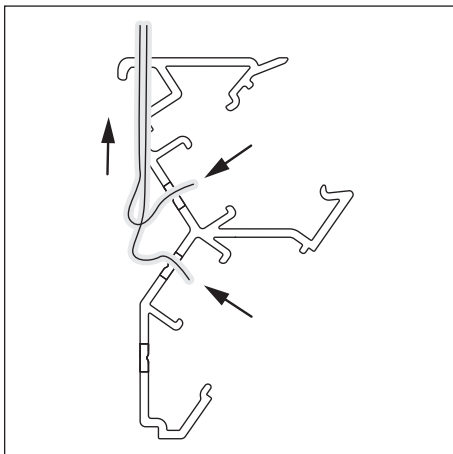


- If a middle support profile is used in the system, the corresponding middle support flat steel construction is slid into place along the central axis of the gutter. (See 5.1)
- The middle support profile can be used in two ways: horizontally and vertically. (For usage intervals, see the Document)
- Notches and holes required for connecting this profile are pre-applied to the gutter profile during the production process. (See: Production Manual Section 4, Gutter Manufacturing)
- The middle support profile is positioned by resting it on the support points of the steel cover plates as shown in the diagram.
- The middle support profile connection is completed by tightening M6x20 hex bolts from inside the gutter.

**NOTE:** In applications where the single module width exceeds 5500 mm, support columns must be used under the beams in areas with middle support profiles.

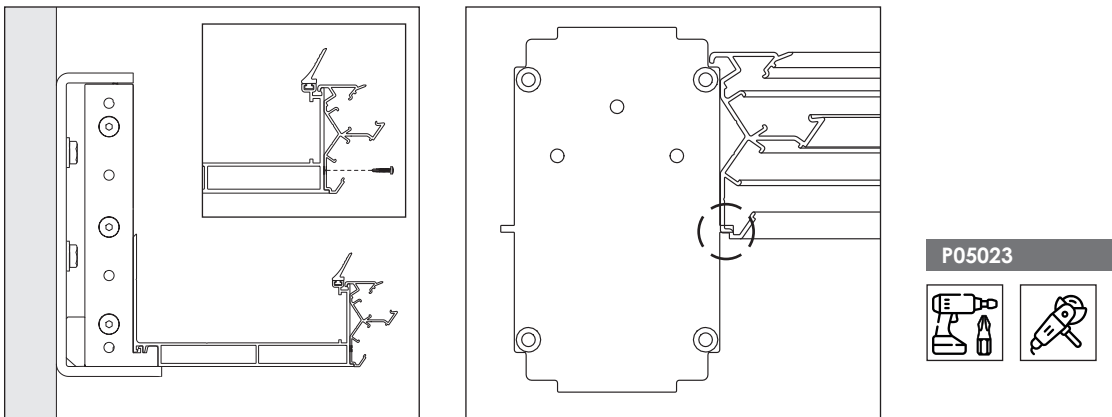
## 8. INSTALLATION OF LED PROFILE AND LEDS

### 8.1



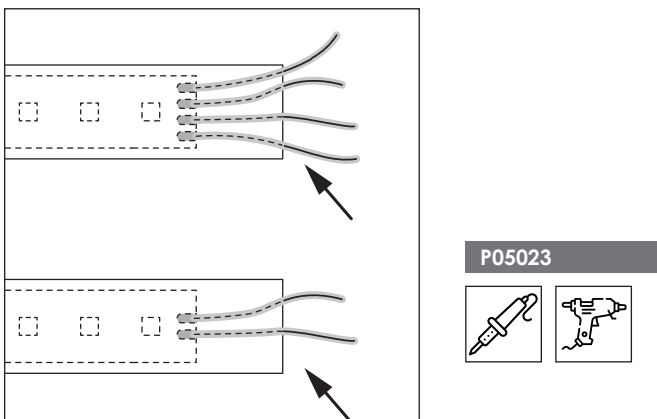
- Before starting the installation of the LED profile, the positions where the extension cables of the LED strips will exit the profile must be determined.
- Accordingly, appropriately sized cable exit holes are drilled near the corner area of the relevant LED profile.

## 8.2



- The LED profile is mounted to the gutter profiles using a hanging method as specified in the application details.
- In cases where the middle support profile is applied vertically, the alignment protrusions on the cover steel and the LED profiles attached to the gutters are not to interfere; therefore, the relevant LED profiles are notched 5 mm at the point shown in the diagram.

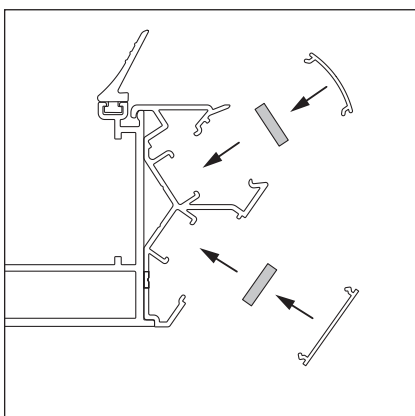
## 8.3



- The sleeved LED strips are carefully removed from the area where the extension cables will be soldered.
- After completing the soldering process (see: Lighting Manual), the LED strip is placed back into the sleeve.
- The open ends of the sleeve are sealed with hot silicone to provide protection against external elements.

**NOTE:** It is recommended that this stage be performed during manufacturing.

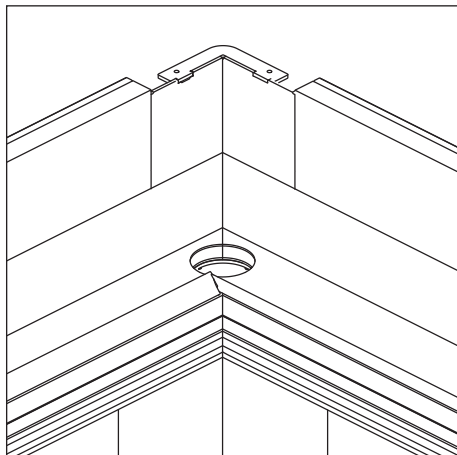
## 8.4



- The prepared LED strips and diffusers are inserted into the LED profile as shown in the diagram to complete the installation.

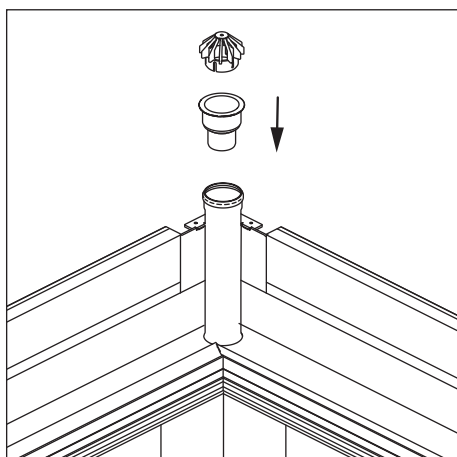
## 9. INSTALLATION OF DRAINAGE COMPONENTS

### 9.1



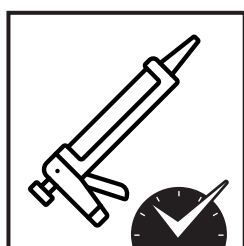
- The columns where drainage will be installed are identified.
- At the intersections of the guide lines on the gutter profiles corresponding to these columns, and over the waterproof membrane, a Ø70 mm punch hole is made to create the drainage opening.
- On the ground, the location where the PVC pipe elbow will exit is also prepared by drilling a Ø70 mm hole with a punch.

### 9.2



- A 50 mm PVC pipe and drainage components are installed through the prepared drainage hole according to the assembly sequence.
- An elbow connection is made to the PVC pipe at the ground level.
- A suitable block is placed between the bottom end of the pipe and the ground to prevent movement.

**NOTE:** Before installing the drainage component, ensure that the silicone or membrane applications at the gutter joints are fully completed. The joint between the drainage component and the gutter must be sealed with silicone to ensure watertightness.



**24 Hours**

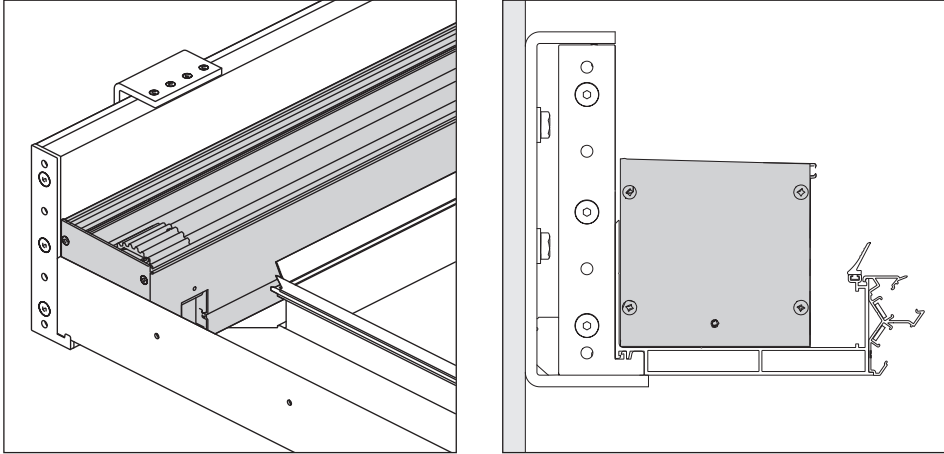
At this stage of the installation, silicone applications are performed in the areas specified in the silicone application instructions (see Section 20 – Silicone Application Instructions).

A minimum curing time of 24 hours is required for the silicone to fully dry. Any operation carried out before this period may adversely affect the system's waterproofing performance.

Motor installation and panel placement should be performed only after the silicone curing time is complete.

## 10. MMOTOR HOUSING PLACEMENT

### 10.1

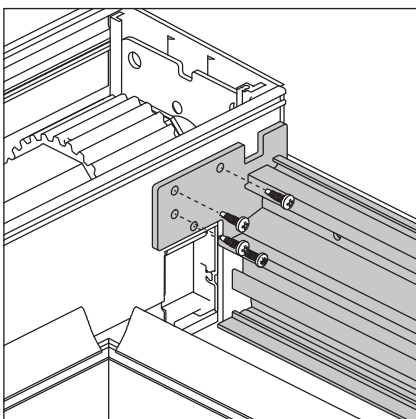


- The motor case, containing the motor and its components, is placed into the corresponding gutter as shown in the diagram.

NOTE: The system movement (opening/closing) will operate in the direction toward the motor. If a different opening direction is desired, the motor orientation should be verified on the work order.

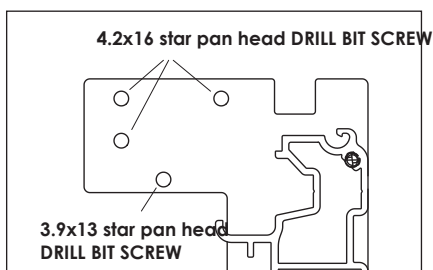
## 11. RAIL PROFILE AND MOTOR CONNECTION INSTALLATION

### 11.1

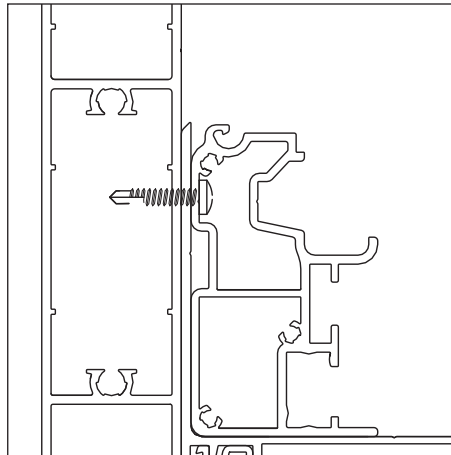
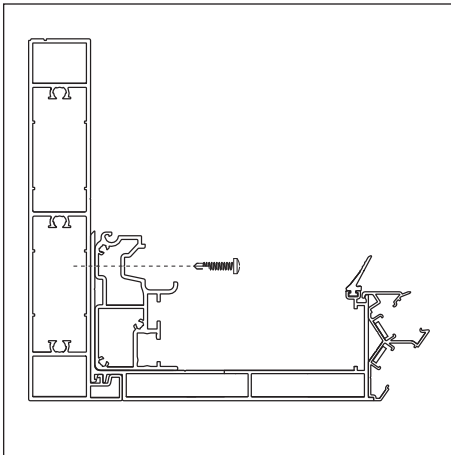


- After positioning the motor case, rail profiles are placed into both gutters perpendicular to the motor's position.
- The rails should be aligned so that they contact the motor case at the designated points on the connection plate.
- The rail profiles are secured with three 4.2x16 star pan head drill bit screws and one 3.9x13 star pan head drill bit screw through the screw holes on the rail-motor connection plate.

**NOTE:** The lowest screw inside the motor case is used to secure the belt guide device. Before tightening, ensure that the belt guide and notch alignment are correctly positioned.



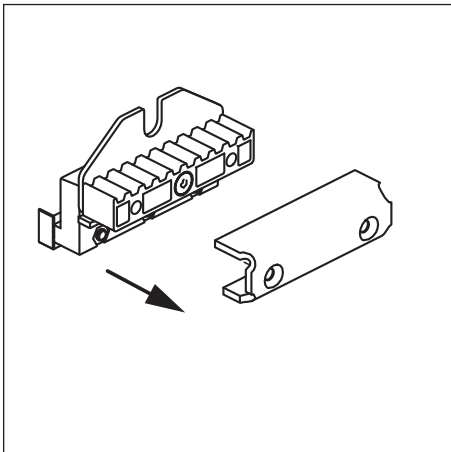
## 11.2



- The rail profiles are secured to the beam surfaces they rest on by screwing with 4.8x25 star pan head drill bit screws at 30 cm intervals, as specified in the application details.

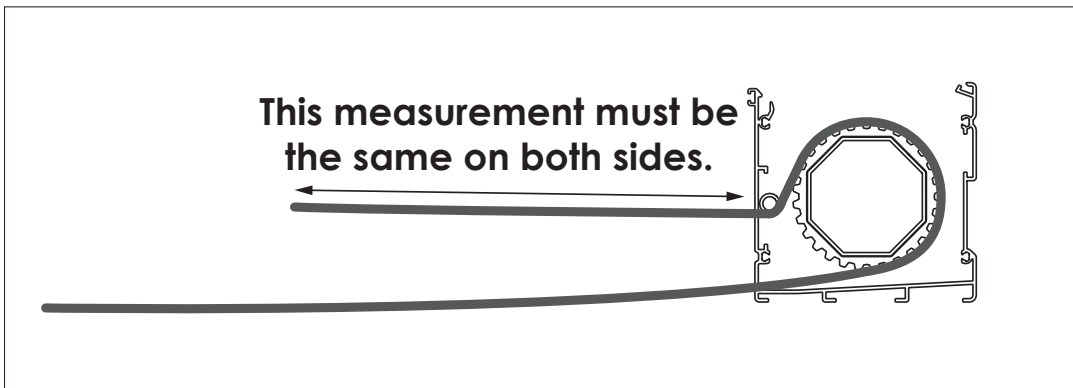
## 12. BELT PLACEMENT, JOINING, AND TENSION ADJUSTMENT

### 12.1



The U-shaped bracket of the belt joining mechanism located in the relevant channel on the rail profile is temporarily removed.

