

Content	Detail No.	Page
General information		<u>3</u>
Components		<u>4</u>
Support frame		<u>7</u>
Ventilation		<u>8</u>
Vertical joint	<u>1</u>	<u>10</u>
Intermediate support profile	<u>2</u>	<u>10</u>
Vertical control joint	<u>3</u>	<u>11</u>
Vertical joint at angle	<u>4</u>	<u>11</u>
Relation between fixed and gliding points	<u>5</u>	<u>12</u>
Open horizontal joint junction with vertical joint	<u>6</u>	<u>13</u>
Baffled horizontal joint junction with vertical joint	<u>7</u>	<u>13</u>
Base detail – Ground floor	<u>8</u>	<u>14</u>
Base detail – Covered area (not exposed to precipitation)	<u>9</u>	<u>14</u>
Base detail – Balcony	<u>10</u>	<u>15</u>
Base detail – Flat roof abutment / Parapet	<u>11</u>	<u>15</u>
Window head – Option 1	<u>12</u>	<u>16</u>
Window sill – Option 1	<u>13</u>	<u>16</u>
Window head – Option 2	<u>14</u>	<u>17</u>
Window sill – Option 2	<u>15</u>	<u>17</u>
Window head – Flush window	<u>16</u>	<u>18</u>
Window sill – Flush window	<u>17</u>	<u>18</u>
Window head – With sunscreen	<u>18</u>	<u>19</u>
Window head – With shutter	<u>19</u>	<u>20</u>
Window jamb – Option 1	<u>20</u>	<u>21</u>
Window jamb – Metal flashing	<u>21</u>	<u>21</u>
Window jamb – Option 2	<u>22</u>	<u>22</u>
Capping	<u>23</u>	<u>23</u>
Capping – Hidden ventilation	<u>24</u>	<u>23</u>
External corner – Option 1	<u>25</u>	<u>24</u>
External corner – Option 2	<u>26</u>	<u>24</u>
External corner with wind barrier	<u>27</u>	<u>25</u>
Internal corner	<u>28</u>	<u>26</u>
Abutment	<u>29</u>	<u>26</u>
Junction with other facade material – Head detail	<u>30</u>	<u>27</u>
Junction with other facade material – Base	<u>31</u>	<u>27</u>
Segmented façade – Radius < 12 m	<u>32</u>	<u>28</u>
Curved façade – Radius ≥ 12 m	<u>33</u>	<u>28</u>
Soffit/ceiling–wall junction	<u>34</u>	<u>29</u>
Wall–soffit/ceiling junction	<u>35</u>	<u>30</u>
Junction with panels with concealed fixings	<u>36</u>	<u>31</u>

## General information

This document provides generic construction details for EQUITONE façade systems with UNI-Rivet panel face fixings on metal support frame to assist with the design of EQUITONE façade.

This document is not designed to serve as an installation guide and is intended to be used in conjunction with the relevant EQUITONE Planning and Application Guide and other technical and installation documents.

The details included in this document only illustrate general principles for detailing of EQUITONE at different typical interfaces; and are not to be relied upon for weatherproofing and fire safety compliance with local regulations. The weatherproofing and fire performance of any project specific detail or application shall be evaluated by the project engineer or consultant.

Any components related to wind barriers, fire safety, moisture management and weather proofing including but not limited to membranes, flashings, water seals and sealants, airtightness tapes, horizontal and/or vertical fire barriers, etc, will need to be applied according to local regulations, project requirements and relevant standards.

The support frame, fixings, flashings, and the like shall be of adequate corrosion resistance appropriate to the corrosivity category of the project location.

All dimensions in this document are in millimetre (mm).

The information in this guide is comprehensive but not exhaustive, and the reader will need to satisfy themselves that the contents of this guide are suitable for their intended application. It is the responsibility of the project consultants (designer, architect, and engineers) to ensure that the information and details provided in this document are appropriate for the project.

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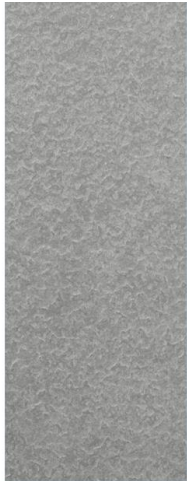
Please visit [www.equitone.com](http://www.equitone.com) for contact details and further information and technical documents.

# Components

## Materials



EQUITONE [linea]



EQUITONE [lunara]



EQUITONE [tectiva]



EQUITONE [natura],  
[natura] PRO



EQUITONE [pictura]

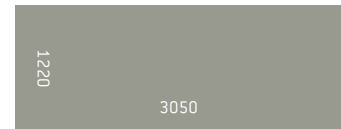


EQUITONE [textura]

## Maximum usable panel sizes

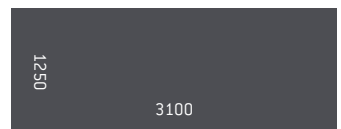
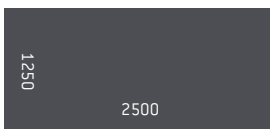
EQUITONE [linea]  
EQUITONE [lunara]  
EQUITONE [tectiva]

10 mm  
10 mm  
8 and 10 mm



EQUITONE [natura]  
EQUITONE [natura] PRO  
EQUITONE [pictura]  
EQUITONE [textura]

8 and 12 mm  
8 and 12 mm  
8 and 12 mm  
8 and 12 mm



[Go to Content](#)

Panel fixings: UNI-Rivet

Colour matched and available in the following materials and grades:

Stainless Steel A2 - Material number 1.4567

Available with additional protective coating (C5 acc. ISO 12944-2 ) for use in e. g. coastal areas

Stainless Steel A4 - Material number 1.4578

Available with additional protective coating (C5 acc. ISO 12944-2 ) for use in e. g. coastal areas

Aluminium AlMg5

Available with additional protective coating (C5 acc. ISO 12944-2 ) for use in e. g. coastal areas

Rivets are available in different lengths to suit a range of support frame thicknesses.



