INSTRUCTIONS FOR INSTALLATION
VERTICAL INSTALLATION
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1.0 System Description

The Qbiss One B façade system is a self-supporting, insulating and fire-proof façade with a smooth and luxurious appearance, and in contrast to other existing cassette façade system, which only offer aesthetic advantages, also has functional advantages. Such façade emphasises the purity of architectural form.

The Qbiss One B modular façade is a system with a shadow line joint and the longitudinal and transversal frame-struts are joined to hold the complete façade elements in place, and enable modular construction and easy composition of desired façade designs.

The system is based on Qbiss One B modular façade elements, available in different sizes and colours.

1.1 Installation Methods

The Qbiss One B façade element is the same for both installation methods. The installation methods have a few specific approaches that are evident in individual characteristics of sealing and the sequence of installation and are shown below.

Vertical Installation method

![Figure 1.1: Vertical Installation method](image1)

The vertical installation is a new approach in the field of modular façade elements. This is especially true in respect to load-bearing capacity and sealing, in which this system excels.

The vertical façade system consists of individual façade elements which are joined together and linked in a vertical direction (transversally) using a tongue and groove system and attached vertically (transversally) to the load-bearing structure.

The longitudinal sealing system is executed with integrated gaskets in both longitudinal joints with additional sealing with a sealing compound in the corner rubber linings, while transversal sealing (horizontal joint) is accomplished with a sealing profile.

Staggered vertical installation with horizontal shift

![Figure 1.2: Staggered vertical installation with horizontal shift](image2)

Vertical installation with horizontal staggering enables using the façade elements in a different visual appearance.

The system consists of individual façade elements which are joined together and linked in a vertical direction (longitudinally) using a tongue and groove system and attached vertically (transversally) to the load-bearing structure. In this system, the upper row of façade elements is shifted in a horizontal direction.

The longitudinal sealing system is executed with integrated gaskets in both longitudinal joints with additional sealing with a sealing compound in the corner rubber linings, while transversal sealing (horizontal joint) is accomplished with a sealing profile.
1.2 System Composition

The modular façade system consists of the following elements: façade elements, corner pieces, windows, window and door frames and linings, gaskets and attachment materials.

The dimensions of the modular façade system is defined by the raster length - R and the module width of the façade element - M. In the façade assembly, the elements form the longitudinal and transversal joint (Figure 1.5).

The longitudinal joint is the joint formed by the tongue and groove of the façade element. The joint dimensions are 23x24 mm (width x depth).

The transversal joint is formed by the edges of the façade element, through which the façade elements are attached to the structure using screws.

The sealing of the transversal joint is accomplished using an inserted sealing and decorative profile which ensure an air- and water-tight seal, and consequently the façade system. The decorative profile is intended for decorative ending of the joint and can be a different colour than the façade element.

Vertical installation and vertical installation with horizontal staggering

Figure 1.3: Vertical Installation method

Figure 1.4: Vertical installation with horizontal staggering

R - distance between supports (façade element length
M - module width

Figure 1.5: Longitudinal and transversal joint

Longitudinal joint dimensions: 23 mm x 24 mm

Transversal joint dimensions: 25 mm x 24 mm
1.3 Element Composition

The façade element is the basic element of the Qbiss One B modular façade system.

Figure 1.6: Composition of the Qbiss One B modular façade element

Qbiss One B façade elements consists of two steel metal sheets that are galvanised and painted on both sides. The external sheet metal with a standard thickness of 0.7 mm is smooth (side A), while the internal sheet metal with a standard thickness of 0.5 mm or 0.6 mm can be profiled (side B). The metal is glued to the core consisting of fire-proof lamellated mineral wool, class A1 (EN 13501-1), ensuring excellent heat and sound insulation and a high degree of fireproofing for Qbiss One B façade elements. All three layers form a compact Qbiss One B façade element with a thickness of 80 - 240 mm, ensuring the required load-bearing capability, sealing and ease of assembly.

Protective polyethylene foil is applied to the element surface to protect it during handling, transport and assembly. The foil has to be removed after the assembly is completed.

1.4 Technical Specifications

1.4.1 General Technical Specifications

Table 1.1: Technical data for Qbiss One B façade elements

<table>
<thead>
<tr>
<th>Thickness (S)</th>
<th>80, 100, 120, 150, 133, 172, 200, 240 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Element width [M]</td>
<td>standard 1000 mm non-standardized widths available between 600 - 1200 mm</td>
</tr>
<tr>
<td>Element length [R]:</td>
<td>530 - 6500 mm</td>
</tr>
<tr>
<td>External surface [side A]</td>
<td>smooth - 0.7 mm</td>
</tr>
<tr>
<td>Core</td>
<td>mineral wool 120 kg/m²</td>
</tr>
<tr>
<td>Internal surface [side B]</td>
<td>G, g, s, v, v², m² - profile - 0.5 and 0.6 mm</td>
</tr>
</tbody>
</table>
1.4.2 Shape of elements and corner endings

Figure 1.7: Example, BOTH SIDES, L-R

Table 1.2: Different types of ending

<table>
<thead>
<tr>
<th>ELEMENT TYPE</th>
<th>SHAPE OF THE ELEMENT</th>
<th>DIRECTION OF INSTALLATION</th>
<th>INSTALLATION METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BOTH-SIDED</td>
<td>L-R</td>
<td>HORIZONTAL, HORIZONTAL - BRICK, VERTICAL</td>
</tr>
<tr>
<td>2*</td>
<td>BOTH-SIDED</td>
<td>R-L</td>
<td>HORIZONTAL, HORIZONTAL - BRICK</td>
</tr>
<tr>
<td>3</td>
<td>BOTH-SIDED</td>
<td>INITIAL</td>
<td>HORIZONTAL, HORIZONTAL - BRICK, VERTICAL</td>
</tr>
<tr>
<td>4</td>
<td>BOTH-SIDED</td>
<td>FINAL</td>
<td>HORIZONTAL, HORIZONTAL - BRICK</td>
</tr>
<tr>
<td>5</td>
<td>RIGHT</td>
<td>INITIAL</td>
<td>HORIZONTAL, HORIZONTAL - BRICK, VERTICAL</td>
</tr>
<tr>
<td>6</td>
<td>RIGHT</td>
<td>FINAL</td>
<td>HORIZONTAL, HORIZONTAL - BRICK</td>
</tr>
<tr>
<td>7</td>
<td>LEFT</td>
<td>INITIAL</td>
<td>HORIZONTAL, HORIZONTAL - BRICK, VERTICAL</td>
</tr>
<tr>
<td>8</td>
<td>LEFT</td>
<td>FINAL</td>
<td>HORIZONTAL, HORIZONTAL - BRICK, VERTICAL</td>
</tr>
<tr>
<td>9</td>
<td>NONE</td>
<td>INITIAL FINAL L-R, R-L</td>
<td>HORIZONTAL, HORIZONTAL - BRICK, VERTICAL</td>
</tr>
<tr>
<td>10</td>
<td>BOTH-SIDED</td>
<td>L-R, R-L</td>
<td>HORIZONTAL, FAÇADE RADIUS MUST BE GIVEN</td>
</tr>
<tr>
<td>11</td>
<td>RIGHT</td>
<td>L-R, R-L</td>
<td>HORIZONTAL, FAÇADE RADIUS MUST BE GIVEN</td>
</tr>
<tr>
<td>12</td>
<td>LEFT</td>
<td>L-R, R-L</td>
<td>HORIZONTAL, FAÇADE RADIUS MUST BE GIVEN</td>
</tr>
</tbody>
</table>