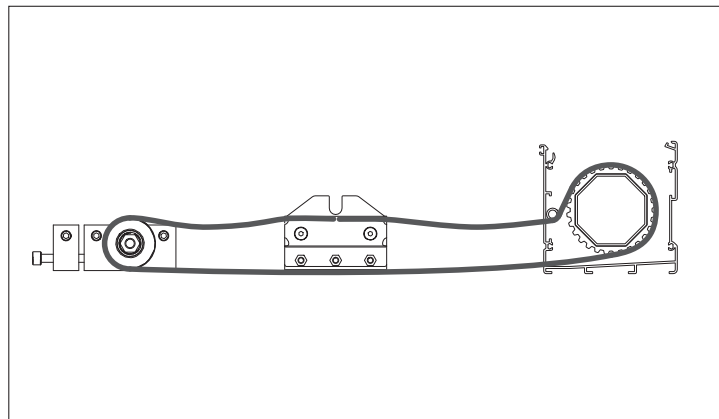
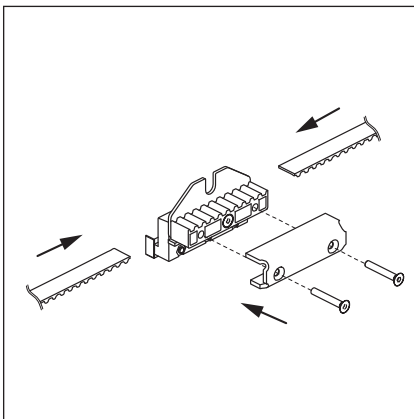
## 12.2



- The belt is placed to form a loop around the toothed timing pulley on the motor assembly, the belt tension pulley, and the counterpart component on the belt joining mechanism.
- Approximately 2 meters of belt is pulled out from the motor box. Then, the pulled belt length is accurately measured outside the motor box. This measurement is adjusted to be the same on the opposite belt as well.

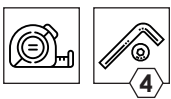
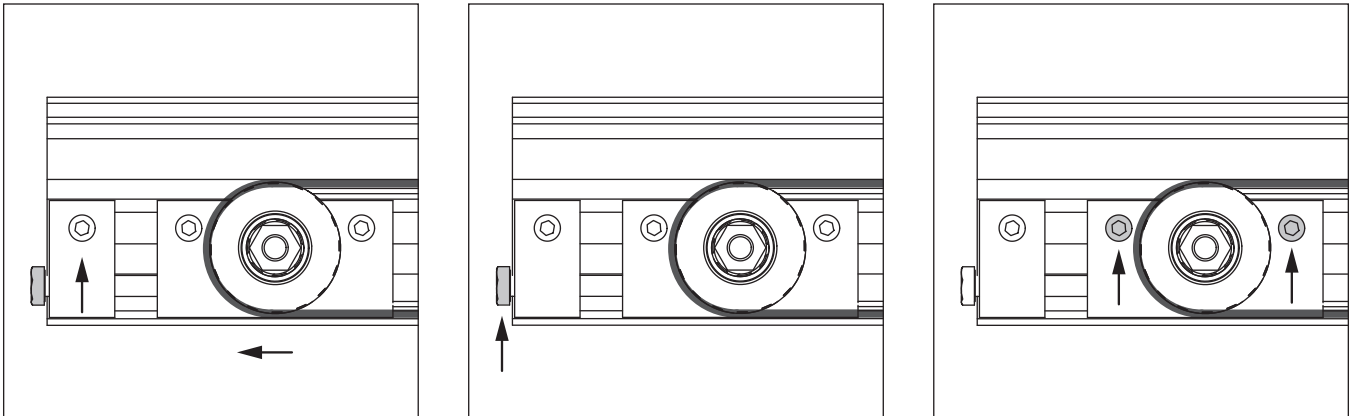
**NOTE:** To facilitate detection of any potential misalignment between the belt and pulley, it is recommended to mark the belt and pulley after the belt length is precisely measured.

## 12.3



- After alignment is completed, the two ends of the belt are joined on the belt joining mechanism.
- The U-shaped bracket is reinstalled to complete the belt joining process.

## 12.4

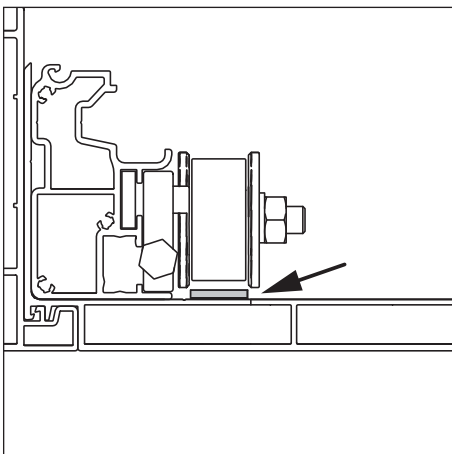


- The belt tensioning mechanism is pushed toward the end of the rail profile to zero the tension. The small part on the mechanism is secured using an M6 hex bolt, completing the initial tensioning stage.
- Then, the final tensioning is performed using an M8 tensioning bolt.
- The larger part is fixed by tightening two M6 hex bolts on it.

**TENSION ADJUSTMENT:** When moderate force is applied manually, the belt should stretch approximately 1–1.5 cm. The tension should be neither too tight nor too loose.

- The tension positions on both sides are checked against each other; alignment must be symmetrical. (It should be confirmed that the distance from the pulley center to the end of the rail profile is equal on both sides.)

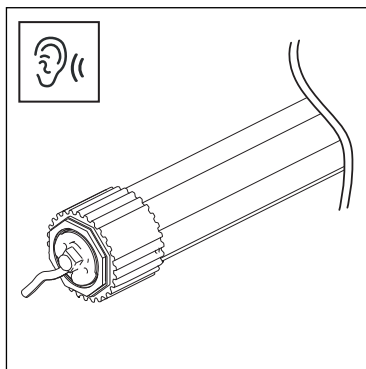
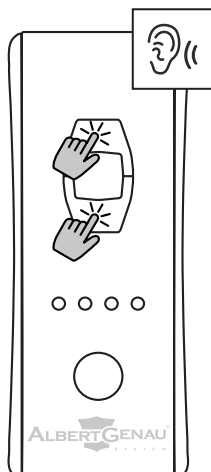
## 12.5



- After the belt tensioning process is completed, a rubber strip should be applied along the gutter profile beneath the lower arm of the belt.

**PURPOSE:** To prevent vibration-induced noise caused by the belt hitting the gutter profile due to oscillation during operation.

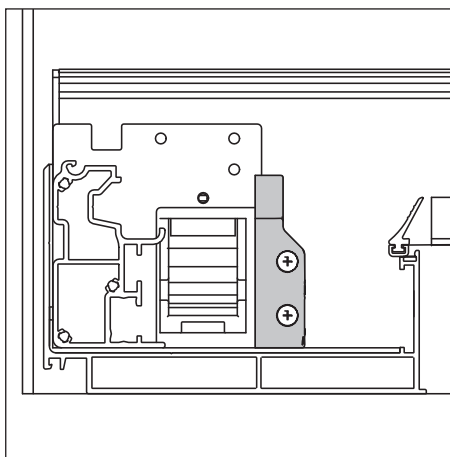
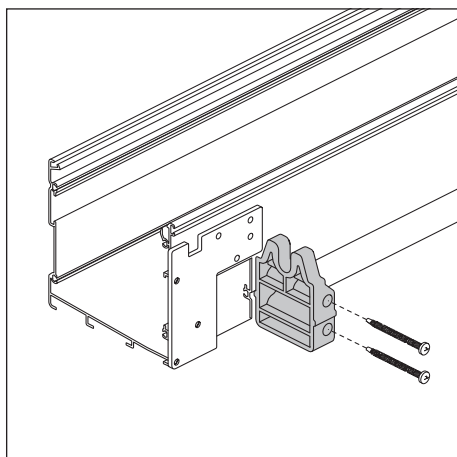
## 12.6



- The motor is registered by pressing and holding both the up and down buttons on the remote control simultaneously until a sound is heard from the motor.

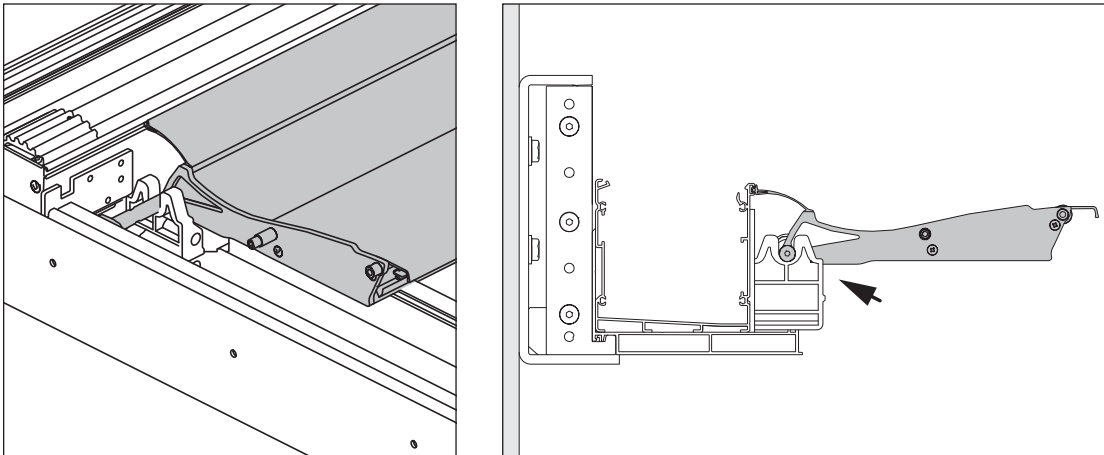
## 13. INSTALLATION OF PANELS

### 13.1



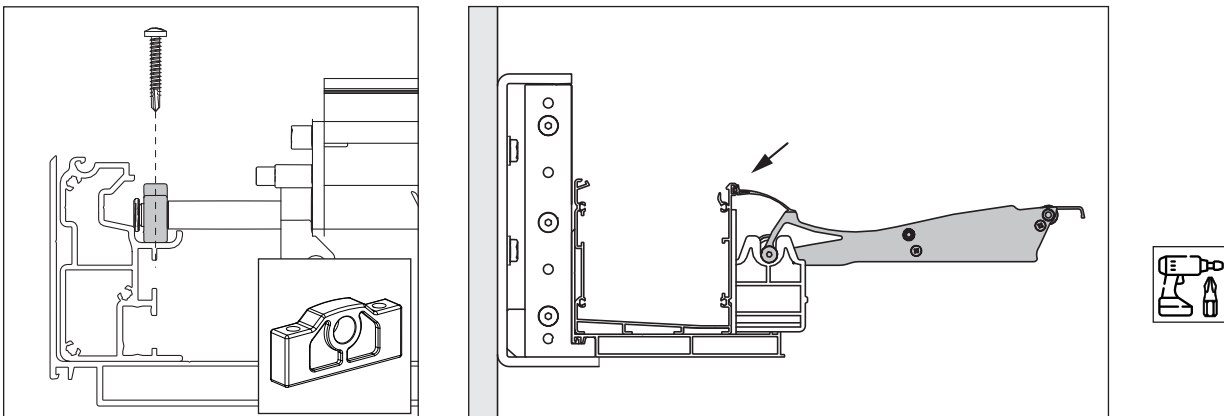
- The first panel shaft holder plastic parts are placed inside the gutter, aligned with the belt exit notch on the edges (see Production Manual Section 8.2), and positioned to rest against the motor case.
- Then, they are fixed at the relevant connection points using 4.8x70 star pan head drill bit screws.
- The same procedure is carried out on the other rail side as well.

## 13.2



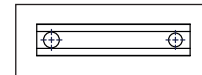
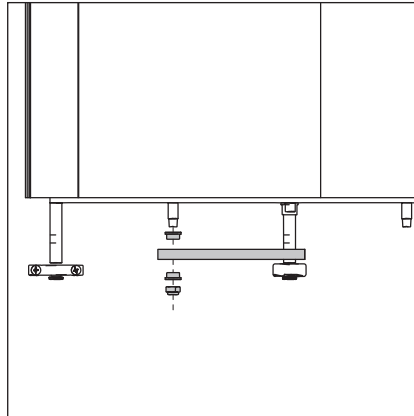
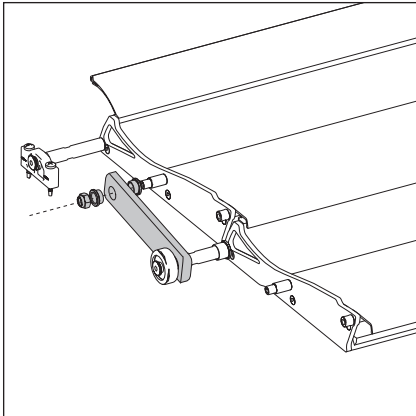
- Panel installation begins with the panel located closest to the motor. This panel is referred to as the “first panel” within the system.
- During the placement of the first panel, the fixing blocks on the shaft are positioned to align with the wheel channel on the rail profile.
- Similarly, the panel shaft is aligned with the groove in the first panel shaft holder plastic, and the panel is placed accordingly.

## 13.3



- The shaft blocks are placed to rest against the rail-motor connection plate and secured with 4.8x45 star pan head drill bit screws as shown in the diagram.
- The motor-panel connection gasket on the first panel is aligned with the corresponding point on the motor case to complete the connection.
- The same procedure is carried out on the other rail side as well.

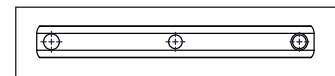
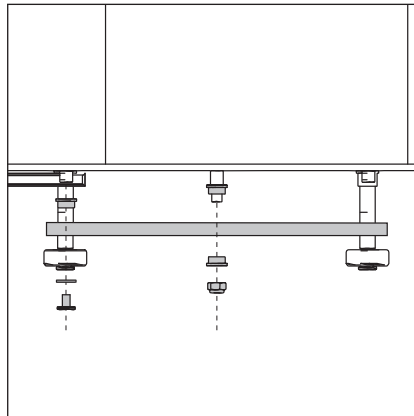
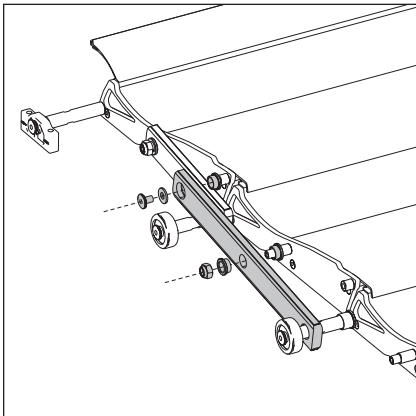
## 13.4



- The second panel is placed.
- A small bushing is attached to the middle shaft of the first panel.
- The free end of the half scissor is passed over the bushing onto the middle shaft.
- Another small bushing is attached to the same shaft on the opposite side of the scissor.
- The scissor connection is completed by tightening with an M8 nylon nut at the connection point.
- The same procedure is applied to the other side as well.