For 8 mm EQUITONE panels and EQUITONE [linea]

Rivet type	Support frame Base Metal Thickness (BMT)
4x18 K15 Aluminium UNI-Rivet	1.7 mm to 3.0 mm
4x18 K15 Stainless Steel UNI-Rivet	1.7 mm to 3.5 mm
4x20 K15 Stainless Steel UNI-Rivet	3.5 mm to 5.5 mm

For 10 mm EQUITONE panels and EQUITONE [lunara]

Rivet type	Support frame Base Metal Thickness (BMT)
4x20 K15 Aluminium UNI-Rivet	1.7 mm to 3.0 mm
4x20 K15 Stainless Steel UNI-Rivet	1.7 mm to 3.5 mm
4x22 K15 Stainless Steel UNI-Rivet	3.5 mm to 5.5 mm

For 12 mm EQUITONE panels

Rivet type	Support frame Base Metal Thickness (BMT)
4x25 K15 Aluminium UNI-Rivet	1.7 mm to 4.0 mm
4x22 K15 Stainless Steel UNI-Rivet	1.7 mm to 3.5 mm
4x24 K15 Stainless Steel UNI-Rivet	3.5 mm to 5.5 mm

[Go to Content](#)

Each panel thickness has its own corresponding UNI-Rivet with its own length of red and green sleeves. UNI-Rivet system is based on GO (gliding=green) & STOP (fixed=red) point principle intelligently allowing for 3-D movement in the connection. Only two STOP points are required per panel. Refer to UNI-Rivet Planning and Application Guide for further information.

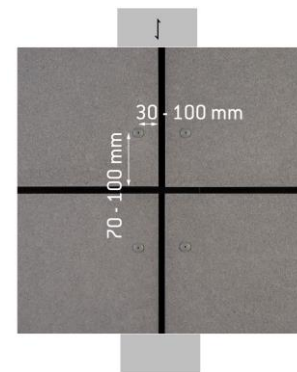
Panel hole size is 11 mm for both GO & STOP points, drilled with 11 mm EQUITONE drill bit.

EQUITONE UNI-Rivet centralising tool must be used for drilling rivet hole in support frame.

UNI-Rivet panel edge distance:

From the edge parallel to support frame: 30 – 100 mm

From the edge perpendicular to support frame: 70 – 100 mm



Compressible Foam Tape

Used between the framing and panel as part of UNI-Rivet fixing system to allow in-out movement of the panel.



Perforated Closure

Aluminium perforated profile used to close the cavity entry and outlet to prevent the entry of birds and vermin.

Available in four different widths to suit a range of cavity thicknesses and two different colours: uncoated aluminium and black coated aluminium.

The perforation rate is approximately 35%.



Baffle

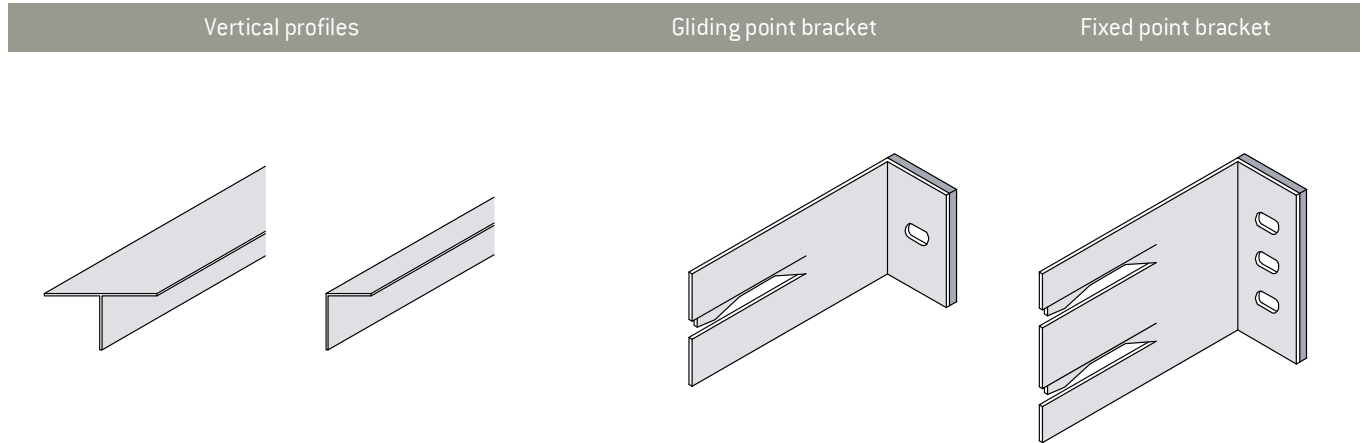
Black coated aluminium baffle used to close and form expressed panel horizontal joint.