*TYPE 2 does not fit aluminium window/door frames Qbiss One B by trimo.
1.4.3 Attachment and sealing elements

Figure 1.8: Lining the joint of 4 façade elements Qbiss One B - vertical

Figure 1.9: Transversal gasket

Figure 1.10: Decorative profile

Figure 1.11: EPDM square gasket

Figure 1.12: Attachment screw for Qbiss One B façade elements

Figure 1.13: Attachment screw for installation through internal sheet metal

Figure 1.14: Joint profile
2.0 Structure and substructure types and selecting the attachment method

Vertical attachment of the façade elements must be made on a horizontal substructure which is attached to the load-bearing structure (Figures 2.1 and 2.2). The horizontal substructure must be within acceptable tolerances. (Section 6.1)

The method of attachment is selected depending on the structure type.
- For steel structure:
  1. Into the steel substructure (which must be within acceptable tolerances)

- For concrete structures, the following attachment method is used:
  1. With adjustable substructure
  2. With a wide levelling profile

NOTE:
The minimum required contact width for the Qbiss One B modular façade system is given in the static calculations for the project. If such calculations were not performed, the minimum contact width ($b_{min}$) is 80 mm per façade element edge (see Section 2.4 Minimum support width).
2.1 Screws and attachment

Qbiss One B façade elements are attached to the façade structure/substructure using screws through the internal and external metal sheets. The Qbiss One B façade element already has boreholes in attachment areas. The required number of screws is defined using the static calculation for the project. See Qbiss One Book - page D2.7, SELECTION OF FIXING & METHODS.

The Qbiss One B façade elements are attached through the internal and external metal sheets. For attachment through external sheet metal, screws WITHOUT washers are used.

Attachment through internal sheet metal is performed using a screw for attachment thin metal sheets:

Table 2.1: Screw type for attachment through internal sheet metal and drill diameter

<table>
<thead>
<tr>
<th>thickness of the element (mm)</th>
<th>self-tapping screw (A2)</th>
<th>self-drilling screw (A2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>valid for all thickness values</td>
<td>6.3 x 25</td>
<td>5.5 x 32 / 5.5 x 38</td>
</tr>
</tbody>
</table>

Attachment through internal sheet metal:
1a: for Qbiss One B façade elements with a thickness of up to 100 mm ONE screw is required
1b: for Qbiss One B façade elements with a thickness of 100 mm or more, TWO screws are required

Self-tapping screws are used for attachment Qbiss One B façade elements as standard. Table 2.2 lists minimal required lengths.

Table 2.2: Minimal required lengths of SELF-TAPPING screws for Qbiss One B façade elements

<table>
<thead>
<tr>
<th>thickness of the element (mm)</th>
<th>self-tapping screw (A2) WITHOUT washer</th>
<th>self-tapping screw (A2) WITH washer</th>
<th>drill length</th>
</tr>
</thead>
<tbody>
<tr>
<td>attachment in the transversal joint (screw length in mm)</td>
<td>attachment through the Qbiss One B façade element (screw length in mm)</td>
<td>minimal length in mm</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>51</td>
<td>115</td>
<td>100</td>
</tr>
<tr>
<td>100</td>
<td>76</td>
<td>127</td>
<td>120</td>
</tr>
<tr>
<td>120</td>
<td>100</td>
<td>152</td>
<td>140</td>
</tr>
<tr>
<td>133</td>
<td>127</td>
<td>178</td>
<td>155</td>
</tr>
<tr>
<td>150</td>
<td>127</td>
<td>178</td>
<td>170</td>
</tr>
<tr>
<td>172</td>
<td>152</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>200</td>
<td>178</td>
<td>265</td>
<td>220</td>
</tr>
<tr>
<td>240</td>
<td>215</td>
<td>265</td>
<td>260</td>
</tr>
</tbody>
</table>

NOTE: Use only undamaged screws without washers and without thread under the screw head.
Fixing of Qbiss One B façade elements can also be performed with self-drilling screws. Table 2.3 lists minimal required lengths.

Table 2.3: Minimal required lengths of self-drilling screws

<table>
<thead>
<tr>
<th>Element thickness (mm)</th>
<th>Self-drilling screws (A2) WITHOUT washers</th>
<th>Self-drilling screws (A2) WITH washers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>attachment in the transversal joint (screw length in mm)</td>
<td>attachment through the Qbiss One B façade element (screw length in mm)</td>
</tr>
<tr>
<td></td>
<td>thickness of the substructure up to 5 mm</td>
<td>thickness of the substructure between 4 and 14 mm</td>
</tr>
<tr>
<td>80</td>
<td>62</td>
<td>71</td>
</tr>
<tr>
<td>100</td>
<td>92</td>
<td>99</td>
</tr>
<tr>
<td>120</td>
<td>113</td>
<td>118</td>
</tr>
<tr>
<td>133</td>
<td>133</td>
<td>138</td>
</tr>
<tr>
<td>150</td>
<td>163</td>
<td>168</td>
</tr>
<tr>
<td>172</td>
<td>193</td>
<td>218</td>
</tr>
<tr>
<td>200</td>
<td>193</td>
<td>193</td>
</tr>
<tr>
<td>240</td>
<td>236</td>
<td>243</td>
</tr>
</tbody>
</table>

**NOTE:**
When using self-tapping screws, the hole must be drilled in advance, and then screw in the element. Any burrs and filings must be removed after the Qbiss One B façade elements are screwed in, in order to avoid corrosion on the surface.

Figure 2.4: Consequences of overtightening the screws

Figure 2.4a: Method for attachment using screws in the transversal joint

**NOTE:**
- Ensure a level surface by tightening the screw. If necessary, loosen the screw.
- Perform visual check. Do not use torque limiter on the tool used for screwing.
- Do not overtighten the screws as local deformation in the external sheet metal of Qbiss One B façade elements may occur.
- Screw lengths are based on particular screw supplier. Please check with your own supplier required lengths on the base of exact design case. Its designers responsibility to use proper screws.
2.2 Attachment to STEEL structure

Qbiss One B façade elements are screwed into the façade construction using integrated attachment profiles. The solution described allows quick and aesthetically pleasing attachment of Qbiss One B façade elements without visible screws on the outside.

The classic steel structure (Figure 2.10.a) is suitable for attaching Qbiss One B façade elements, if it meets the required tolerances (Section 3.1).

NOTE:
- In order to check that the substructure is level, a geodetic snapshot is recommended (for permissible tolerances of the structure - Section 6.1)
- If the substructure is not within the tolerances, it must be levelled or an adjustable substructure must be used.
- The contact profile must be aligned with the bracket of the ending of the Qbiss One B façade element on the main beam.

2.3 Attachment to concrete using a square tube

Figure 2.6: Attachment - square tube

1. Additional load-bearing structure is levelled by inserting levelling metal sheets.
2. It is attached using certified anchor screws - independently of the Qbiss One B façade element thickness.
3. It must be aligned with the load-bearing L-profile on the main beam.