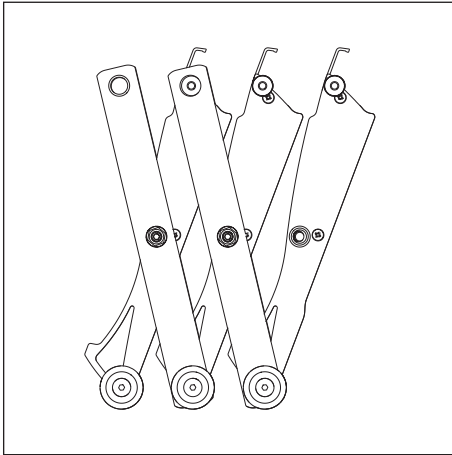
## 13.5

**The third panel and subsequent panels are defined as “intermediate panels.” Except for the half scissor procedure applied to the last panel, the installation steps for these panels are repeated in the same manner.**



- The scissor is pre-attached on the third panel.
- During installation, small bushings are placed on the middle shaft of the second panel and the upper shaft of the starting panel.
- The scissor passes over these bushings and connects to the shafts of both panels.
- On the other side of the scissor, another small bushing is placed on the middle shaft of the second panel.
- The connection is completed by attaching an M8 nylon nut at this point.
- An M6 plastic washer is placed on the upper shaft of the starting panel on the other side of the scissor.
- Then, an M6 hex socket screw is tightened on the same shaft to complete the scissor connection.
- The same procedure is applied to the other side as well.

## 13.6

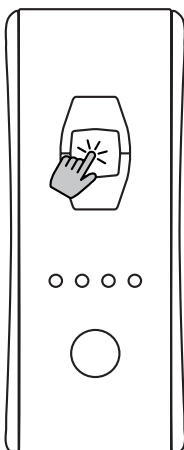
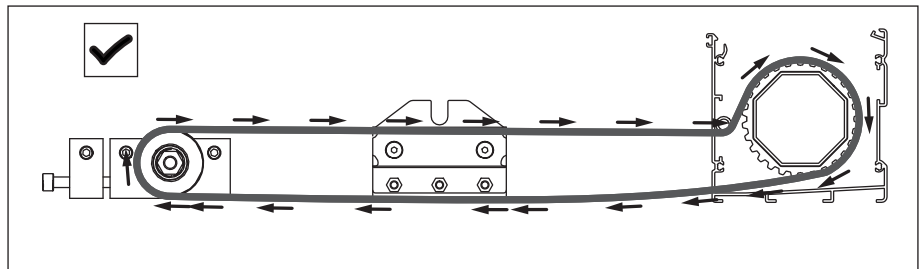
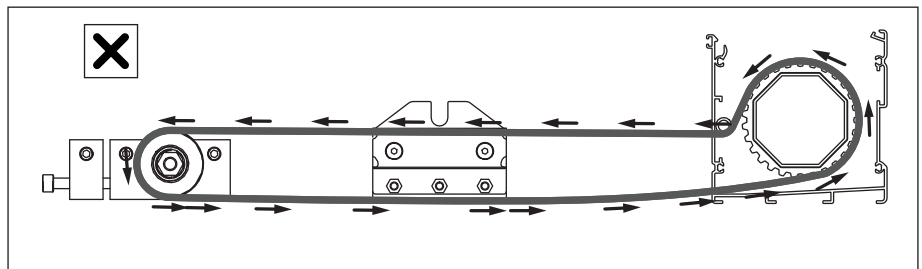
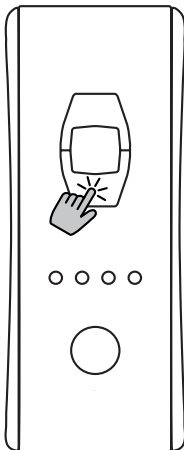


- After completing the scissor connections on both sides of the first three panels, the panels are set to the upright (open) position.
- These panels are temporarily fixed in the aligned position using rope or vise tensioning devices.

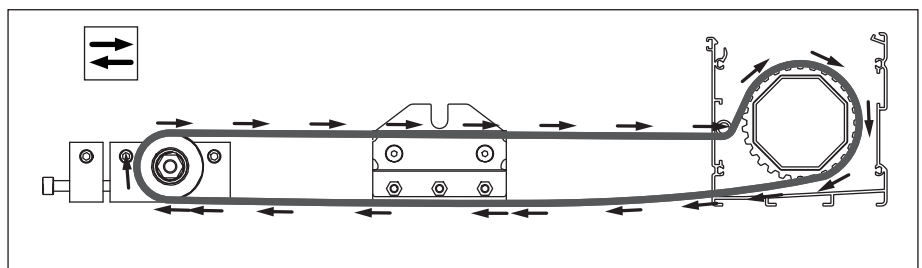
**PURPOSE:** This application facilitates a faster and easier installation process for the remaining panels.

The installation of the panels between the second-to-last panel is carried out.

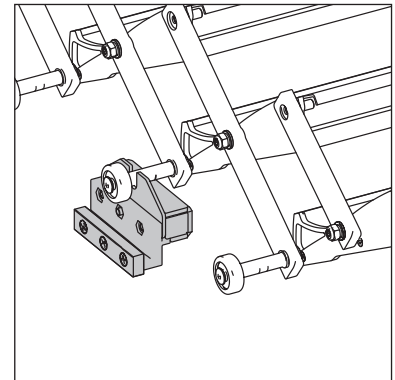
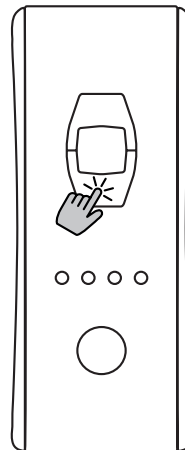
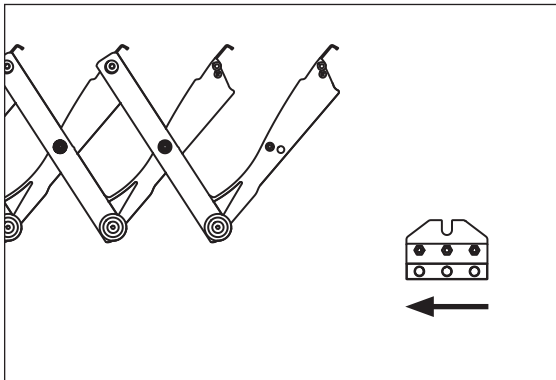
## 13.7



- If pressing the down button causes the mechanism to operate in the panel opening direction, the direction is correct. If the mechanism operates in the panel closing direction, hold the middle button to change the direction.



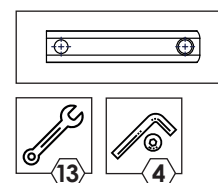
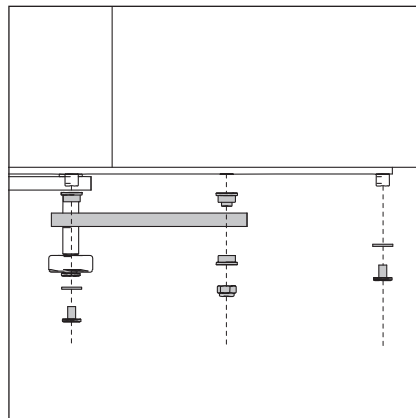
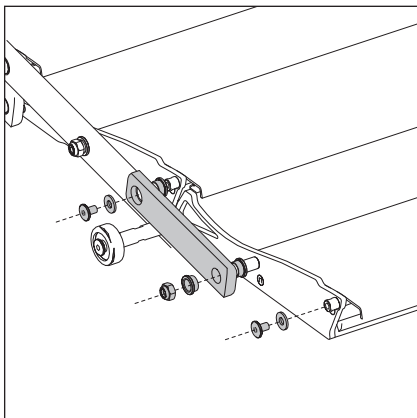
## 13.8



- The second-to-last panel is mounted to the belt joining mechanism and will serve as the lead panel in the system.
- During panel placement, the panel shaft is aligned with the holder part of the joining mechanism. (To perform this, the motor must be operated to bring the mechanism closer to the panel part.)

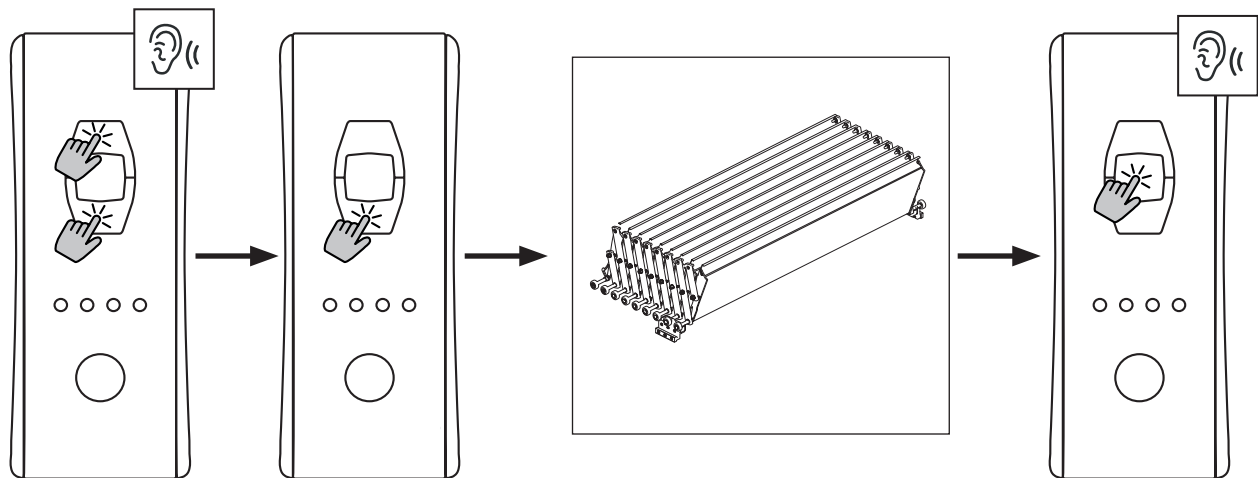
**NOTE:** The motor remote control registration (see Section 13.8) must be completed. Limit adjustments are made after all panels are installed.

## 13.9



- The last panel is placed, and scissor connections are made as with the other panels.
- Additionally, the end half-scissor is connected to the last panel.
- Small bushings are first placed on the middle shaft of the last panel and the upper shaft of the second-to-last panel.
- The end half-scissor is passed over the shafts through the bushings as shown.
- A small bushing is placed on the middle shaft of the end panel on the other side of the half-scissor, and an M6 plastic washer is placed on the upper shaft of the second-to-last panel.
- Then, the end half-scissor connection is completed sequentially with an M8 nylon nut and an M6 hex socket screw.
- The same procedure is applied to the other side as well.

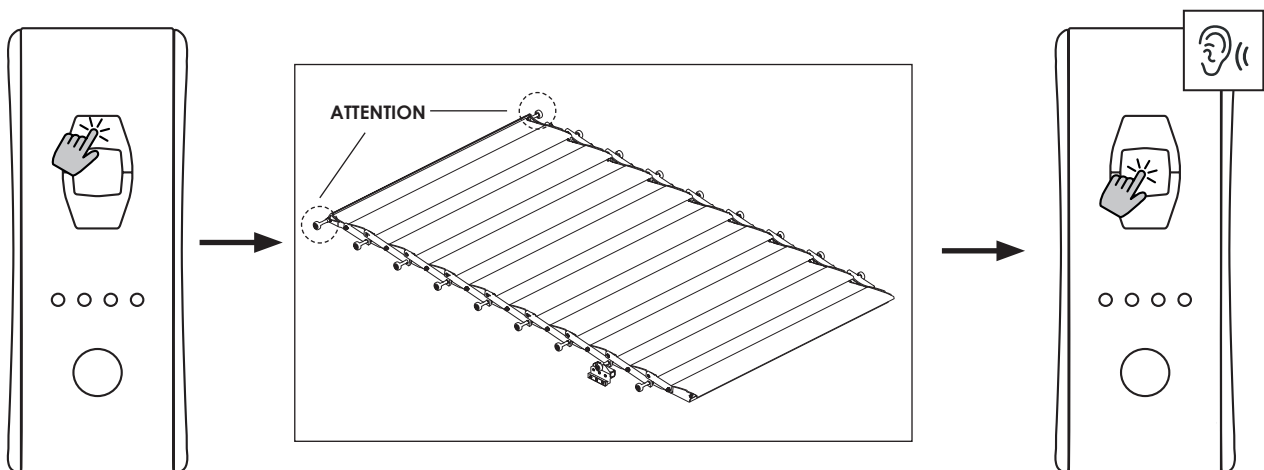
## 13.10



Press and hold the up and down buttons again to enter the limit adjustment mode.

- Press down to check the maximum opening.
- Hold the middle button until a sound is heard from the motor. The opening limit is then set.

## 13.11

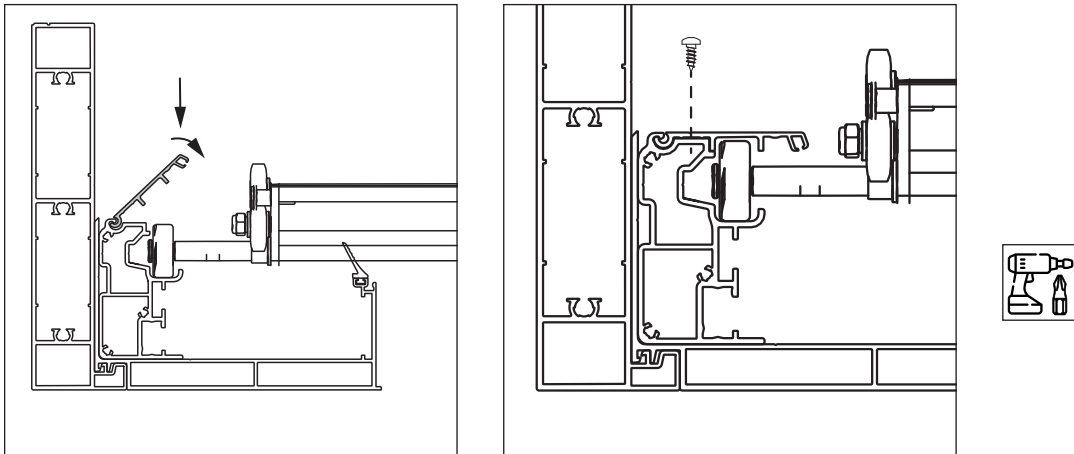


- Use the up button to check the maximum closing position.
- Hold the middle button until a sound is heard from the motor. The closing limit is then set.