The profile has a thickness of 0.6 mm

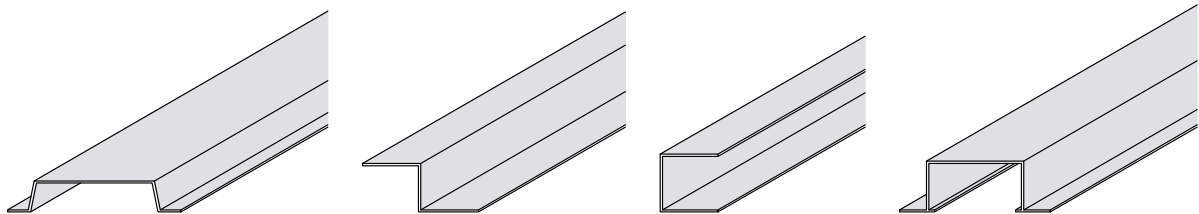


## Support frame

The construction details in this document are shown as an example with aluminium T- and L-profiles.



### Other shapes of profiles



The cladding support frame and its connection to the substructure shall be designed and selected by the project engineer in accordance with the relevant standards. The support frame maximum deflection under the influence of load shall be limited to  $\text{Span}/300$  with a maximum of 4 mm.

## Ventilation

A ventilated facade is a kind of two stage construction, an inner structure with a protective outer skin, and the cladding panel or rainscreen. A ventilated facade consists of an insulated and weathertight structure, a ventilated cavity formed with a cladding support frame and the cladding panel.

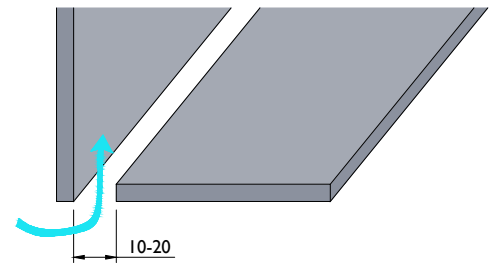
The bare minimum clear gap (cavity width) for ventilation behind the panels is 20 mm and may need to be increased based on the vertical distance between ventilation inlet and outlet. Typical cavity width will be governed by the framing dimensions and be approximately 30 to 60 mm.

Air must be allowed to enter the cavity from bottom of the façade, window head, soffit, slab junctions, and the like, and exit from top of the façade, capping, window sill, slab and soffit interfaces, and the like.

The size of inlets and outlets should be executed as stipulated in this document and the Planning & Application Guide or according to local standards and building regulations. The following requirements are bare minimums.

### Ventilation without perforated closure

The size of ventilation inlet and outlet should be between 10 and 20 mm ( $\geq 100$  cm<sup>2</sup>/m) and may need to be increased depending on local regulations and/or the vertical distance between them (cladding height).

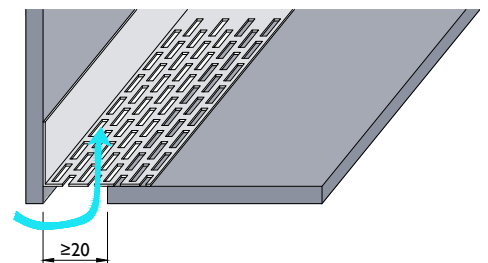


### Ventilation with perforated closure

If by local regulations the use of a perforated closure is required e. g. to vermin proof the cavity then the size of the inlet and outlet must be increased depending on the open area percentage of the used profile to achieve a bare minimum open area of more than 100 cm<sup>2</sup>/m. E.g., in case of a 35 % perforated closure the minimum open gap should be minimum 30 mm

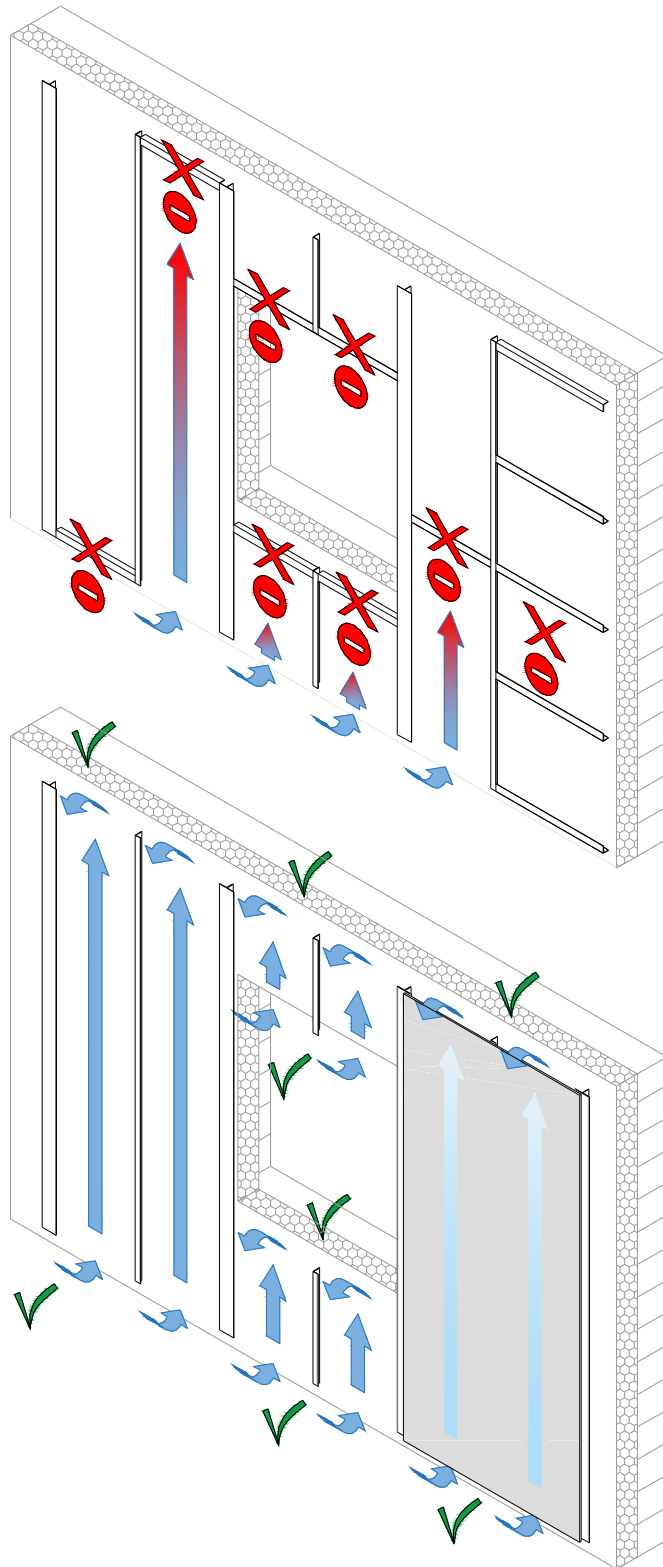
The minimum open area may need to be increased depending on local regulations and/or the vertical distance between the ventilation inlet and outlet (cladding height)