NOTE:
For attachment to a concrete structure, adhere to the following requirements:
- The distances between the anchor screws must be determined using a static calculation that accounts for building shape, loads, anchor type and load-bearing structure type.
- The substructure must be used to ensure that the contact surface is level.
- In order to check that the substructure is level, a geodetic snapshot is recommended (for permissible tolerances of the structure - Section 6.1)
2.4 Minimum support widths

The minimum support width is the minimum surface area between the façade elements and the structure in order to ensure that the load is transferred from the façade element to the structure. For detailed information, see Qbiss One Book - page F1.4, DESIGN RECOMMENDATIONS.

Figure 2.7: Support widths of façade elements

1. Qbiss One B façade element
2. Fixing screw
3. Load-bearing structure
4. Minimum support width
3.0 **Windows, Window and Door Frames and other Openings**

Elegant, high-quality solutions were prepared for window and door openings and other openings for the Qbiss One B façade system. They are made of aluminium profiles with integrated thermal separation, ensuring thermal stability and comfortable living. Using them, details can be finished quickly, easily and repeatably. Unlike classical trims, the aluminium profiles are prefabricated on the manufacturing line. They can be delivered to the site assembled or disassembled. The speed and quality of installation is thereby markedly improved. The modular construction system allows the following basic types to be used, with possibilities to combine frames and glazing types.

**WINDOW OPENINGS**

Types of installation (possible combinations of installations): A, B, C, D, E, F):

- **TYPE 1** - installation that fits element dimensions
- **TYPE 1.3** - visible joint

- **TYPE 2** - installation outside element dimensions
  - TYPE 2.5 - covered edges
  - TYPE 2.6 - covered edges and joint
  - TYPE 2.7 - top-covered joint and other covered edges
  - TYPE 2.8 - bottom-covered joint and other covered edges

Combinations of windows and glazings.  
A - aluminium frame (false frame)  
B - aluminium frame + fixed glazing  
C - aluminium frame + glazing with opening  
D - aluminium frame + recessed installation  
E - aluminium frame + recessed installation + fixed glazing  
F - aluminium frame + recessed installation + glazing with opening

**DOORS AND OTHER OPENINGS**

Types of installation (possible combinations of installations): A, B):

- **TYPE 1** - installation that fits element dimensions
  - **TYPE 1.3** - visible joint

- **TYPE 2** - installation outside element dimensions
  - **TYPE 2.5** - covered edges

Combinations for installing door frames and other openings

A - aluminium frame (false frame)  
B - aluminium frame + recessed installation

Types of door and opening installations are the same as for windows - see section 6.6.

Figure 3.1: Type 1 and Type 2 - installing window frames

**NOTE:**

Using the static calculation, the load-bearing substructure at the site of window frame installation must be determined.
4.0 Installation Direction

The installation is initiated using a Qbiss One B corner element at the extreme axis of the building (Figure 6.14), however, the adjacent Qbiss One B façade element can be installed if the corner elements have not yet arrived.

The project usually contains the installation direction for each face of the building separately. If this is not prescribed in the project, the standard installation direction is from the LEFT to the RIGHT.

![Figure 4.1: Installation direction from the LEFT to the RIGHT](image1)

![Figure 4.2: Installation direction from the RIGHT to the LEFT*](image2)

*Only TYPE 1 panels can be installed in this direction.

**Installation recommendations**

Regardless of the installation direction, the first row on the main beam must be at least 5 m in length (i.e. 5 Qbiss One B façade elements with a module width of 1 m), and then, the installation must be continued in the vertical direction. This is because horizontally, a load-bearing T-profile with a length of 4 m is installed in the transversal joint, which supports the top row of façade elements.
5.0 Façade system sealing - areas

In order to ensure that the Qbiss One B façade system is air- and water-tight, according to the construction and physical requirements of the building, 6 key areas/details must be taken care of:

1. Sealing between the structure and the Qbiss One B façade system.
2. Longitudinal joint of adjacent Qbiss One B façade elements.
3. Longitudinal joint at the attachment to the main beam.
4. Transversal joint of adjacent Qbiss One B façade elements.
5. Ending the Qbiss One B façade element in the building attic.
6. Joints between the Qbiss One B façade elements and openings (doors, windows and other openings).

5.1 Sealing between the structure and the Qbiss One B façade system

Sealing tape must be applied to the surface of the structure to which Qbiss One B façade elements are being attached (Figure 5.1) that ensure correct construction and physical properties of the mantle.

Figure 5.1: Applied sealing tape on the structure (between the structure and the Qbiss One B façade elements)

The application to the whole structure is shown in chapter 6.2. Installing the seals to the contact surface of the structure of the modular façade system Qbiss One B.

5.2 Sealing the longitudinal joint of the façade system

All Qbiss One B façade elements are equipped as a standard with the sealing profile in the groove of the longitudinal joint, which is sufficient for the construction and physical requirements of the building as per the design.

Figure 5.2: CORRECT sealing in both longitudinal joints

Figure 5.3: INCORRECT sealing in both longitudinal joints
5.3 Sealing of the longitudinal joint at the main beam attachment

Sealing of the longitudinal joint is performed by inserting the transversal gasket and the decorative profile into the transversal joint between the drip flashing and the façade element onto the support for the ending of the façade element.

It is there to prevent ingress of rain water into the interior of the façade system.

1. Support for the façade element ending
2. Drip flashing of the façade element
3. Transversal joint + decorative profile
4. Transversal joint

NOTE:
At the site where the façade element is placed onto the drip flashing of the façade element, the mineral wool must be cut to ensure proper seating.

5.4 Sealing the transversal joint of the façade system

Sealing the transversal joint of the façade system is performed by inserting the transversal gasket and the decorative profile into the transversal joint between the drip flashing and the façade element onto the support for the ending of the façade element.

NOTE:
- The transversal joint must be sealed in order to prevent rain water or increased air humidity to enter the joint and the inside of the Qbiss One B façade elements!
- The ending of the longitudinal joint at the contact point with the transversal joint is performed by applying the sealing compound into the groove of the longitudinal joint.
5.5 Ending of the Qbiss One B façade element in the building attic

Figure 5.6: Attic with substructure

5.6 Joints between façade elements and openings

Openings include windows, doors, infrastructure openings etc.
The joints are usually sealed with window, door and other elements which already have integrated sealing profiles.
In some areas, these must be sealed additionally using additional elements or sealing compounds, depending on their purpose.

Figure 5.7: Square gasket for sealing at the location of the transversal joint and the opening

Sealing of other openings in the area of the transversal and longitudinal joint is performed in the same way.
6.0 Installation instructions

Before starting the installation, check the actual state of the building and check the placement of the substructure against the raster in the design project.

In order to ensure the quality of the façade system, a geodetic snapshot of the structures to which the Qbiss One B façade system will be installed is required.

6.1 Installation and control of the basic structure or substructure

a. The support of the ending of the Qbiss One B façade system must be horizontally aligned. Otherwise, the vertical joints will not be of the same width.
b. Permissible tolerances of the substructure for the Qbiss One B façade are shown below, under b. and apply to vertical axes.
c. If the substructure is already installed, the substructure distances must nevertheless be checked - check the distances between vertical supports.
d. The secondary substructure must be installed as per instructions in the Qbiss One Book with a tolerance of ±2 mm!