**CAUTION:** When setting the closing limit, ensure that the fixed panel shaft does not bend or become deformed.

## 14. INSTALLATION OF RAIL COVER PROFILES

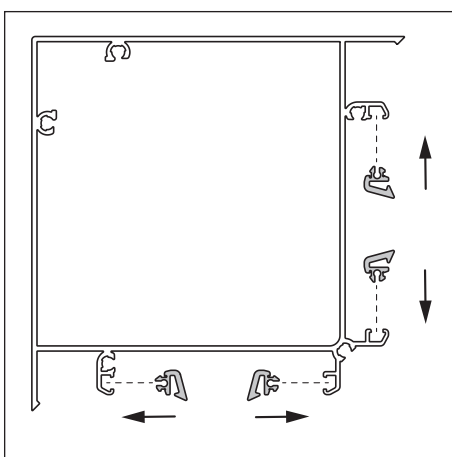
### 14.1



- The rail cover profiles are attached to the rail profile at the support point as shown in the diagram and rotated to close over the rail profile.
- The cover profile is fixed along the guide line on its surface at regular intervals (25 cm) using 3.9 mm star pan head drill bit screws.

## 15. INSTALLATION OF POST COVER PROFILES

### 15.1



P05009

P05010

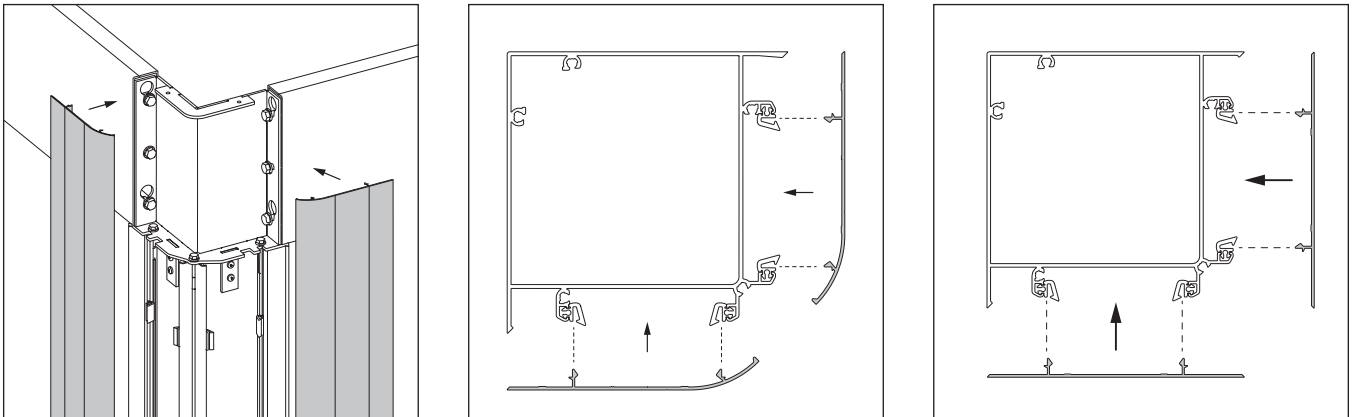
P05015

P05017

P05029

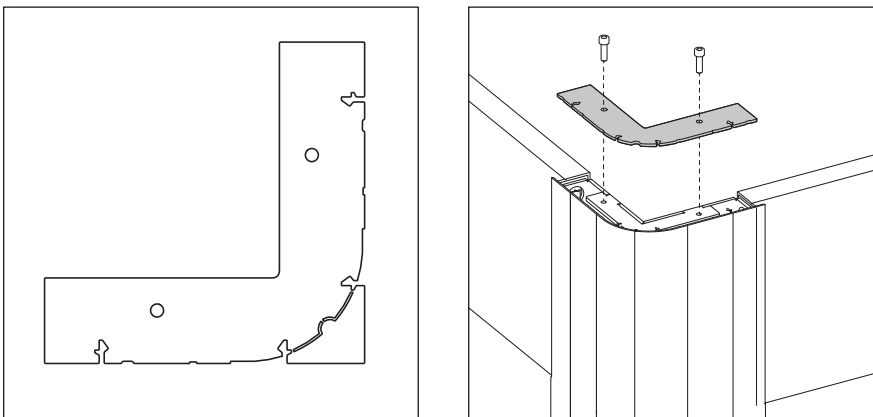
- For the post cover profiles, a total of 10 plastic cover attachment clips are placed on each connection line on the post, in accordance with the application details.

## 15.2



- Column covers come in two types: flat covers and oval covers. Both types are secured using the same clipping system.
- The covers are pushed vertically to snap onto the clips on the column profile.

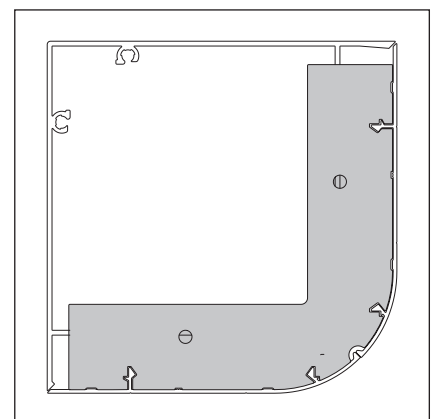
## 15.3



P05029



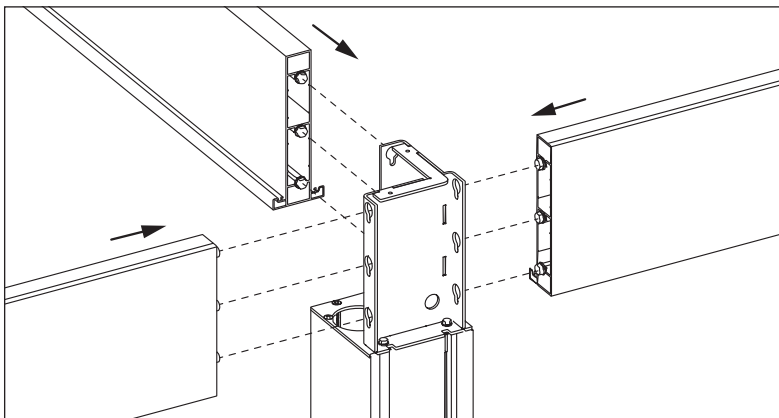
- Finally, the column top cover is placed to encompass the cover attachment tabs.
- It is secured with M6x20 hex socket screws.
- The top cover is a single type and can be adapted for either flat or oval cover preferences.
- If an oval cover is used, the breakable end piece must be removed.



## 16. MODULE CONNECTION APPLICATIONS

The system features a modular design and is intended for use in wide spans and large area coverings. In such applications, module connection beam profiles and module connection steel constructions are used at the module joint points. These elements also serve as the structural framework supporting the system's roof.

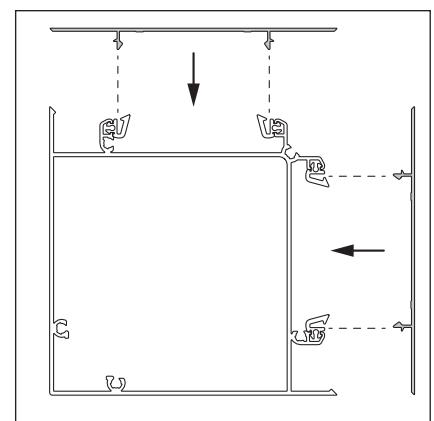
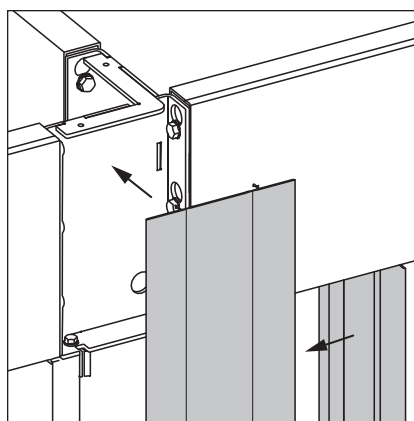
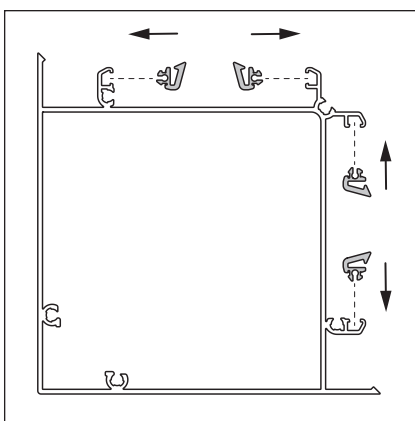
### 16.1 MCX-MCY MODULE CONNECTION



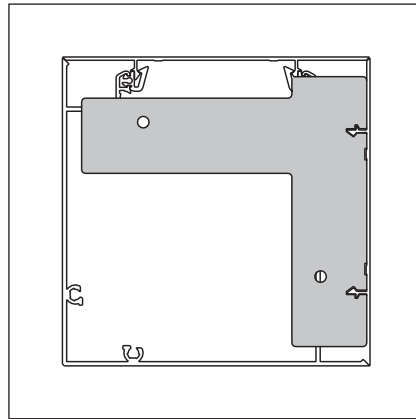
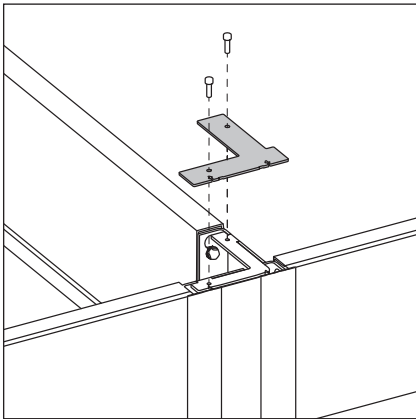
P05010



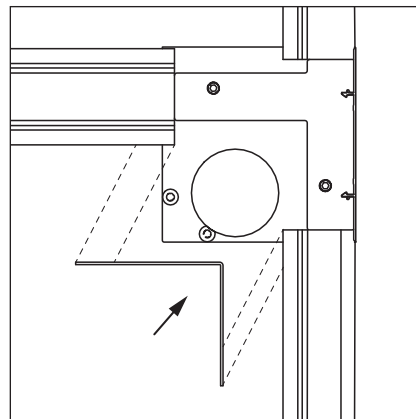
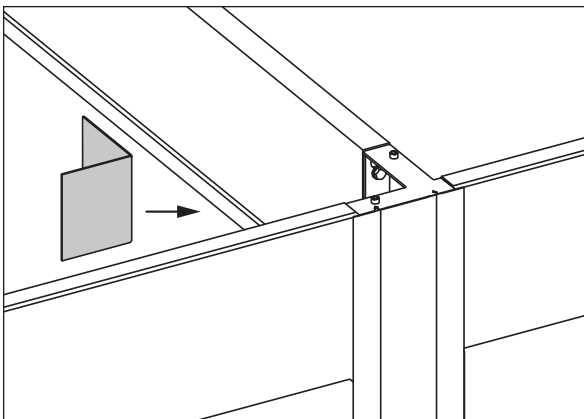
- When two modules are joined side by side, a single column in the middle is fitted with an MCY or MCX module connection steel construction. The module connection beam is hung onto the column through bolt points, similar to the corner joint details. Then, the gutters are positioned, and the system's squareness checks are completed. The installation is finalized by fully tightening all connection hardware.



- Column cover connections are the same as those used on corner columns. However, only flat cover profiles are used on columns at module connection points.

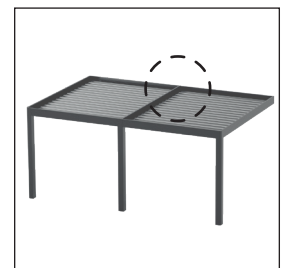
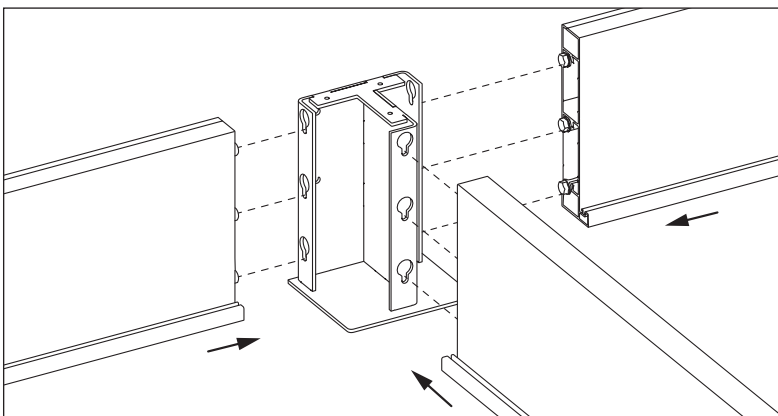


- The top covers on the upper surface are secured with M6x20 hex socket screws.

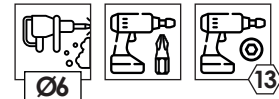
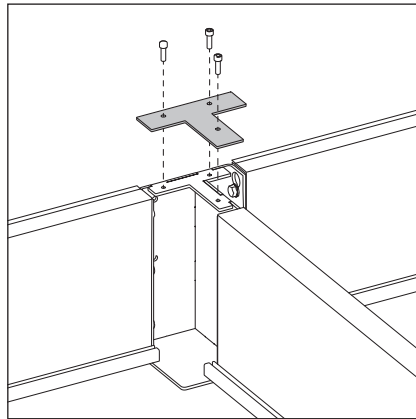
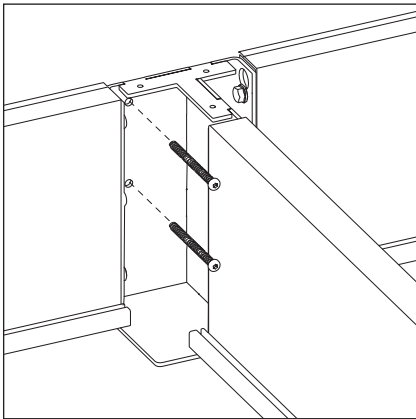


- The visible surface at the module connection point is covered with an L-shaped closure plate and sealed with silicone to ensure waterproofing.