The perforated angle should be less than 0.8 mm in thickness when placed between EQUITONE and the support frame

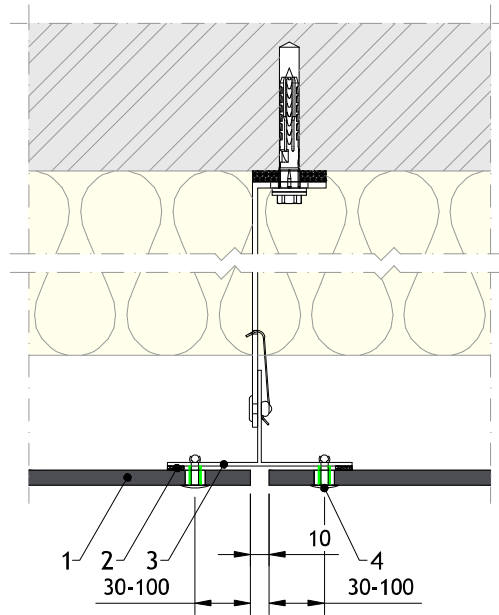




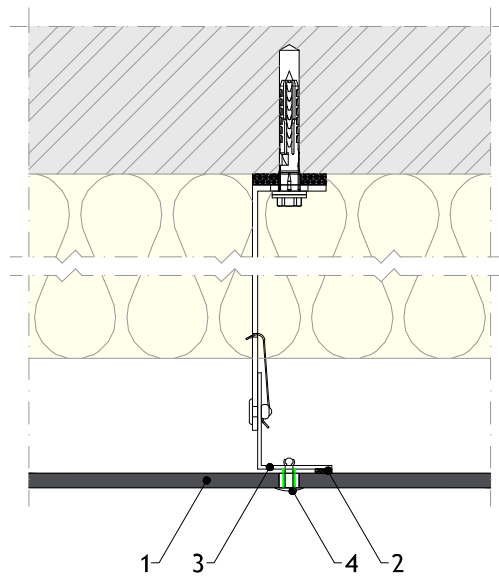
Important points to consider (Do's and Don'ts)