The functionality of Qbiss One B façade system can only be guaranteed if it is installed according to the following requirements.

The following MUST be provided:

a) HORIZONTAL ALIGNMENT OF THE BASE SUPPORT ANGLE - perform measurements to ensure that it is level

This is crucial for ensuring that the contact surface of the first row of Qbiss One B façade elements is level. Otherwise, irregular vertical placing of Qbiss One B façade elements will occur, causing increased transversal joint. As a consequence, it will be impossible to finish the transversal joints, causing loss of water tightness of the façade (WATER INGRESS).

The permissible deviations of alignment for the base load-bearing ending must satisfy two conditions (A and B):

A. Permissible deviation along the whole length of individual Qbiss One B façade elements is ±0.5 mm.
B. Permissible deviation of alignment of the complete building façade is ±2 mm.
**a) VERTICAL ALIGNMENT OF THE STRUCTURE/SUBSTRUCTURE** - perform measurements to ensure that it is level

This is crucial for ensuring that the corner elements connect properly - otherwise, the façades will not connect perpendicularly but at an angle, causing the CORNER FAÇADE ELEMENTS TO STACK IMPROPERLY. Consequently, it is impossible to finish the corner of the Qbiss One B façade system, leading to loss of water tightness of the façade, i.e. water ingress.

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Figure 6.2: The measurement procedure is shown that ensures the vertical alignment of the structure/substructure.

---

$\Delta 1 = \pm 2 \text{ mm permissible deviation of the vertical substructure in ground plan from the building axis}$

$\Delta 2 = \pm 2 \text{ mm permissible deviation of the distance between two adjacent verticals in ground plan}$

The permissible deviations of the vertical line to the line connecting its adjacent verticals.

---

Figure 6.3: Deviation of the vertical line to the line connecting its adjacent verticals.

---

<table>
<thead>
<tr>
<th>$L$ (m)</th>
<th>$\Delta 3$ [mm]</th>
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Permissible deviation of the vertical line in the horizontal direction for one storey at a storey height of \( h \)

\[
\Delta 4 = \pm \frac{H}{1000} \text{ mm}
\]

Figure 6.4: Deviation of the vertical line for a storey

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</table>

Permissible deviations of the vertical line in ground plan

\[
\Delta 1 = \pm 2 \text{ mm} \quad \text{deviation of the vertical substructure in ground plan from the building axis}
\]

\[
\Delta 2 = \pm 2 \text{ mm} \quad \text{deviation of the distance between two adjacent verticals in ground plan}
\]

Figure 6.5: Deviation of the vertical line in ground plan
c) FAÇADE RASTER - distances between vertical supports and the total distance of the structure / substructure - performing the measurement to check for eventual deviations from the predicted deviations

The distances between vertical supports differ between those specified in the design and the actual distances. THEREFORE, BEFORE INSTALLING THE Qbiss One B FAÇADE ELEMENTS, DEVIATIONS MUST BE MEASURED. The deviations can be compensated using the Qbiss One B façade elements with the transversal joint tolerance by compressing or expanding the area by +2 -1 mm.

The permissible deviations for distances between verticals are ± 2 mm, however, they must not add up.

The transversal joint of the Qbiss One B façade system allows for some tolerance for façade structure/substructure deviations, up to ±2 -1 mm.

This is crucial to ensure that all transversal joints are of the right width. Otherwise, compression or expansion of the joint can occur. As a consequence, it will be impossible to finish the transversal joints, causing loss of water tightness of the façade (water ingress).

ALIGNMENT OF THE OPENINGS SUBSTRUCTURE WITH THE BASIC STRUCTURE/SUBSTRUCTURE - performing measurements to ensure alignment.

This is crucial to ensure the right level of the opening substructure into which a window, door or other element is installed that is directly connected to the adjacent Qbiss One B façade elements. If this is not provided, insufficient sealing between the opening element (window, door, frame etc.) and Qbiss One B façade element will occur. Consequently, the transversal and longitudinal joints will not be ended properly, causing the façade to lose its water tightness (water ingress).
6.2 Installing gaskets to the contact surface of the structure of the modular façade system Qbiss One B

In order to ensure air-tightness and to prevent condensation within the Qbiss One B façade element, a sealing tape is installed onto the contact surface of the structure/substructure, as per details of the project.

Figure 6.7: The principle of applying sealing tapes to contact surfaces of the structure/substructure
6.3 Handling and lifting of the façade element

In order to handle and lift the elements, vacuum grippers attached to the external surface of the Qbiss One B façade elements are recommended [Figure 6.8].

![Figure 6.8: Vacuum gripper](image)

Mechanical grippers are not used for installing vertically installed elements.

**NOTE:**
Handle carefully!
6.4 Preparation for installation

6.4.1 Removing the protective foil

**Qbiss One B façade elements** have a protective foil on top and bottom to protect the lacquered surfaces against eventual minor scratches during transport, handling and installation.

Immediately before placing the Qbiss One B façade element onto the installation site, you must:
1. Completely remove the protective foil from the inside.
2. At the front, partially remove the protective foil at the attachment site, on both longitudinal joints, under the linings etc. (Figure 6.9).
3. Every day after finishing the installation, the foil must be removed from the façade element/façade.

**NOTE:**
- If Qbiss One B façade elements are stored for a longer period of time, the foil should be removed within three months, at the latest.
- If the Qbiss One B façade elements are to be stored in the open, they should be protected against the sun; otherwise the complete removal of foil is no longer possible.
- During assembly, the foil must be removed from all joints of the Qbiss One B façade element.
- EACH DAY after installed the plastic foil must be COMPLETELY REMOVED from the Qbiss One B façade element.

**Figure 6.9: Removing the protective foil**

![Removing the protective foil](image)

**6.4.2 Cutting the elements**

Cutting and trimming of parts of Qbiss One B façade elements can only be performed for various openings (e.g. doors, windows, infrastructure openings etc.). In these cases, only metal shears and saws that do not heat the metal at the cutting site may be used (Figure 6.10). Circular saw use is recommended.

**Recommended use**

![Recommended cutting tools](image)

**Prohibited use**

![Prohibited cutting tools](image)

**NOTE:**
- Do not mark the surface with sharp objects that would damage the protective colour layer.
- Using cutting tools and welding destroys the corrosion protection.
- Metal particles that are formed by cutting and drilling MUST be removed from the surface of the façade and joinery elements by the end of the working day at the latest (metal particles and burrs initiate corrosion when subjected to moisture).
6.4.3 Correct orientation of Qbiss One B façade elements

The correct orientation must be ensured in order to prevent water ingress (the wool beneath the transversal joint must always point upwards).

Figure 6.11: CORRECT ORIENTATION of the façade elements
6.5 Installing Qbiss One B façade elements

NOTE:
- Before attaching the first Qbiss One B façade element, the substructure geometry must be checked.
- The support for the panel ending must be laid horizontally, otherwise, the uniformity of the horizontal and vertical joints of the Qbiss One B façade system cannot be guaranteed.
- The horizontal alignment of the substructure must be checked using a suitable measuring equipment.
- This device must be used to ensure that the panels are laid horizontally.