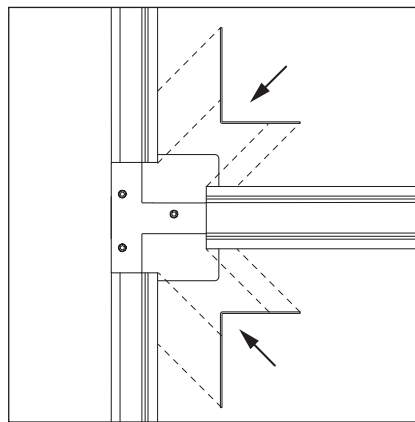
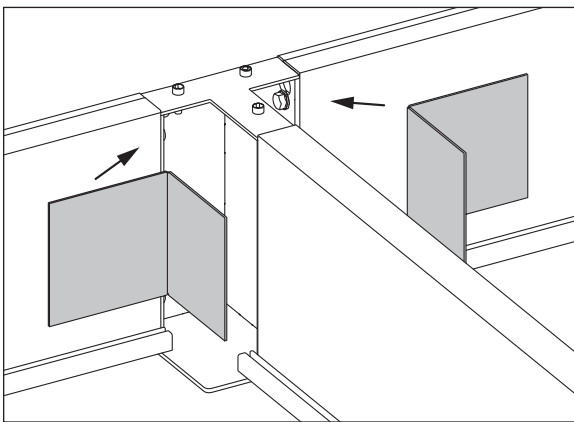
## 16.2 WALL-CONNECTED MODULE JOINT



- In wall-connected systems, a module connection steel construction is applied. Before the beams to be mounted on the wall are fixed to the connection plates, the relevant module connection steel construction is hung onto the bolt holes on the beam and seated. After gutter installation and squareness checks are completed, the connection bolts are fully tightened.

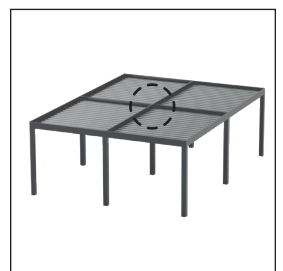
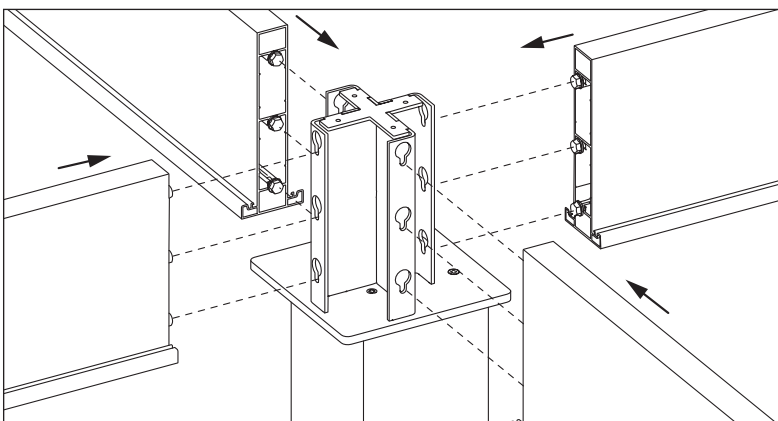


- The wall connection module joint piece is attached to the wall with suitable connection screws, ensuring the steel construction is level.
- The top cover plate is mounted with M6x20 hex socket screws.

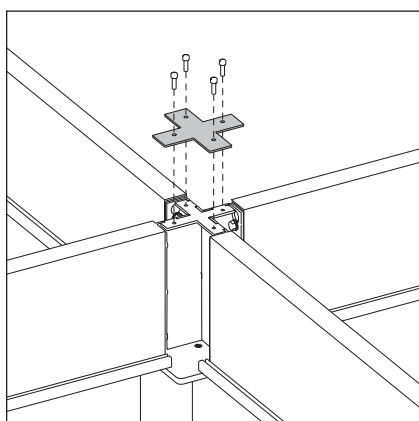


- The gaps formed on both sides are sealed and covered with L-shaped closure plates using silicone.

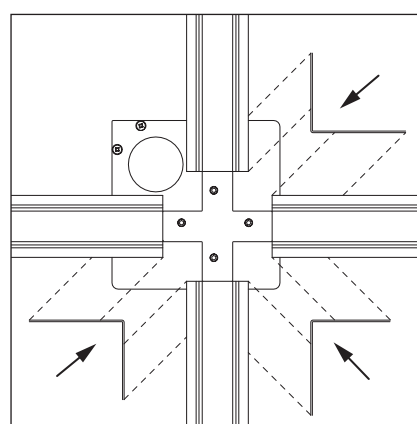
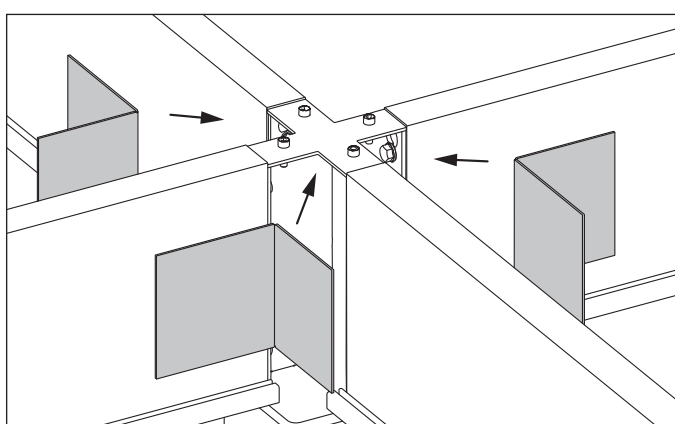
## 16.3 QUADRUPLE MODULE JOINT



- This application is applicable for systems with module connections on both axes, specifically for the joint points located at the center of the modules. The quadruple module connection steel construction is fixed onto the corresponding column. Four module connection beams are hung onto this steel construction using bolts. After gutter placement and squareness checks are completed, the bolts are tightened.

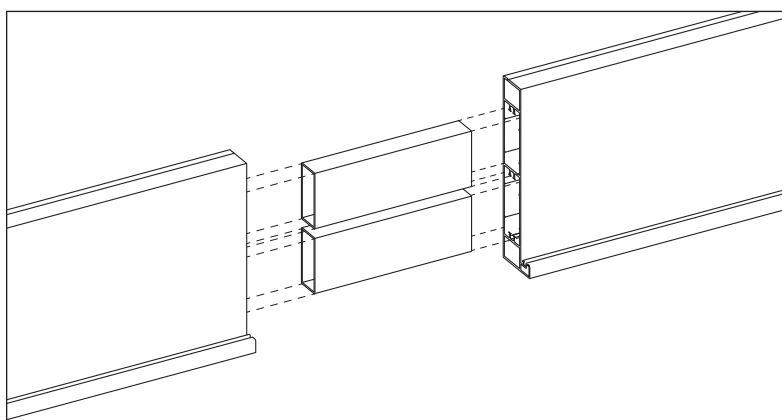


- The top cover plate is mounted using hex socket screws.

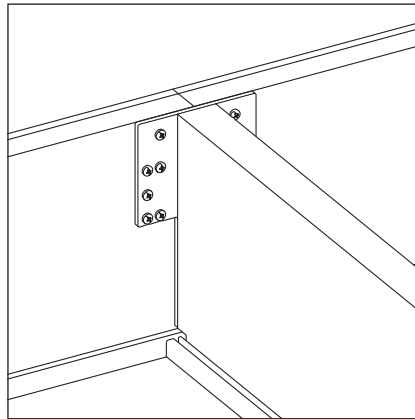
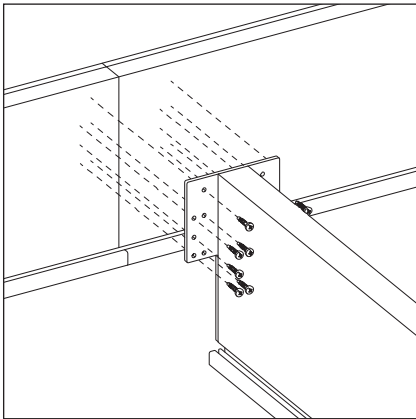


- The three resulting gaps are sealed and covered with L-shaped closure plates using silicone.

## 16.4 COLUMN-LESS MODULE JOINT



When column usage is not desired at module connection points, support columns should be used on both sides of the joint, no more than 1 meter apart. 30x70 mm steel box profiles are slid into the beams and joined end-to-end.

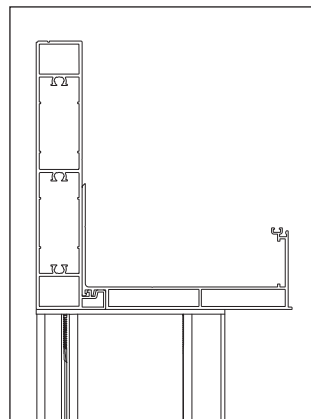
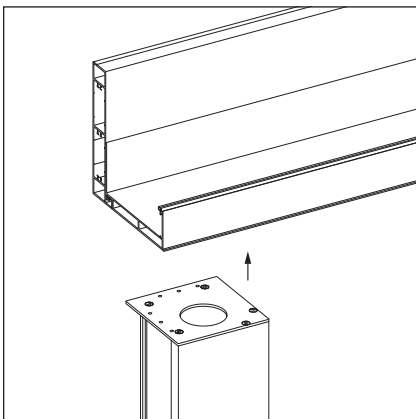


- The connection plate on the module connection beam is mounted by screwing it to the beam with 4.8x25 star pan head drill bit screws through its holes.
- After gutter placement and squareness checks, the module connection is completed.

**NOTE:** Support columns should be used on both sides of the joint point at a maximum distance of 1 meter each.

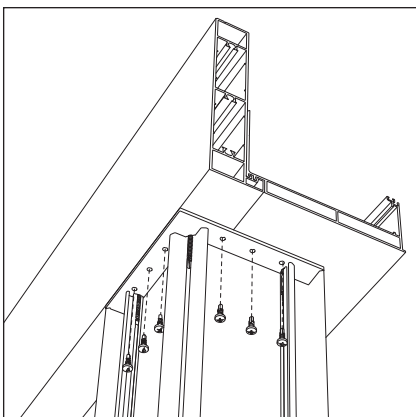
## 17. SUPPORT COLUMN APPLICATIONS

### 17.1

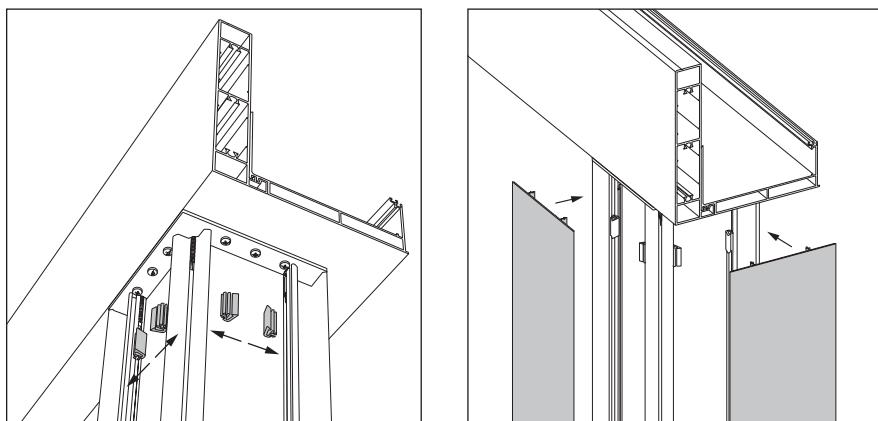


- The support column is positioned at the desired point. It should be located beneath the beam and gutter.
- The column should be placed so that one of the sides with covers faces outward from the system.

### 17.2



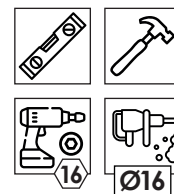
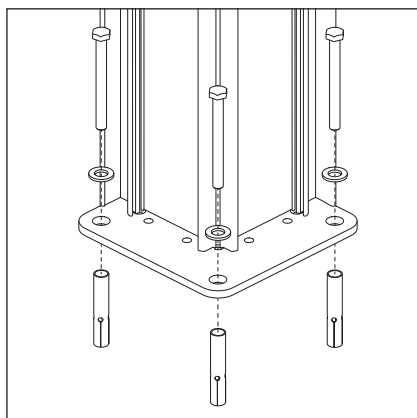
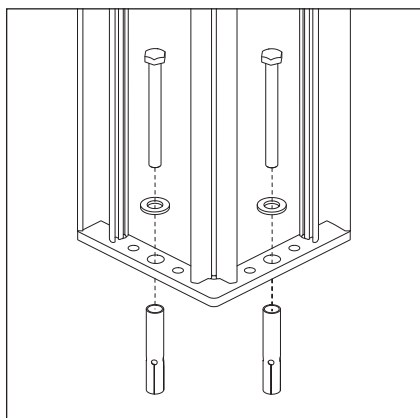
After positioning, the column is secured with 4.8x16 star pan head drill bit screws through the connection holes on the column top plate.



Column cover connections are the same as those used on corner columns. However, only flat cover profiles are used on support columns.

## 18. CONNECTION OF COLUMNS TO THE GROUND

### 18.1



P05009

P05010

P05015

P05017

P05029

Two different types of ground connection plates are used in the system: flanged ground connection plate and concealed ground connection plate. The flanged ground connection plate is preferred only in four-legged systems—that is, applications without wall connections.

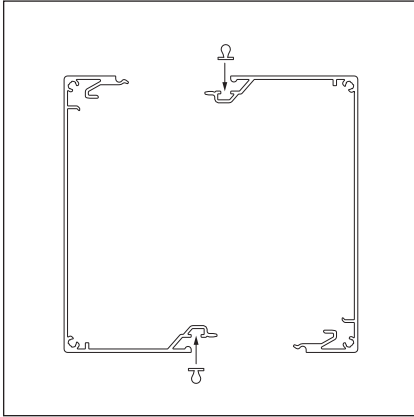
Column connections are applied in the same way across all systems:

- Points for placing steel anchors on the ground are marked.
- Holes are drilled at the marked points using a Hilti drill.
- Steel anchors are driven into the corresponding holes.
- The ground connection plate is positioned and secured with M10 bolts through the specified holes as shown in the diagram.

**NOTE:** During installation, the vertical alignment (squareness) of the column should be checked periodically.

## 19. INSTALLATION OF ELECTRICAL BOX

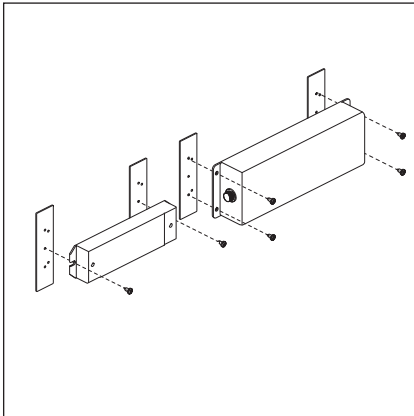
### 19.1



P05023

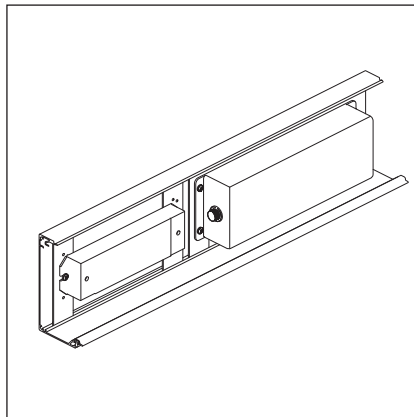
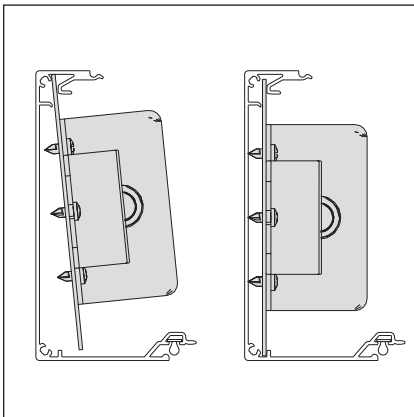
- Seals are applied through the channels shown on the electrical box profiles.