1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet

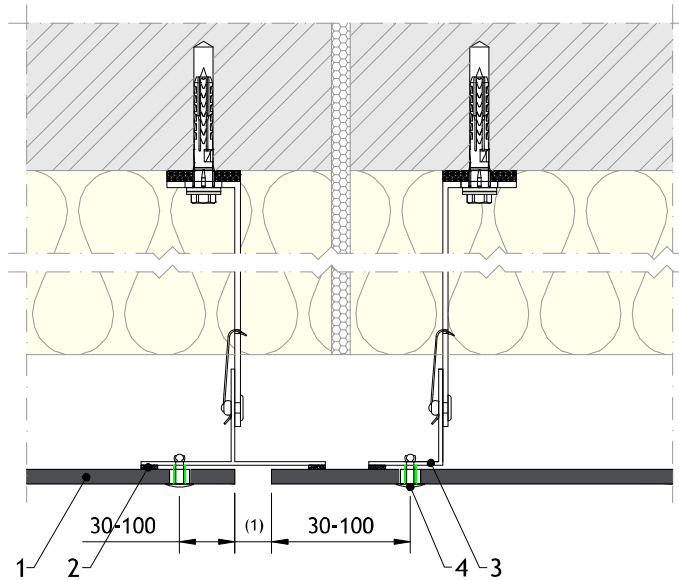


Detail 1 - Vertical joint

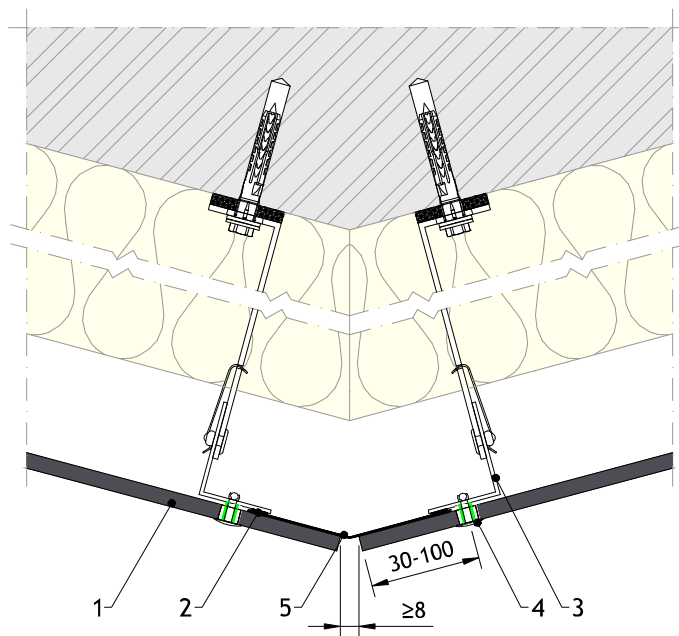


Detail 2 - Intermediate support profile

1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet
5. Flashing<sup>(2)</sup>



Detail 3 - Vertical control joint

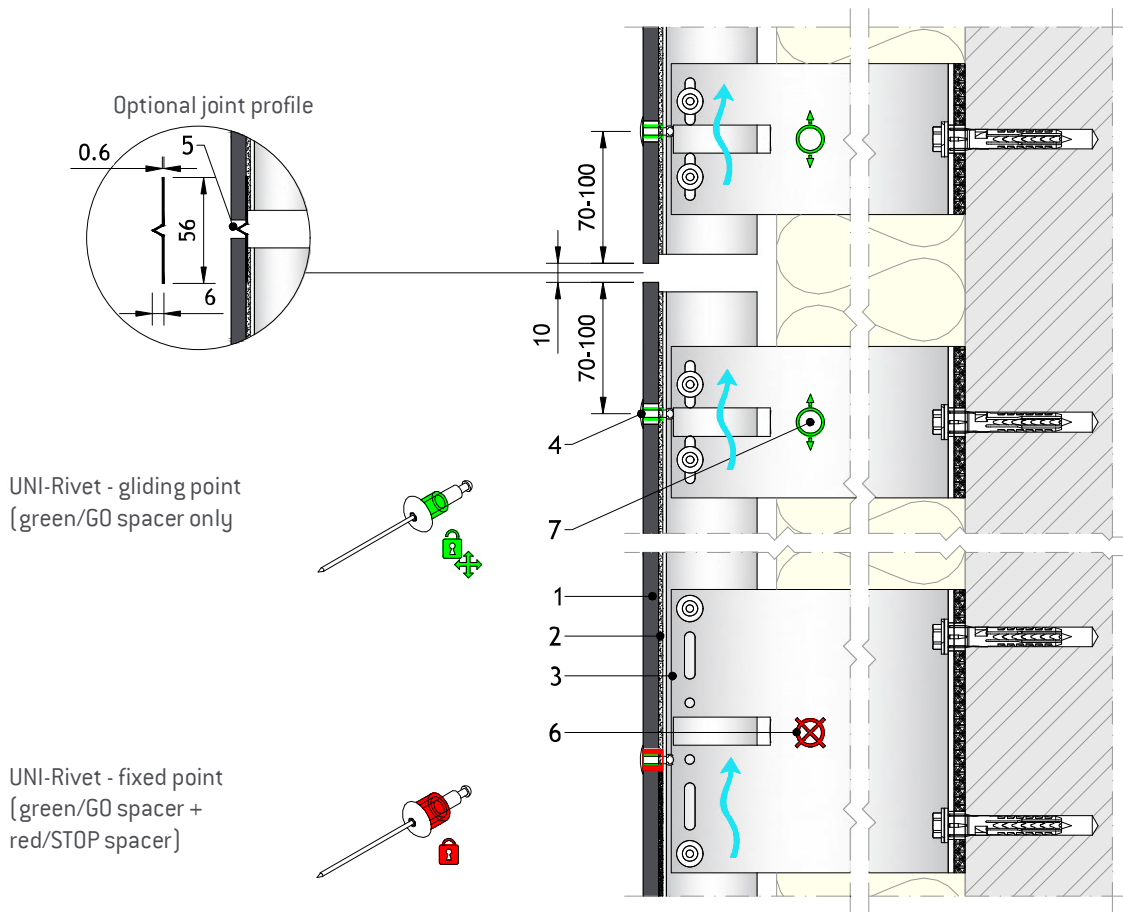
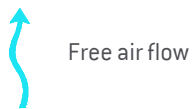


Detail 4 - Vertical joint at angle

Notes:

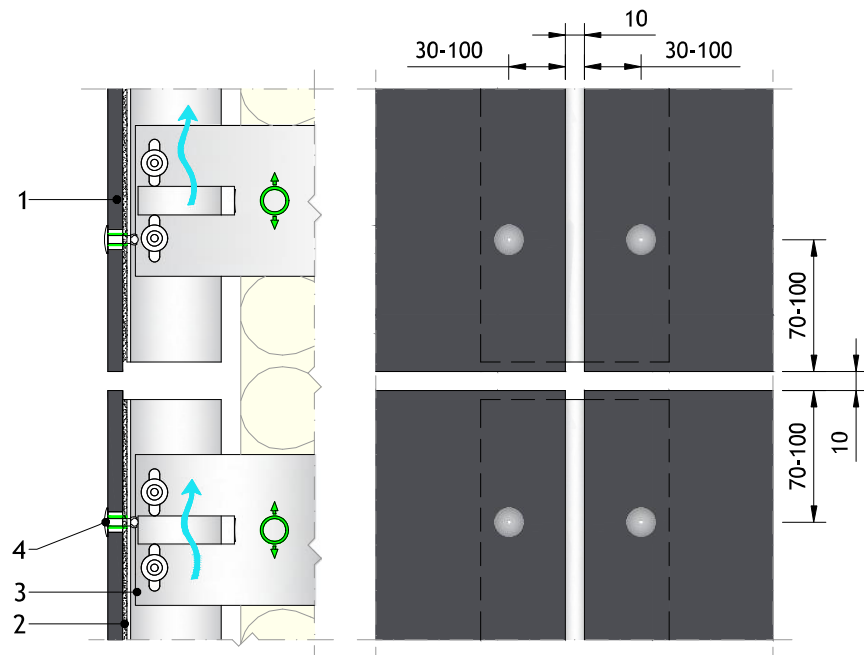
- 1) The width of the facade control joint should be equal or greater than the building control joint.
- 2) Flashings to close the joints may not be thicker as 0.8 mm.