6.5.1 Attachment of Qbiss One B façade element to the main beam

Figure 6.12: Support for the ending of Qbiss One B façade elements

NOTE:
The permissible deviations of alignment for the base load-bearing ending must satisfy two conditions (A and B, see Section 6.1):

A. Permissible deviation along the whole length of individual façade elements is ± 0.5 mm
B. The absolute deviation of alignment for the whole distance of the building façade is ± 2 mm
a) Beginning installation:

- in the corner with external vertical corner ending of the Qbiss One B modular façade (Figure 6.13) or
- on the level area - façade (Figure 6.14)

![Figure 6.13: Vertical corner Qbiss One B façade element](image1)

**Installation sequence - Figure 6.13:**
1. Riveting the drip flashing of the Qbiss One B façade element to the ending support. Support for the Qbiss One B façade element ending must be aligned with the substructure.
2. Notching the element at the bottom at the site of placing it on the drip flashing.
3. Placing the corner Qbiss One B façade element onto the drip flashing or to the support for the ending of the support for the Qbiss One B façade element.
4. Placement of the joint onto the site of the transversal joint (horizontal joint) (figure 6.14a).
5. Attaching the corner Qbiss One B façade element on both sides with a screw through the internal sheet metal and the profile for connection to the substructure.

![Figure 6.14: Façade - Qbiss One B façade element](image2)

**Installation sequence - Figure 6.14:**
1. Riveting the drip flashing of the Qbiss One B façade element to the ending support. Support for the Qbiss One B façade element ending must be aligned with the substructure.
2. Notching the element at the bottom at the site of placing it on the drip flashing.
3. Placing the Qbiss One B façade element onto the drip flashing or to the support for the ending of the support for the Qbiss One B façade element.
4. Placement of the joint onto the site of the transversal joint (horizontal joint) (figure 6.14a).
5. Attaching the Qbiss One B façade element on both sides with a screw through the internal sheet metal and the profile for connection to the substructure.

![Figure 6.14a: Suitable position of the profile for the joint.](image3)
b) Continuing the installation in the direction of laying the façade elements

Figure 6.15: Attachment of Qbiss One B façade element to the main beam

1. Support for the façade element ending
2. Drip flashing of the façade element
3. Attachment screw - installation through internal sheet metal
4. Vertical corner Qbiss One B façade element
5. Qbiss One B façade element
6. Sealing tape between the structure and the façade element
7. Joint profile

Installation sequence:
1. Placing the Qbiss One B façade element onto the drip flashing / Qbiss One B façade element support.
2. Pressing the façade element to the corner Qbiss One B façade element.
3. Inserting the installation cross into the joint between two Qbiss One B façade elements to enable correct joint spacing.
4. Attaching the Qbiss One B façade element on both sides with a screw through the internal sheet metal and the profile for connection to the substructure.

NOTE:
The number of screws is prescribed in the project based on the static calculation. If the number of screws is not defined or known, it equals the number of holes in the attachment profile. Usually, this means 3 screws/joint.
**Recommendations for using the installation cross**

During installation, insert the centring cross (figure 6.16) into the joint to facilitate panel positioning. After installing adjacent panels, the centring cross must be removed. Before installing the centring cross clean the surface to prevent any eventual damage to the metal. Before installing individual Qbiss One B façade elements, remove the protective foil of the sheet metal from the transversal and longitudinal joint.

![Centring cross](image)

**Adjusting the transversal joint to inaccurate structure or substructure distances**

During the installation phase, inaccurate distances between supports are compensated for with joint width. The nominal width of the transversal joint is 25 mm. The permissible deviation is +2 mm -1 mm (Figure 6.17).

![Permissible tolerances of the vertical joint](image)
6.5.2 Continuing the installation of Qbiss One B façade elements

The installation is continued in the prescribed direction (left or right) using installation crosses and by regularly checking the horizontal/vertical alignment of installed Qbiss One B façade elements. When continuing the installation in the next row, the principle of assembling Qbiss One B façade elements is the same as in the first row.

Installation sequence:
1. Insert the lining and glue it onto the joint of four Qbiss One B façade elements.
2. Place the Qbiss One B façade element onto the bottom Qbiss One B façade element, so that they form a transversal joint.
3. Inserting the installation cross into the joint between three Qbiss One B façade elements to enable correct positioning.
4. Placement of the joint profile onto the site of the transversal joint (horizontal joint) with the sealing tape applied to the façade element.
5. Attaching the corner Qbiss One B façade element above with a screw through the internal sheet metal
6. Attaching the Qbiss One B façade element with attachment screws through attachment profiles onto the horizontal structure/substructure.
7. Pressing the next façade element into the joint of the already attached Qbiss One B façade element and attaching it on top with a screw through the internal sheet metal.
8. The steps from 1 are repeated for each new Qbiss One B façade element.

Figure 6.18: Composition of the modular façade

![Composition of the modular façade](image)

Step 1

Step 2

1. Bottom Qbiss One B façade element
2. Top Qbiss One B façade element
3. Longitudinal joint
4. Transversal joint
5. Joint profile
6. Lining
7. Fixing screw - attachment through attachment profiles

**NOTE:**
Correct positioning of adjacent façade elements means that:
- longitudinal joint dimension is 23 mm -1 +0.5
- transversal joint dimension is 25 mm -1 +2
- horizontal alignment ← 0.5 mm
6.5.3 Installing window and door frames and other openings during the installation of Qbiss One B façade elements

The types of window and door frames and other opening that are installed simultaneously with the Qbiss One B façade elements (installation at a later time is not possible):

**TYPE 1 installation that fits element dimensions**
- TYPE 1.3 - visible joint

**TYPE 2 installation outside element dimensions**
- TYPE 2.5 - covered edges

The installation procedure is described in the chapter Installing window and door frames and other openings

6.5.4 Internal corner ending

**Figure 6.19a: Internal corner**

**Figure 6.19b: Sealing the transversal joint at the end**

| 1. | Corner angle - HOP L profile |
| 2. | Sealing tape |
| 3. | Thermal insulation |
| 4. | Corner lining |
| 5. | Blind rivet |
| 6. | Fixing screw |
| 7. | Corner lining - internal |
| 8. | Transversal joint (transversal gasket + decorative profile) |
| 9. | Square gasket + sealing compound |
| 10. | Longitudinal joint |
| 11. | Façade element 1 |
| 12. | Façade element 2 |
| 13. | Lining |

Installation sequence:
1. Attaching the façade element 1 with an attachment screw (position 6).
2. Attaching the HOP L profile with a screw to the structure - used to attach the perpendicularly installed façade element 2.
3. Installing the sealing tape to the corner lining - internal.
4. Inserting mineral wool to the contact between both façade elements.
5. Perpendicular placement of façade element 2 in regard to the already attached façade element 1.
6. Screwing in the façade element 2 into the HOP L-profile according to static calculations.
7. Filling the transversal joint with mineral wool (thermal insulation).
8. Application of the sealing compound into the transversal joint at the site where the square gasket is inserted.
9. Inserting the square gasket into the transversal joint to prevent water ingress into the inside of the Qbiss One B façade system.
6.5.5 External vertical corner Qbiss One B façade elements

a) External vertical corner ending of the Qbiss One B modular façade with the Qbiss One B façade element

Figure 6.20: Vertical corner Qbiss One B façade element - attached

Figure 6.21: Sharp corner ending

b) External corner ending of the Qbiss One B modular façade with a continuous sheet metal corner element

Figure 6.22: Sharp corner ending

1. Qbiss One B façade element
2. Qbiss One B façade element
3. Vertical corner Qbiss One B façade element
4. Fixing screw - installation through internal sheet metal
5. Sealing tape between the structure and the façade element
6. Joint profile
7. Longitudinal joint
Extending the external corner ending of the Qbiss One B modular façade with a continuous sheet metal corner element.