### 19.2



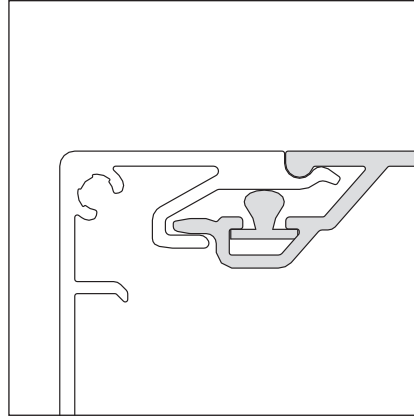
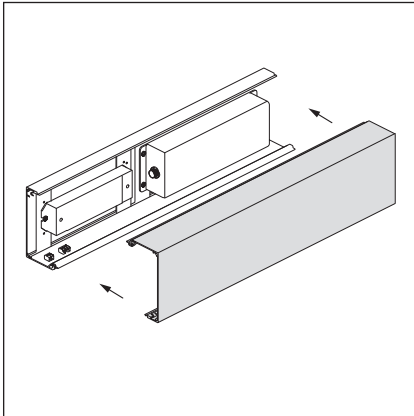
- Dimmer controller and transformer components are secured with connection plates using 3.9x9.5 star pan head drill bit screws.

### 19.3



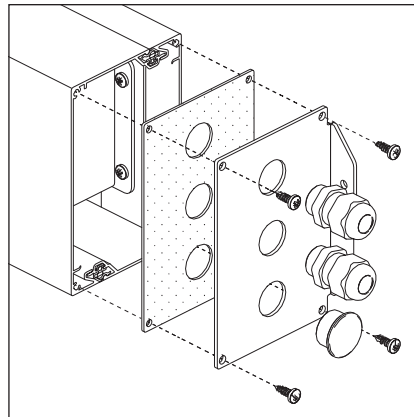
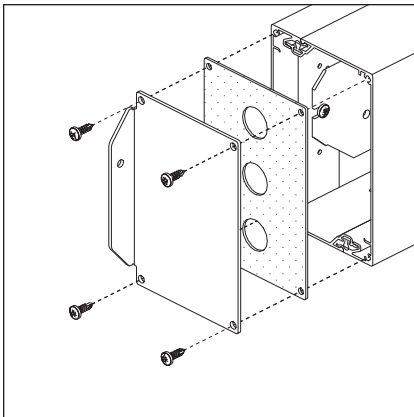
- The dimmer controller and transformer, joined with connection plates, are placed into the corresponding channel on the profile as shown in the diagram.

## 19.4



- The electrical box profile counterpart is placed so that the seals fit snugly as shown.

## 19.5

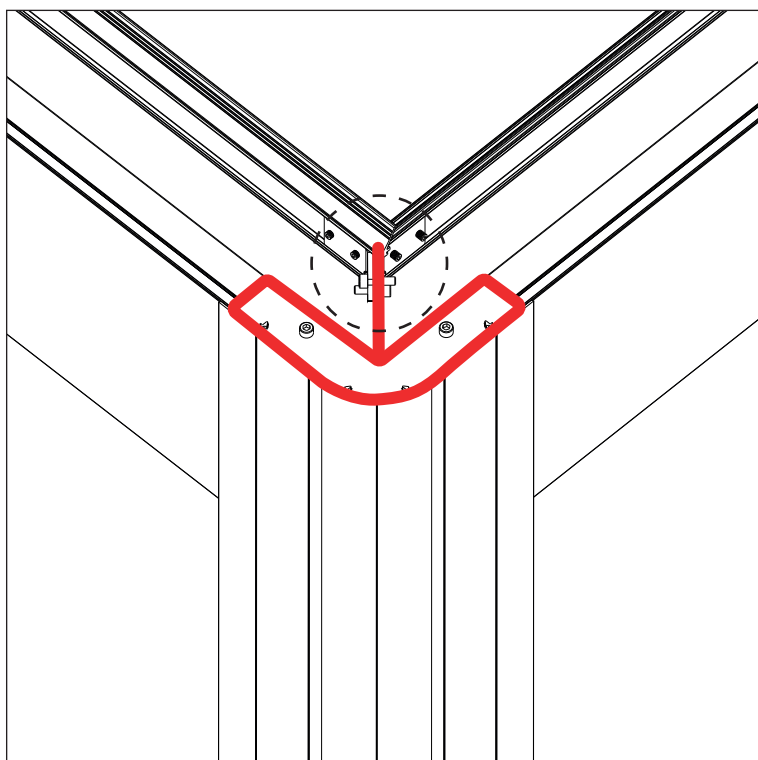
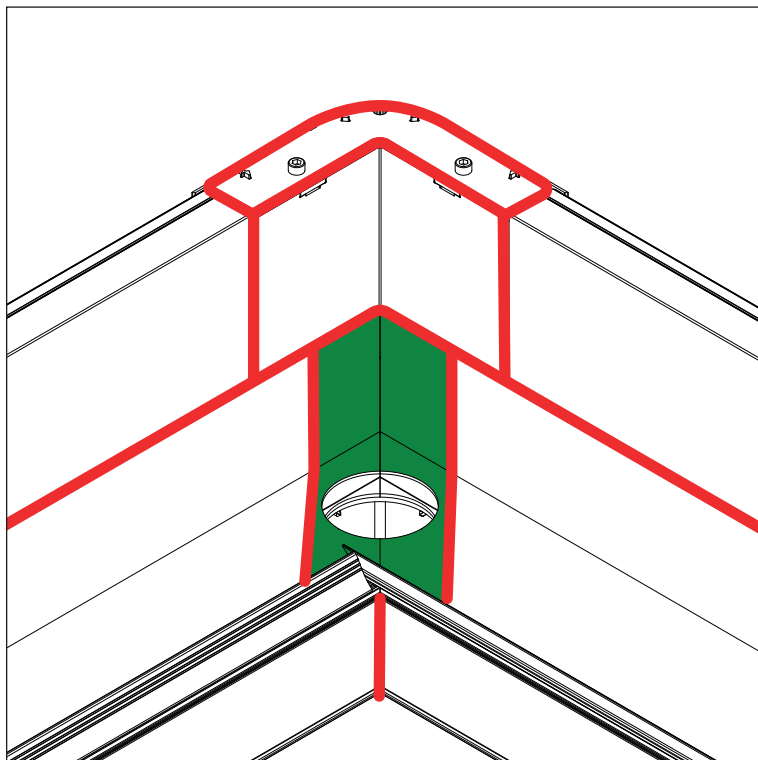


- The two open ends of the joined profiles are sealed with adhesive insulation gaskets, box steel covers, cable glands, and plugs, secured with 3.9x16 star pan head drill bit screws.

The unit box is assembled and secured within the system or in a suitable external environment using the steel cover tabs. The connection of the LED wiring cables, previously prepared inside the gutters, to the components within the unit should be followed according to the Lighting Manual documents.

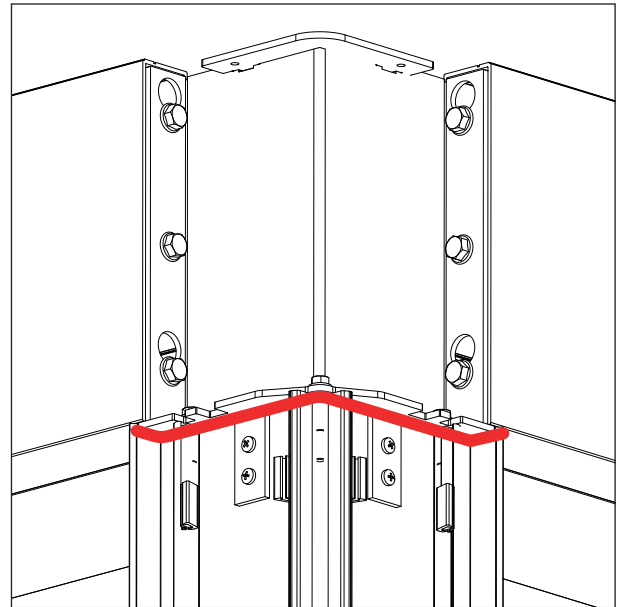
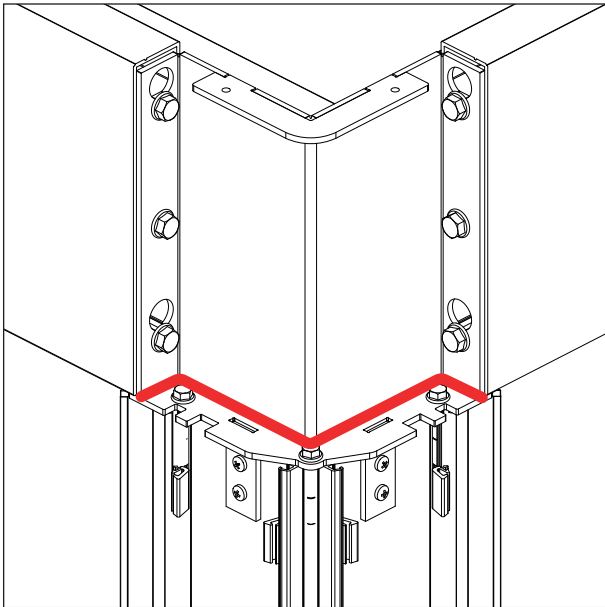
## 20. SILICONE APPLICATION INSTRUCTIONS

### 20.1 INSIDE SILICONE APPLICATION FOR CORNER CLOSURE PLATE

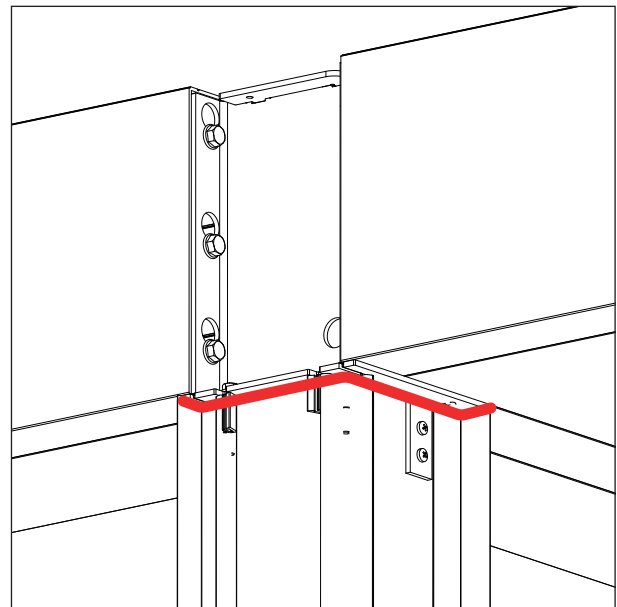
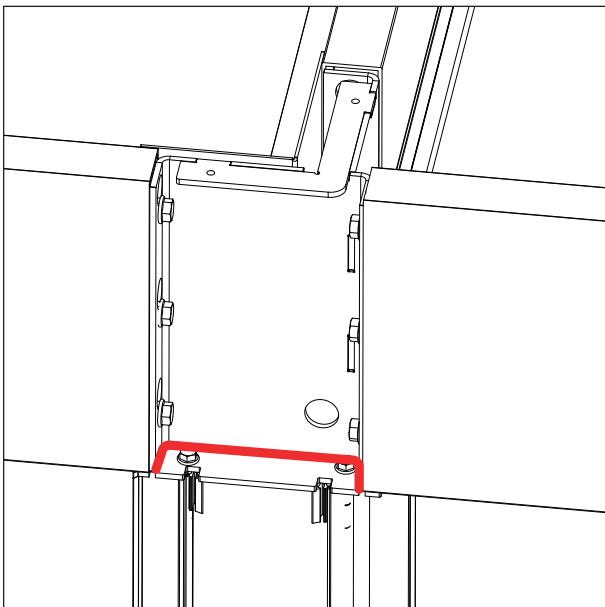


- Silicone must be applied to fully cover the pulling elements in the area where the corner pulling is located.
- Before applying silicone at gutter-to-gutter joints, a membrane should be applied to the gutter base.

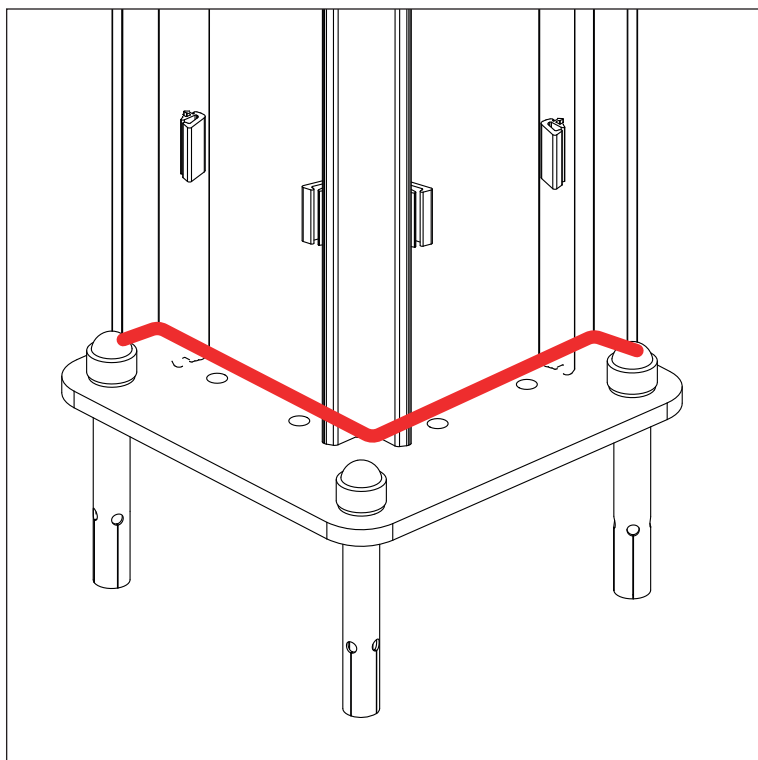
## 20.2 SILICONE APPLICATION FOR COLUMN TOP CONNECTION PLATES



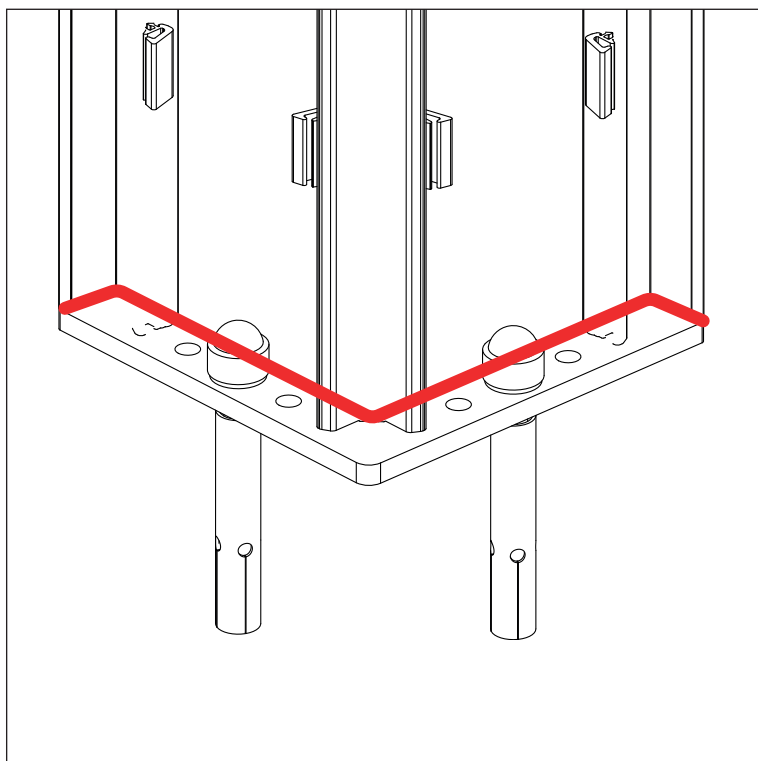
- Before installing the column covers, the lower and upper intersecting areas where the corner connection plates and all module connection plates rest on the column must be sealed with silicone. Otherwise, during heavy rain, there is a risk of water seeping in between the cover joints.