1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet
5. Horizontal joint profile
6. Fixed point bracket
7. Gliding point bracket

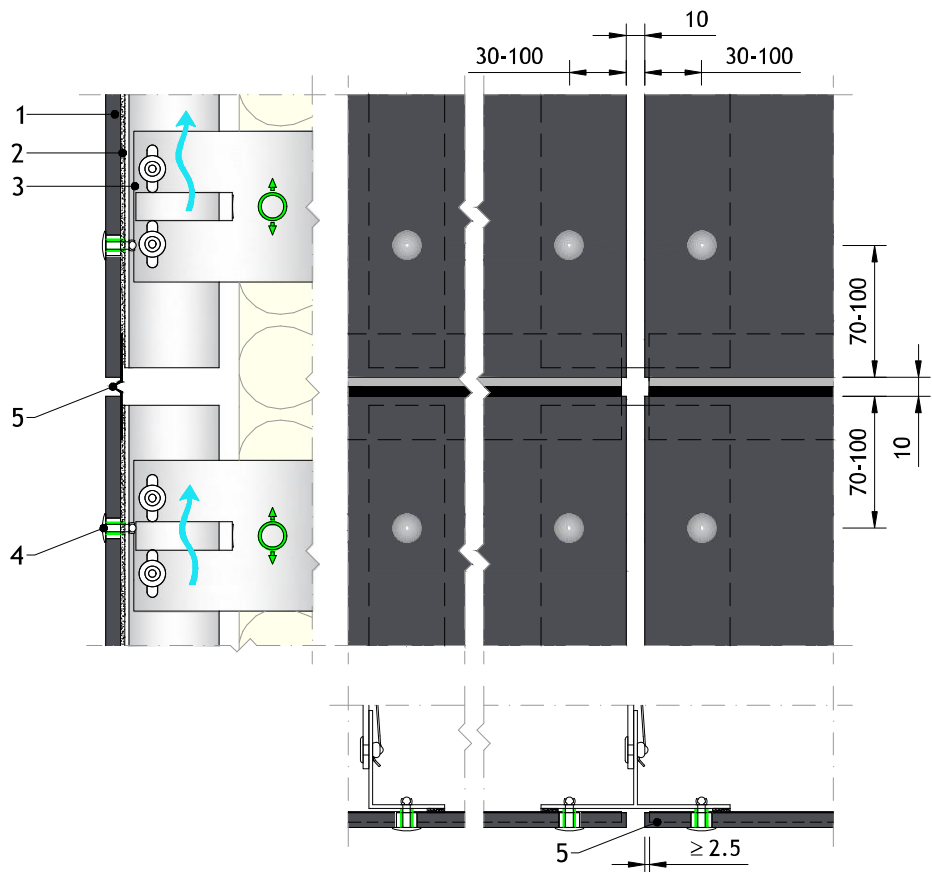


Detail 5 - Relation between fixed and gliding points

1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet
5. Horizontal joint profile




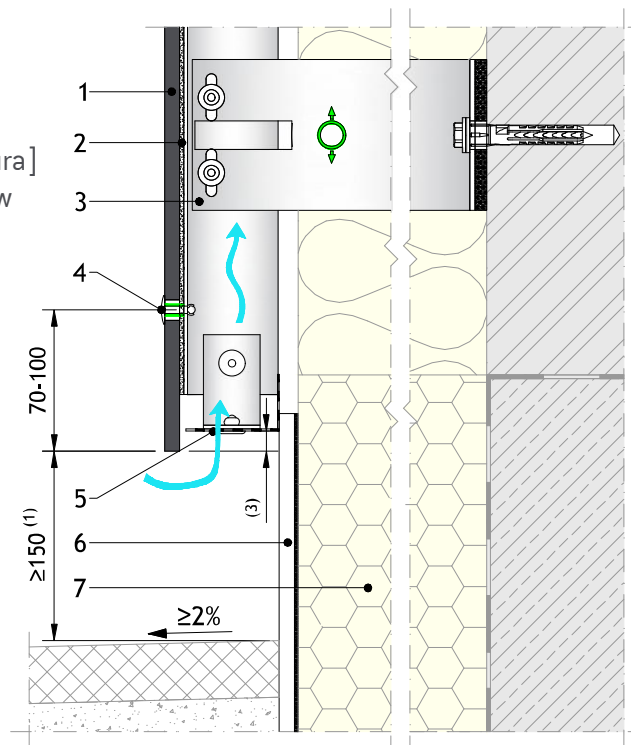
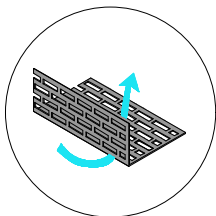
Detail 6 - Open horizontal joint junction with vertical joint