Figure 6.22a: Extending the corner ending and sealing

1. Finishing the transversal joint at the end according to the steps described in section 6.5.4. Internal corner ending and Figure 6.19b.
2. Applying the sealing tape to the site where the corner element will be attached.
3. Filling the inside of the sheet metal corner element with thermal insulation.
4. Placing the façade element to the corner of two Qbiss One B façade elements.
5. Attaching the corner element with screws through the longitudinal joint of the Qbiss One B façade elements.

Installation sequence:

1. Finishing the transversal joint at the end according to the steps described in section 6.5.4. Internal corner ending and Figure 6.19b.
2. Applying the sealing tape to the site where the corner element will be attached.
3. Filling the inside of the sheet metal corner element with thermal insulation.
4. Placing the façade element to the corner of two Qbiss One B façade elements.
5. Attaching the corner element with screws through the longitudinal joint of the Qbiss One B façade element into the vertical structure / substructure.

NOTE:
The wool must be inserted into the corner lining before installing the continuous corner element.
6.5.6. Dilation

Dilation is performed using a dilation detail, which is used for:

1. Compensation of expansion/shrinking of long façades and buildings for façades exceeding 50 m. The dilation detail should be installed every 50 m of building façade length. This way, "breathing" can be compensated for along the longitudinal axis of the façade.

2. Compensating for tolerances when installing the façade at a corner or when ending the façade from two sides.

![Figure 6.23: Example of installing a dilation detail to compensate tolerances for installing corner façades](image)

Installation sequence:
1. Applying the sealing tape to the dilation lining - internal.
2. Placing the dilation lining - internal to the structure.
3. Installing the EPDM foil onto the longitudinal joint of the façade element.
4. Installing the attachment profile - internal to the longitudinal joint of the façade element.
5. Installing the attachment profile - external to the longitudinal joint of the façade element.
6. Filling the space between two façade elements with thermal insulation.
7. Installing the EPDM foil onto the longitudinal joint of the adjacent façade element.
8. Installing the dilation lining - external 1, and dilation lining - external 2.
6.6 Installing window and other openings

6.6.1 Type 1.3: Visible joint - the window has equal length and width to the façade element

Combination: A - aluminium frame (false frame)  

The window frame is intended for installation into all four joints of the Qbiss One B modular façade system. It is flush with the surface of Qbiss One B façade elements form the outside. 

It CANNOT be installed at a later time, therefore, it must be installed simultaneously with the façade elements.

![Figure 6.24: Window frame in the joint, flush with the surface of Qbiss One B façade elements](image)

A RECESSED VERSION IS ALSO POSSIBLE

MANDATORY  
immediate assem- 
bly of the window and the façade elements

![Figure 6.25: Section A](image)

1. Qbiss One B façade element  
2. Window frame  
3. Longitudinal joint  
4. Transversal joint

1. Lining  
2. Waterproof membrane  
3. Insulation foam  
4. Round PE gasket  
5. Transversal joint (transversal gasket + decorative profile)  
6. Sub-structure with a load-bearing profile for the window opening  
7. Window frame  
8. Qbiss One B façade element  
9. Longitudinal tongue-groove joint
Installation sequence:
1. Placement and attachment of bottom and side façade elements with lining in the transversal joint.
2. Filling the empty space with thermal insulation (melting point above 1000°C) between the load-bearing profile of the window opening and the Qbiss One B façade elements (the whole circumference).
3. Gluing the waterproof membrane onto the bottom load-bearing profile and the transversal joint of the Qbiss One B façade element and to the longitudinal joint of both flanking Qbiss One B façade elements.
4. Applying the sealing tape to the waterproof membrane and to the load-bearing profile of the window opening.
5. Applying insulation foam (complete circumference).
6. Inserting the window frame.
7. Attaching the window frame (2 screws/m) into the transversal joint of the Qbiss One B façade element (the number of screws is specified in the static calculation for Qbiss One B façade elements).
8. Installing a round PE gasket into the joint between the window profile and the window opening support (along the whole circumference).
9. Sealing of the transversal joint is performed as per installation directions in Section 6.8 Sealing the transversal joint.
6.6.2 Type 2.5: With covered edges - the window is LARGER/SMALLER than the width of Qbiss One B façade element

Combination: A - aluminium frame (false frame)

Figure 6.28: The window frame above the surface of Qbiss One B façade elements

A RECESSED VERSION IS ALSO POSSIBLE

Figure 6.29: Section A

DETAIL B:
AT THE CUT-OUT SITE, APPLY SEALING COMPOUND INTO THE GROOVE OF THE LONGITUDINAL JOINT BEFORE INSTALLING THE NEXT FAÇADE ELEMENT.

1. Qbiss One B façade element
2. Window frame
3. Longitudinal joint
4. Transversal joint

1. Qbiss One B façade element
2. Round PE gasket
3. Fixing screw
4. Insulation foam
5. Load-bearing profile for the window opening
6. Waterproof membrane
7. Thermal insulation
8. Window frame
9. Sealing tape
Installation sequence:
1. Attachment of Qbiss One B façade elements with attachment screws at the edge of the cut-out (Figure 6.29: Section A - position 3).
2. Sealing the ending of the longitudinal joint with a window profile by inserting the square gasket and the sealing compound around it (Figure 6.30: Section B - position 8).
3. Sealing the ending of the longitudinal joint with a window profile by inserting the square gasket and the sealing compound around it (Figure 6.31: Section C - position 8).
4. Filling the empty space with thermal insulation (melting point above 1000°C) between the load-bearing profile of the window opening and the Qbiss One B façade elements (the whole circumference).
5. Gluing the waterproof membrane onto the bottom load-bearing profile and on both side load-bearing profile and the Qbiss One B façade elements.
6. Applying the sealing tape to the waterproof membrane and to the load-bearing profile of the window opening (the rest of the circumference).
7. Applying insulation foam (complete circumference).
8. Inserting the window frame.
9. Installing the window frame into the load-bearing profile of the window opening (2 screws per metre).
10. Inserting the round PE gasket into the joint between the window profile and the support for the window opening (the complete circumference).

NOTE:
- The sealing/closing of the longitudinal joint between the façade elements and the window frames is performed as you go along, before installing the window frame.
- All openings/contacts must be sealed using a sealing compound or putty.
- For all window openings in Qbiss One B façade elements, a static calculation must be performed or the limitations checked with Trimo Technical Services (tech.info@trimo.si).
6.6.3 Type 2.6: With covered edges and a joint

Combination: A - aluminium frame (false frame)  

Figure 6.32: Window frame with covered edges top and bottom and at the side in the joint.