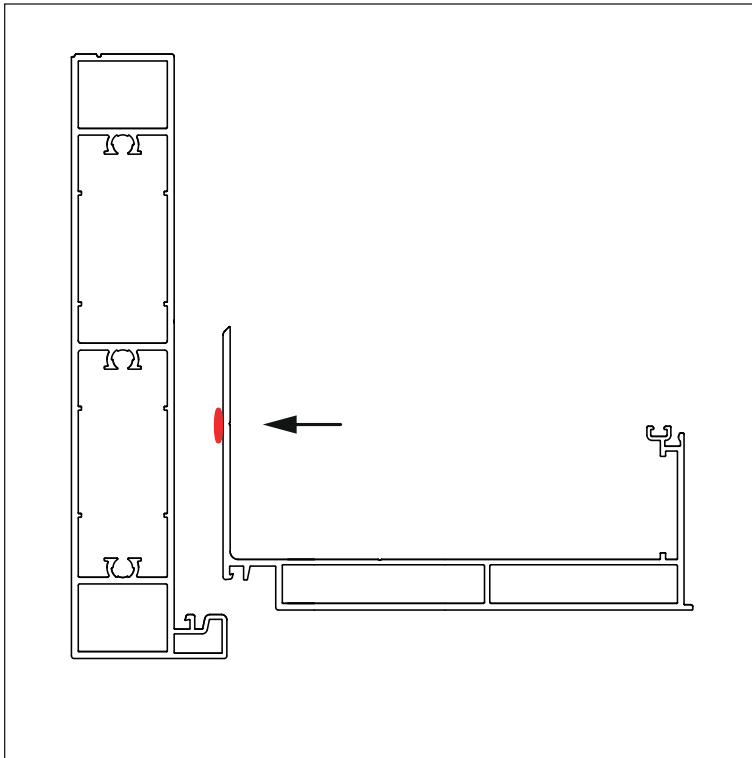
## 20.3 SILICONE SEALING FOR GROUND PLATE AND COLUMN CONNECTION



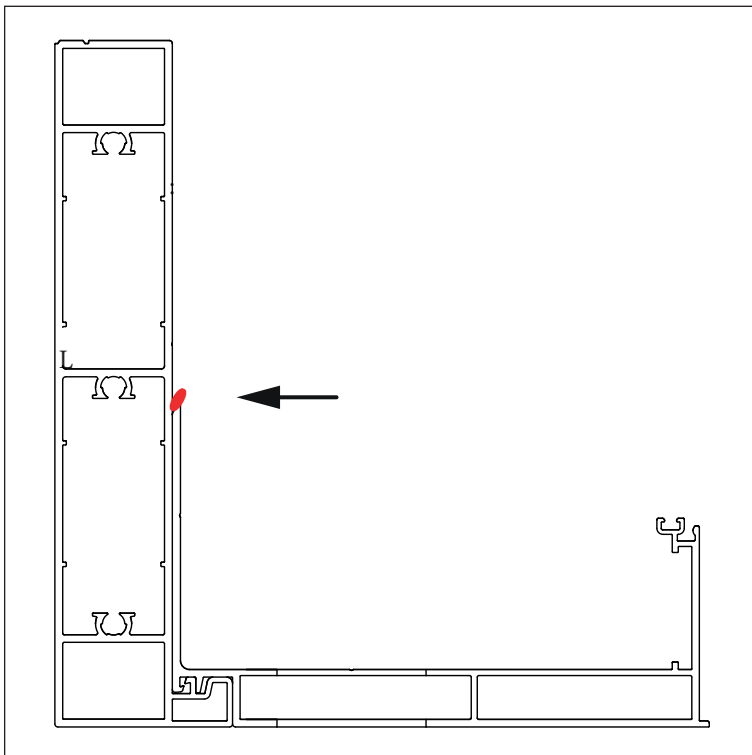
- Before installing the column covers, the areas of the ground connection plates that rest on the column and are inside the cover must be sealed with silicone. Otherwise, during heavy rain, there is a risk of water seeping in between the cover joints.



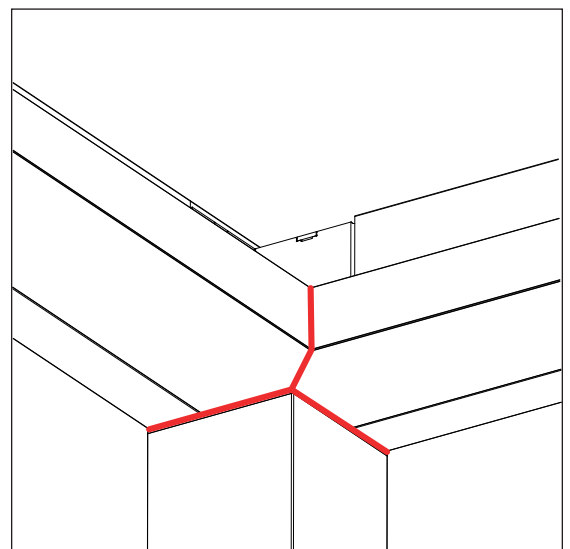
## 20.4 SILICONE SEALING FOR GUTTER AND BEAM JOINT



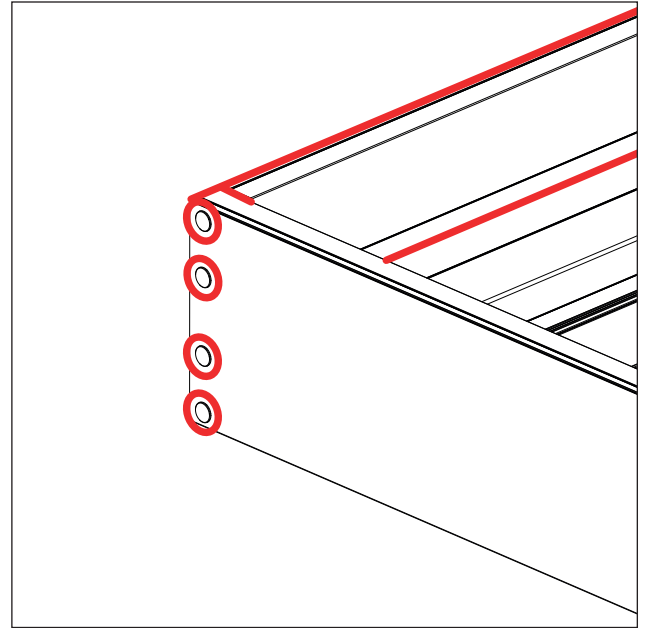
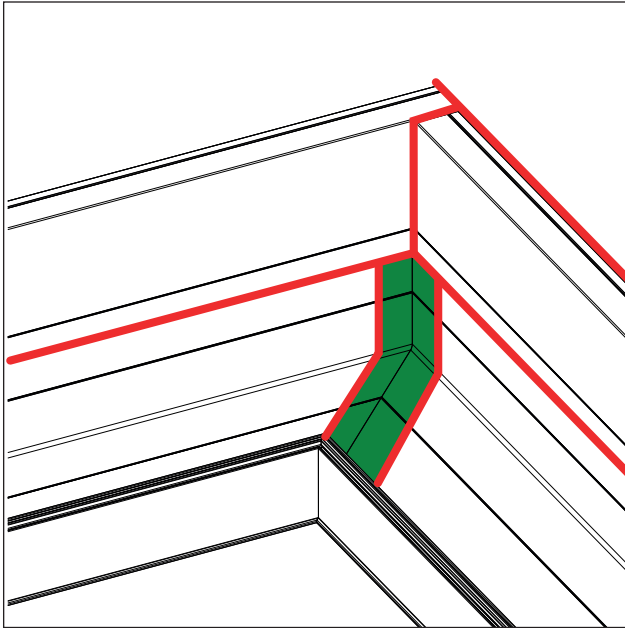
- Silicone is applied to the joining surfaces of the gutters before they are connected to the beams.



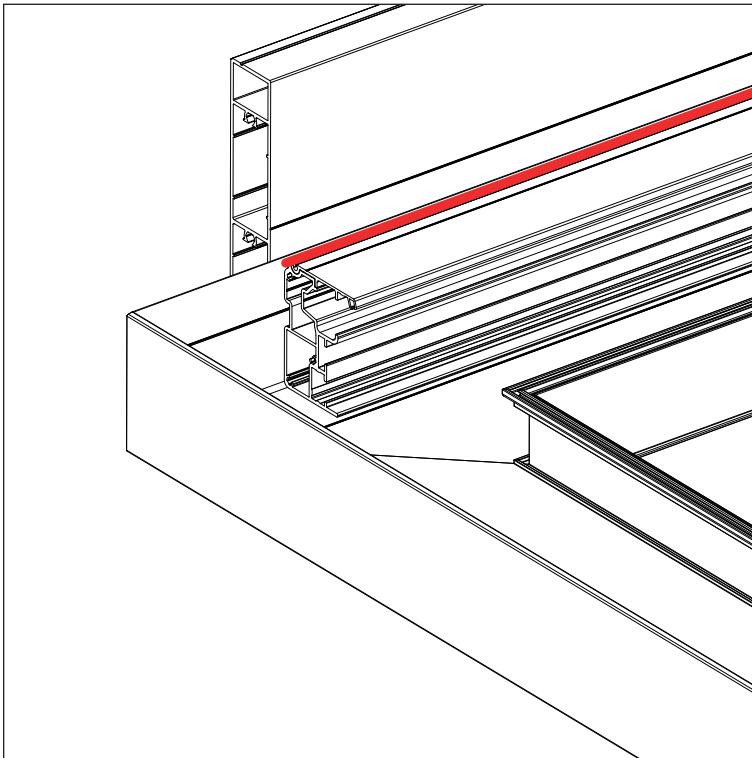
- After positioning the gutters with the beams, silicone is applied to the top areas.
- Silicone is applied to and wiped on all parts of the gutters except the inward-facing drain channels.



## 20.5 SILICONE SEALING FOR WALL CONNECTION CORNER JOINT

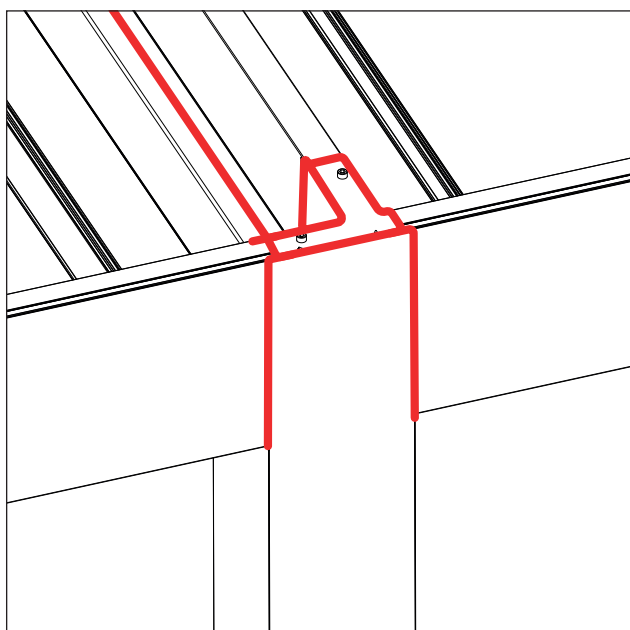
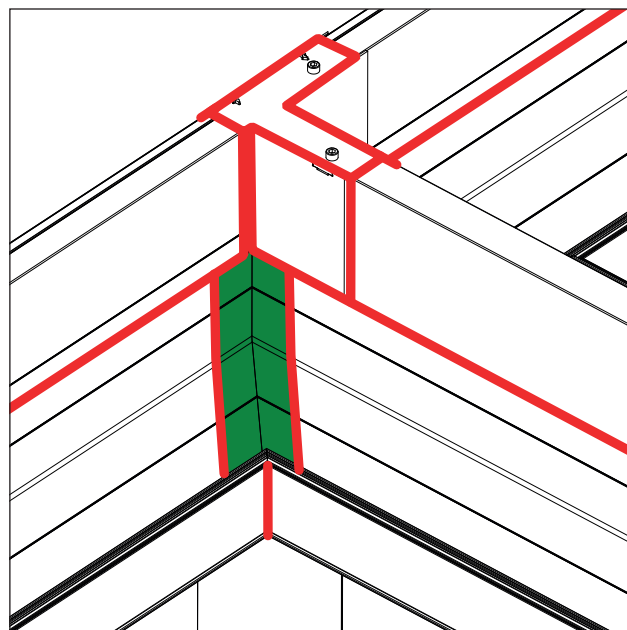
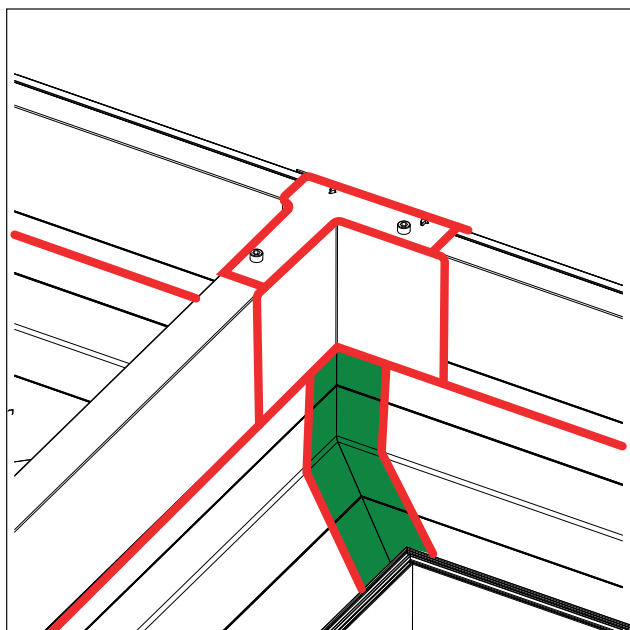