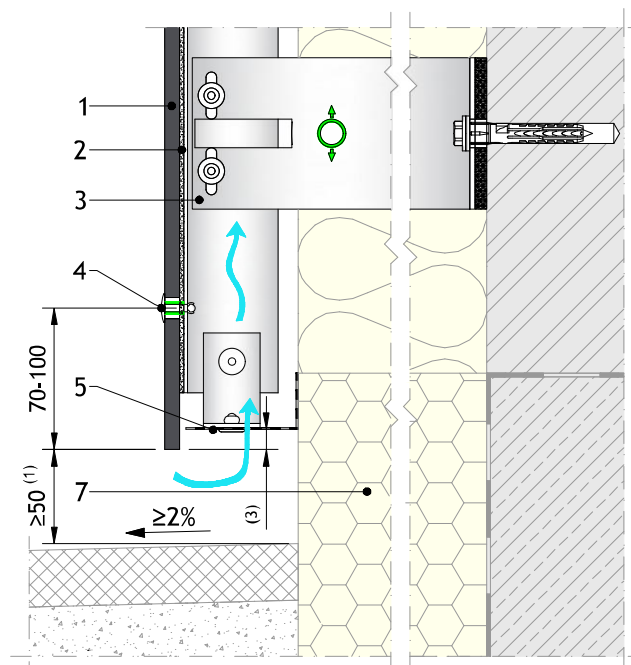
Detail 7 - Baffled horizontal joint junction with vertical joint

1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet
5. Perforated closure
6. Skirting<sup>(2)</sup> in EQUITONE [tectiva], EQUITONE [pictura], EQUITONE [textura]
7. Hard insulation suitable for use below ground level

Free air flow

Detail 8 - Base detail – Ground floor

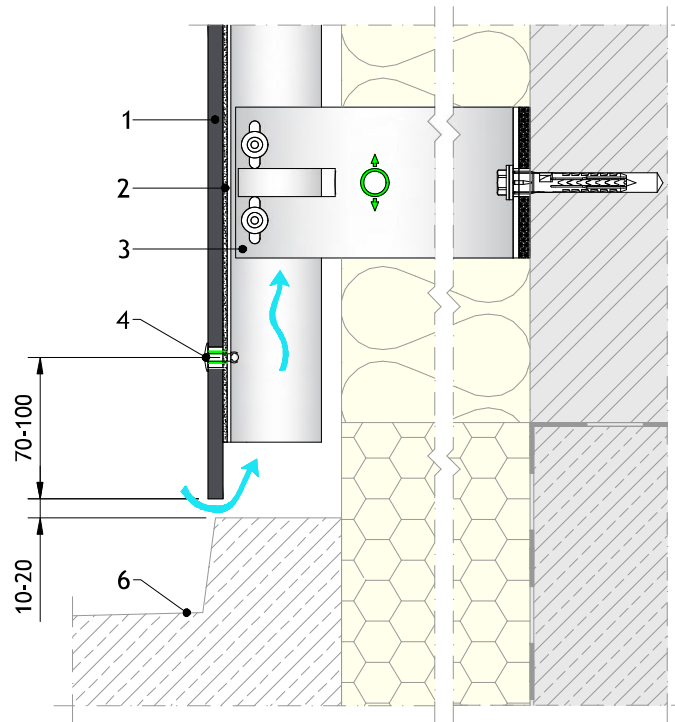


Detail 9 - Base detail – Covered area (not exposed to precipitation)

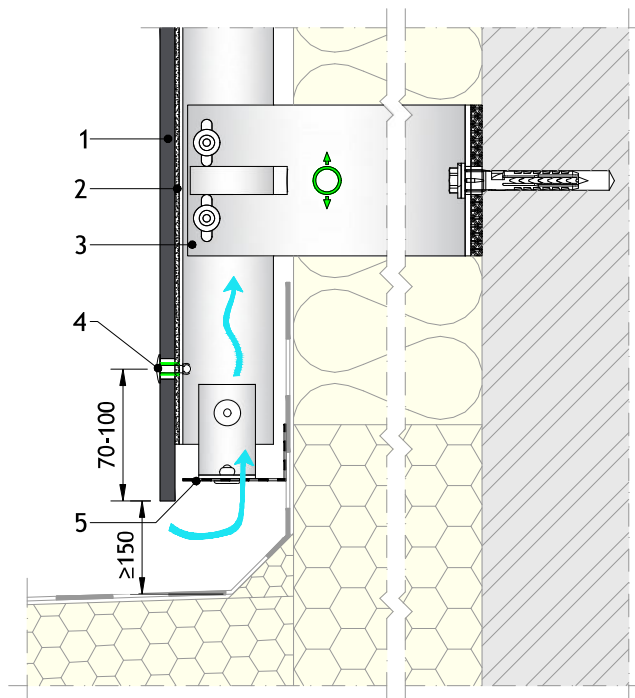
Notes:

- 1) The distance to ground level is recommended at minimum 150 mm. A smaller ground clearance is possible, but it may increase the risk of water marks and panel staining caused by splash back.
- 2) The skirting board could be concrete, natural stone, render, metal flashing or EQUITONE.
- 3) The facade panel should preferably overhang more than 10 mm below the ventilation profile to create a drip edge.