A RECESSED VERSION IS ALSO POSSIBLE

MANDATORY simultaneous installation of the window together with the façade elements

1. Qbiss One B façade element
2. Window frame
3. Substructure (steel)
4. Longitudinal joint
5. Transversal joint

Figure 6.33a: Section A 1 - installing the lining

1. Qbiss One B façade element
2. Sub-structure with a load-bearing profile
3. Thermal insulation
4. Joint lining, left
5. Longitudinal joint
1. Qbiss One B façade element
2. Sub-structure with a load-bearing profile
3. Window frame
4. Joint lining, left
5. Longitudinal joint
Installation sequence:
1. Ending of the joint (section A and section B) by inserting linings (left and right joint lining) into/onto the longitudinal joints.
2. Filling the empty space with thermal insulation (melting point above 1000°C) between the load-bearing profile of the window opening and the Qbiss One B façade elements (the whole circumference).
3. Gluing the waterproof membrane onto the bottom load-bearing profile and the external sheet metal of the cut Qbiss One B façade element with an overlap of 5 cm to both side edges of Qbiss One B façade elements.
4. Applying the sealing tape to the waterproof membrane and to the load-bearing profile of the window opening (remaining circumference).
5. Applying insulation foam (complete circumference).
6. Inserting the window frame.
7. Attaching the window frame into the load-bearing profile of the window opening (2 screws/m).
8. Installing a round PE gasket into the joint between the window profile and the window opening support (along the whole circumference).

NOTE:
- The sealing/closing of the longitudinal joint between the façade elements and the window frames is performed as you go along, before installing the window frame.
- For all window openings in Qbiss One B façade elements, a static calculation must be performed or the limitations checked with Trimo Technical Services [tech.info@trimo.si].

6.6.4 Type 2.7: With top covered joint and other covered edges

The window frame is intended for installation into the groove of the longitudinal joint on one side and on top of the modular façade system edges elsewhere. It is lifted above the plane of the façade elements from the outside.

For installation procedure, see Sections 6.6.2 and 6.6.3.

It CANNOT be installed at a later time, therefore, it must be installed simultaneously with the façade elements.

6.6.5 Type 2.8: With bottom covered joint and other covered edges

The window frame is intended for installation onto the tongue of the longitudinal joint on one side and on top of the modular façade system edges elsewhere. It is lifted above the plane of the façade elements from the outside.

For installation procedure, see Sections 6.6.2 and 6.6.3.

It CANNOT be installed at a later time, therefore, it must be installed simultaneously with the façade elements.
6.7 Attic with substructure

Installation sequence:
1. Attaching the façade element with screws through the internal sheet metal.
2. Gluing the waterproof membrane onto the façade element and the substructure.
3. Attaching the façade element to the substructure.
4. Attaching the attic cap support with screws into the substructure.
5. Placing the attic cap onto the attic cap support and attaching it with a screw.

Figure 6.35: Attic with substructure

NOTE:
A static calculation of attachment of Qbiss One B façade elements in the upper edge of the attic is required.
6.8 Sealing of transversal joint

NOTE:
The transversal joint must be sealed in order to prevent rain water or increased air humidity to enter the joint and the interior of Qbiss One B façade elements.

As a precondition for sealing the transversal joint, the transversal joint must be made as described in Section 6.5.2 Continuing the installation of Qbiss One B façade elements.

Starting and ending the sealing: in the building corner (corner façade element or continuous corner element). In between, breaks may occur, such as openings.

Openings include windows, doors, infrastructure openings etc. The contact points are usually sealed using window, door and other elements that already have integrated sealing profiles. On individual sites, there are details where such sites must be additionally sealed.

They are sealed using additional elements or sealing compounds, depending on the purpose.

6.8.1 Sealing the corner of the façade and at opening sites

a) Sealing a building corner with a corner façade element

For instructions, see Section 6.5.5 External vertical corner Qbiss One B façade elements, Figure 6.22a.

b) Sealing the transversal joint at the openings

Installation sequence:
1. Before inserting the transversal gasket onto the edge of the opening, the sealing compound must be applied to prevent water ingress.
2. Inserting the transversal gasket with the decorative profile into the transversal joint - see steps in Section 6.8.3 Finishing the sealing of the transversal joint.
3. Apply the sealing compound onto the contact site of the square gasket and the decorative profile.
4. Insert the square gasket (position 3) into the transversal joint at the contact site of the window profile (position 6).
5. Finishing the opening with an opening element (window frame, lining etc.).

![Image: Sealing the transversal joint at the opening]

The sealing compound applied around the transversal gasket
The sealing compound applied around the square gasket

1. Qbiss One B façade element
2. Transversal joint [transversal gasket + decorative profile]
3. Square EPDM gasket + sealing compound
4. Waterproof membrane
5. Fixing screw
6. Gasket (integrated into the window profile)
7. Window profile (opening)
c) Sealing the transversal joint at opening sites or in corner ends where the transversal joint is at an angle

Figure 6.37: Sealing the transversal joint at the opening

Executing detail A:

Figure 6.38a: Execution of detail A - composition

1. Qbiss One B façade element
2. Transversal joint
3. Transversal joint + decorative profile
4. Transversal joint (transversal gasket + decorative profile)
5. Double square EPDM gasket
6. Sealing compound
7. Window profile/lining

Installation sequence:
1. Apply sealing compound onto the end/edge of the transversal joint [position 6] where the double square gasket will be installed (position 5) and envelop it.
2. Insert the double square gasket [position 5] into the transversal joint at the site and performing the finish with the sealing compound for easier draining of water [see Figure 6.38b: Execution of detail A - section.
3. Inserting the transversal gasket with the decorative profile into the transversal joint - see steps in Section 6.8.3 Finishing the sealing of the transversal joint, which is 5-10 mm away from the double square gasket in order to allow for drainage of any eventual water [see figure 6.38b: Execution of detail A - section.
4. Finishing/covering the edge with the element [window frame, lining, continuous corner piece ...].
Executing detail B:
The detail is executed as shown in this section under b “Sealing the transversal joint at opening sites”, Figure 6.36. Executing detail C: sealing of the longitudinal joint above the opening. Executing this detail is the same as that shown in Section 6.9 Sealing the longitudinal joint, Figure 6.45.
6.8.2 Finishing the sealing of the transversal joint

Sealing of the transversal joint is achieved by inserting the transversal joint gasket together with the inserted decorative T-profile (Figure 6.39), which have the following functions:

- The transversal joint gasket serves to provide air- and water-tightness of the transversal joint.
- The decorative T-profile ensures stable insertion during installation and aesthetically pleasing results after installation.

As a precondition for sealing the transversal joint, the transversal joint must be made as described in Section 6.5.2 Continuing the installation of Qbiss One B façade elements.