## 20.6 RAIL SILICONE SEALING

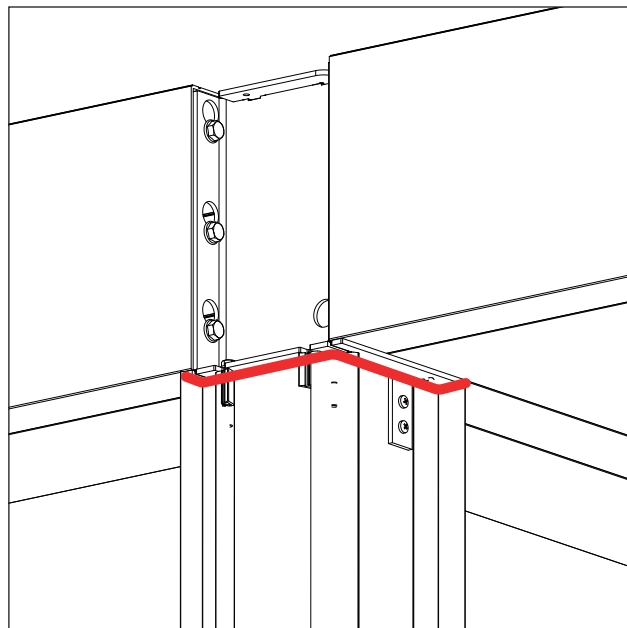
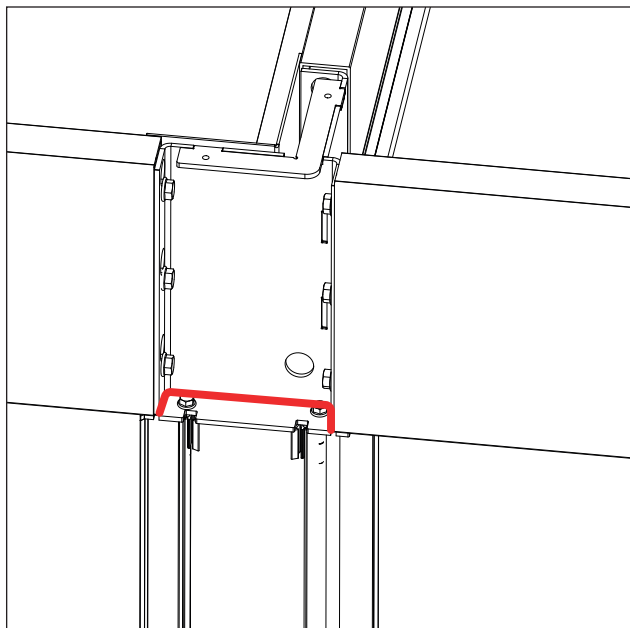


- After installing the rail and rail cover, silicone is applied between them and the gutter.

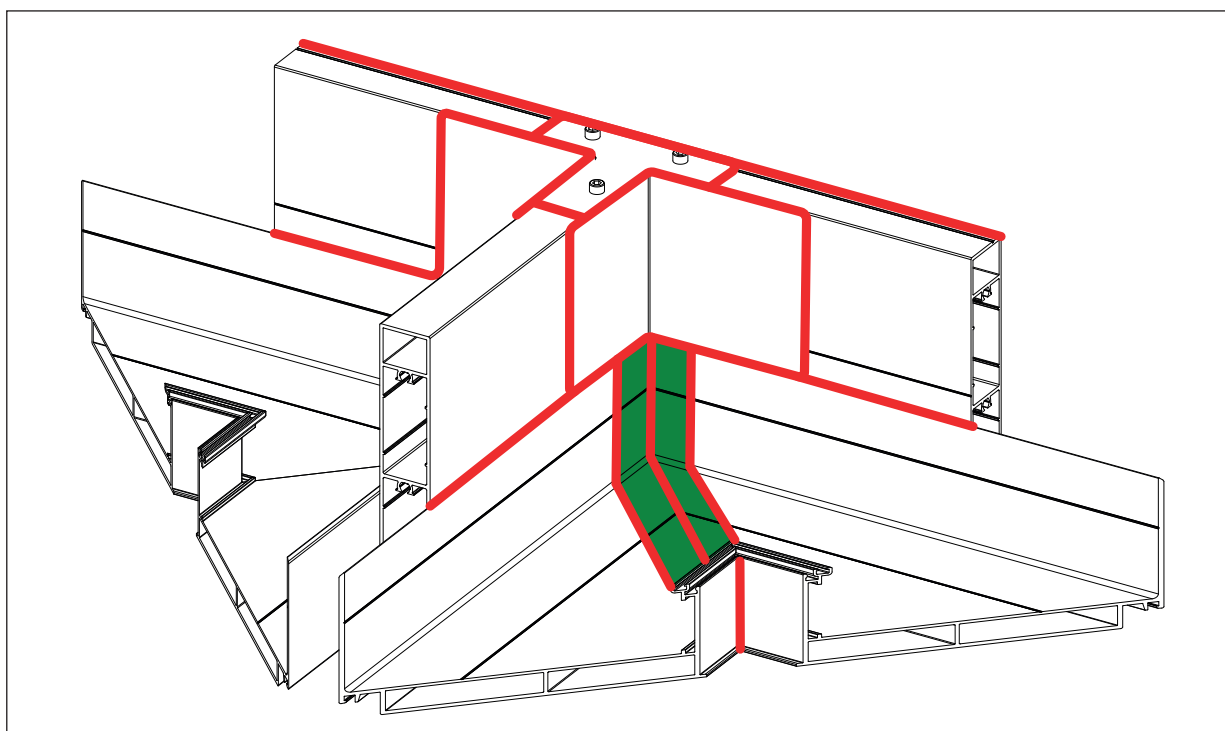
## 20.6 MODULE JOINT SILICONE SEALING



## 20.6 MODULE JOINT SILICONE SEALING

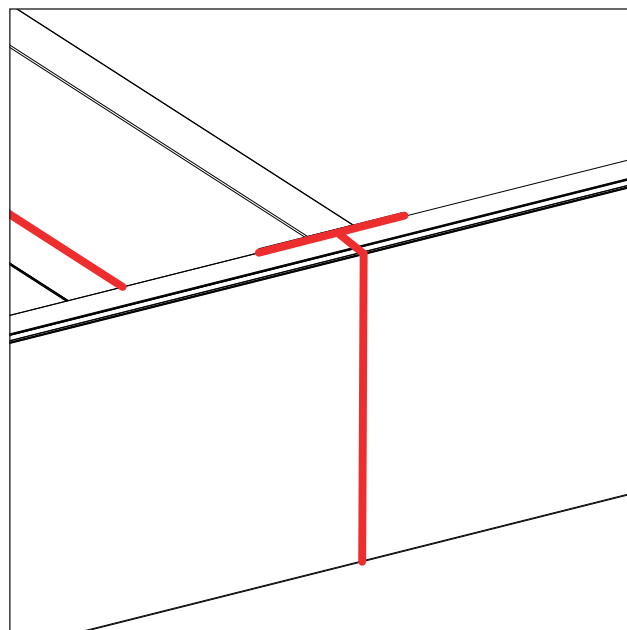
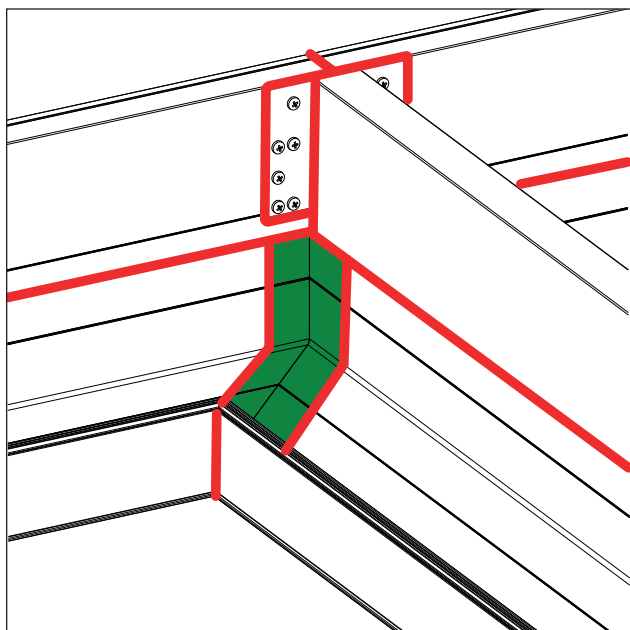


## 20.7 WALL MODULE JOINT SILICONE SEALING

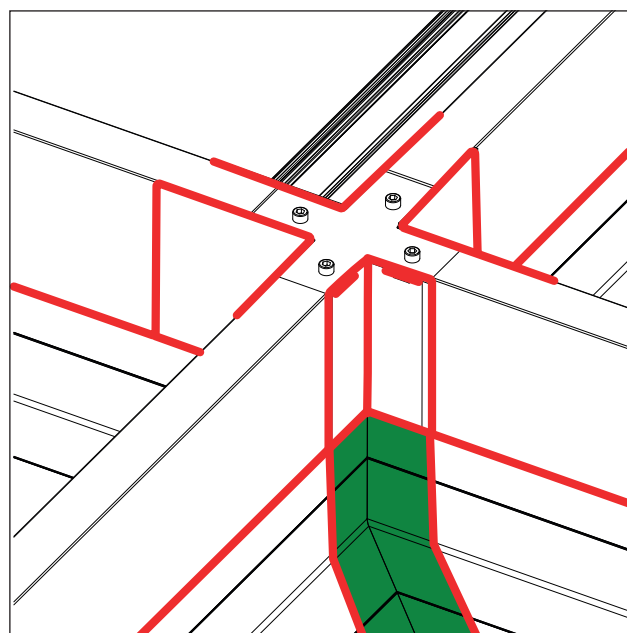
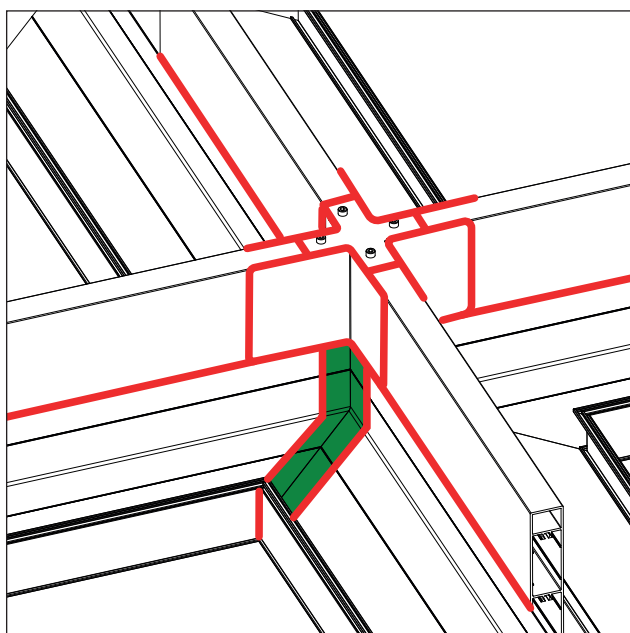


- In wall connection and wall module joints, a gap forms between the wall-facing surface and the welded wall connection plate. After insulating this gap with elements such as angle brackets or composite panels, it should be sealed thoroughly with silicone.

## 20.8 COLUMN-LESS MODULE JOINT SILICONE SEALING

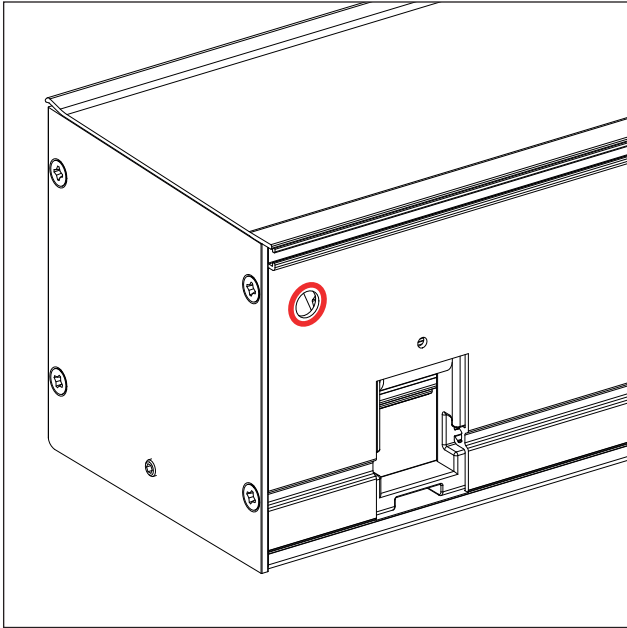


## 20.9 QUADRUPLE MODULE JOINT SILICONE SEALING



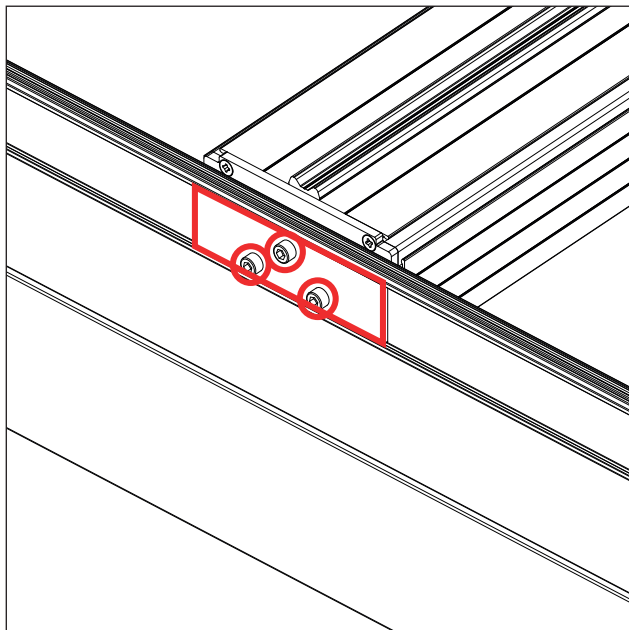
- Silicone sealing should be applied in the same manner on all four sides.

## 20.10 MOTOR CASE SILICONE SEALING



- The hole opened for the motor cable exit should be sealed with silicone afterward.

## 20.11 GUTTER SILICONE SEALING AT MIDDLE SUPPORT CONNECTION



- The holes behind the support plate are filled.
- Then, the areas around the plate and bolts are also sealed with silicone.



PERGEDGE  
ADVANCED SHADING SYSTEMS