Installation sequence:
1. COMPLETED ALL STEPS from Section 6.5.2 Continuing the installation of Qbiss One B façade elements.
2. Applying the lubricant (soapy water) into the transversal joint as shown in Figure 6.39. The purpose of the lubricant is to reduce friction and facilitate inserting the gasket of the transversal joint.
3. Assembling the transversal joint gasket and the decorative T-profile must be performed before they are inserted into the transversal joint. The contacts of the T-profile and the EPDM gasket must be performed as per Section 6.8.3.
4. Inserting both elements into the transversal joint, beginning with the top / last Qbiss One B façade element.
5. Gradual pressing of both elements into the transversal joint with the bar and the hammer:
   - Press from the height of the transversal joint gasket to the bottom of the joint.
   - This forms a transversal/vertical joint with a depth of 24 mm and a width of 25 mm.
   - For visual control of the insertion depth, you can use the same level of the decorative bar of the horizontal joint, which is also at a depth of 24 mm.

The average joint depth is 24 mm -0.5 +1 [24.5 mm - 23 mm].

![Figure 6.39: Sealing of the transversal joint](image)

1. Qbiss One B façade element
2. Lining
3. Transversal joint
4. Lubricant
5. Transversal joint + decorative profile

NOTE: The transversal joint must be sealed in order to prevent rain water or increased air humidity to enter the joint and the interior of Qbiss One B façade elements.
NOTE: The purpose of the lubricant is to reduce friction and facilitate the insertion of the rubber sealing profile.
6.8.3 Extending the transversal joint gasket

The extension is performed in case the length of the transversal joint gasket is insufficient to completely seal the transversal joint. In this case, extension is performed as follows:

1. Cut the top transversal gasket at an angle of 45°.
2. Cut the bottom transversal gasket at an angle of 45°.
3. Assemble both transversal gaskets with a head-to-head joint under a 45° angle. Apply sealing compound onto the joint site.

Figure 6.43: Extending the rubber sealing profile

![Image](image1)

1. Transversal gasket
2. Decorative T-profile

Figure 6.44: Extending the decorative T-profile

![Image](image2)

1. Transversal gasket
2. Decorative T-profile

NOTE:
- Extending the gasket and the decorative T-profile MUST NOT be performed on the same spot!
- Minimum distance between both extensions is 500 mm.

6.8.4 Extending the decorative T-profile

The standard length for decorative T-profiles is 4 metres. Extension is performed using a dilation slot of 10 mm, meaning that the profiles are not in contact in order to prevent internal stress and eventual loss of profiles due to thermal expansion of aluminium.

Profiles are cut to length in manufacturing according to the specifics of individual projects and installation details.

Figure 6.44: Extending the decorative T-profile

![Image](image3)

1. Transversal gasket
2. Decorative T-profile

NOTE:
Extension is performed using the dilation slot 10 mm.
6.9 Sealing of longitudinal joint

6.9.1 Sealing the longitudinal joint at the opening - applies to the application above and below the opening

Installation sequence:
Before installing the façade elements, sealing compound must be applied to the site of the cut-out into the groove of the longitudinal joint.

1. For instructions on how to perform all sealing steps and finish the opening, see 6.6.2 Type 2.5: With covered edges—window is larger/smaller than the width of the Qbiss One B façade element.
2. Application of the sealing compound into the longitudinal joint at the site where the square gasket is inserted.
3. Inserting the square gasket into the longitudinal joint.
4. For instructions on how to install the window frame or another opening, see Sections 6.6 and 6.8.

Figure 6.45: Sealing the longitudinal joint above the opening

Figure 6.45a: Sealing of an ending of a longitudinal joint

Figure 6.46: Sealing the longitudinal joint below the opening
6.9.2 Finishing sealing on the main beam

Draining of the longitudinal (vertical) joint is provided by draining the water along the vertical line, at the end of which there is a transversal gasket in the transversal joint and a decorative profile (usually on the main beam).

Installation sequence:

1. COMPLETED ALL STEPS from section 6.5.1 Attachment of Qbiss One B façade element to the main beam
2. Inserting the transversal joint and the decorative profile into the transversal joint between the drip flashing of the façade element and the element.

Figure 6.47: Attaching the façade element onto the main beam

1. Support for the façade element ending
2. Drip flashing of the façade element
3. Transversal joint + decorative profile
4. Transversal joint
### 7.0 Tools and accessories used for installation

In order to perform installation according to the instructions, the following tools must be used. Please prepare them before starting the installation:

1. A level (in order to measure the horizontal alignment of the substructure and Qbiss One B façade elements before attachment).
2. A plumb or another instrument to measure the vertical alignment (in order to measure the vertical alignment of the substructure and the Qbiss One B façade elements).
3. A drilling device (to drill holes for screws).
4. Drill bits (to drill holes for screws).
5. Wrenches / attachments (for tightening the screws).
6. Cutting tools (metal shears, circular saw, jigsaws etc.).
7. Hammer (for inserting the transversal rubber gasket and the decorative T-profile).

**Installation package:**
8. Installation cross (for achieving the right spacing between the panels).
9. Syringe with soap-water solution (for correct insertion of the transversal gasket).
10. Bar (for inserting the transversal rubber gasket and the decorative T-profile).
11. Short instructions for installation

### 8.0 Reference documents

The reference document contain a comprehensive overview and information about the Qbiss One B modular façade system.

1. Technical instruction
2. Type details
### 9.0 The check-list - steps for checking the installation

Standard steps for checking whether the installation was performed according to the instructions and good installation practice to ensure quality installation.

<table>
<thead>
<tr>
<th>Check-list</th>
<th>Correct/incorrect</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Substructure meets the tolerance requirements (horizontally, vertically, dimensions, plains)</td>
<td>Yes</td>
</tr>
<tr>
<td>2. Façade element supports (vertical and horizontal) installed according to the details, dimensions and plains</td>
<td>Yes</td>
</tr>
<tr>
<td>3. Main beam attachment installed, attached and sealed according to the details</td>
<td>Yes</td>
</tr>
<tr>
<td>4. Sealing tapes installed onto the substructure according to the details</td>
<td>Yes</td>
</tr>
<tr>
<td>5. Protective foil partially removed from the façade elements before the installation and fully after installation</td>
<td>Yes</td>
</tr>
<tr>
<td>6. First row of façade elements installed horizontally with vertical joint gaps within tolerances</td>
<td>Yes</td>
</tr>
<tr>
<td>7. Façade elements attached through the internal metal sheet according to the design</td>
<td>Yes</td>
</tr>
<tr>
<td>8. The number of screws used for attachment through the external metal sheet conforms to the design</td>
<td>Yes</td>
</tr>
<tr>
<td>9. Screws for attachment through the external metal sheet tightened accordingly</td>
<td>Yes</td>
</tr>
<tr>
<td>10. Gasket of the transversal joint and the decorative T-profile inserted into the vertical joint with the insertion bar and according to the details for extending and sealing at the beginning and end of gasket</td>
<td>Yes</td>
</tr>
<tr>
<td>11. Corner endings of façades installed, attached and sealed according to the details</td>
<td>Yes</td>
</tr>
<tr>
<td>12. Suitable tools used to cut façade elements</td>
<td>Yes</td>
</tr>
<tr>
<td>13. Window, door and other openings from aluminium profiles installed, attached and sealed according to the details</td>
<td>Yes</td>
</tr>
<tr>
<td>14. Linings installed, attached and sealed according to the details</td>
<td>Yes</td>
</tr>
</tbody>
</table>