1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet
5. Perforated closure
6. Balcony floor

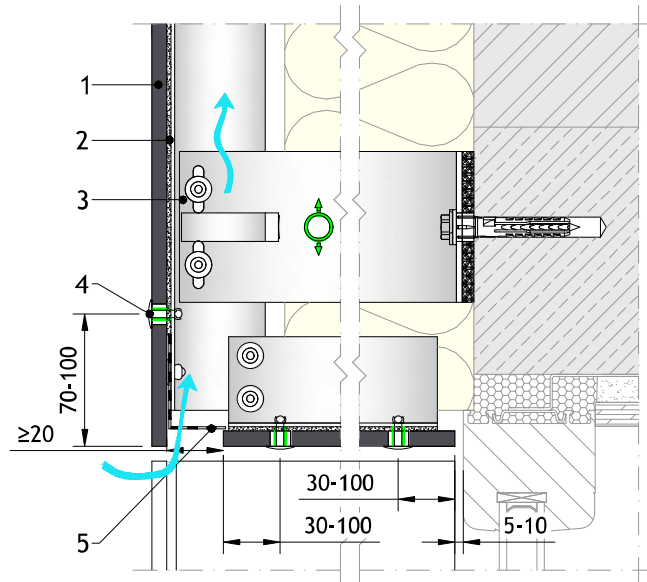


Detail 10 - Base detail – Balcony

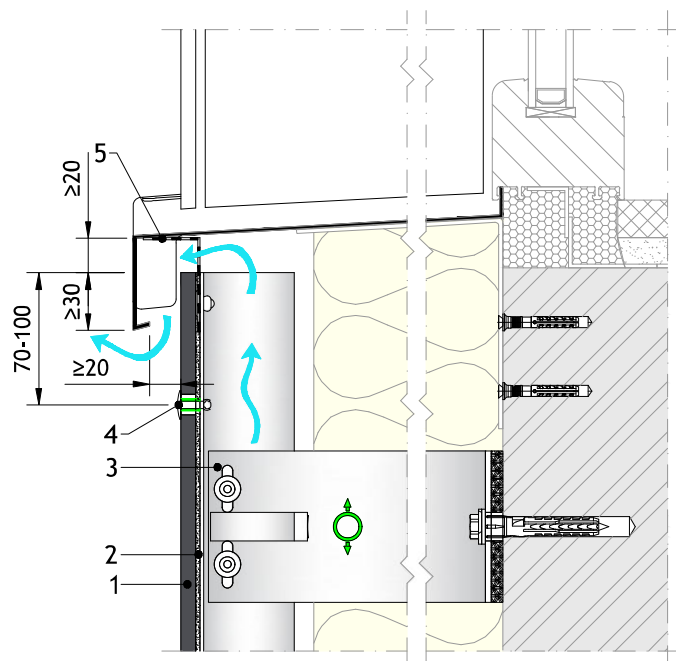


Detail 11 - Base detail – Flat roof abutment / Parapet

1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet
5. Perforated closure



Detail 12 - Window head – Option 1



Detail 13 - Window sill – Option 1


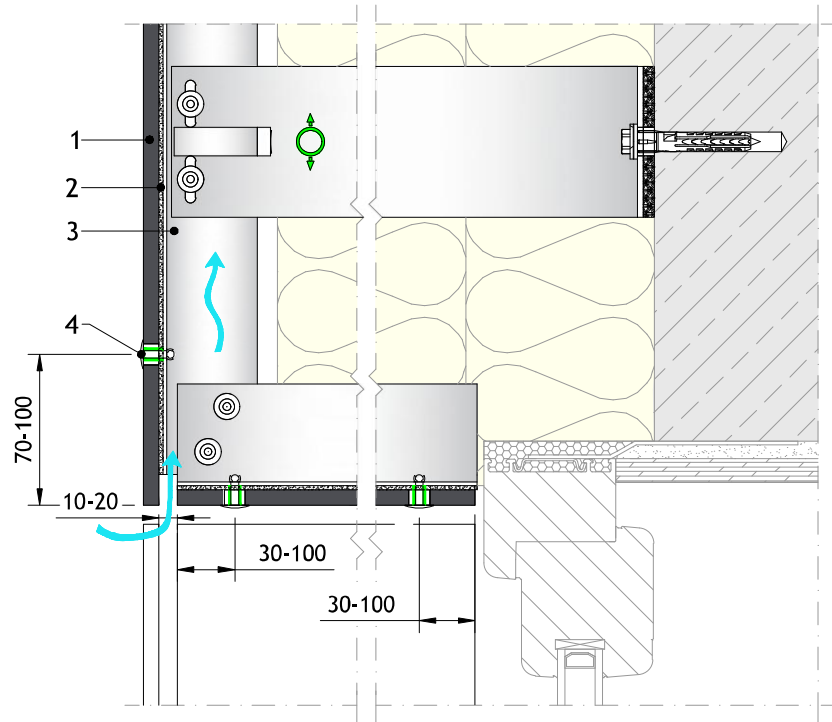
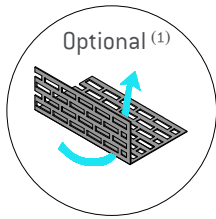
Notes:

- 1) When no perforated closure is used at the ventilation inlet, the inlet opening should be between 10 and 20 mm.
- 2) The ventilation inlet should be increased depending on building height and local legislation. When the inlet is wider than 20 mm, a perforated closure is recommended. Total perforation should have a minimum of 100 cm<sup>2</sup>/m.

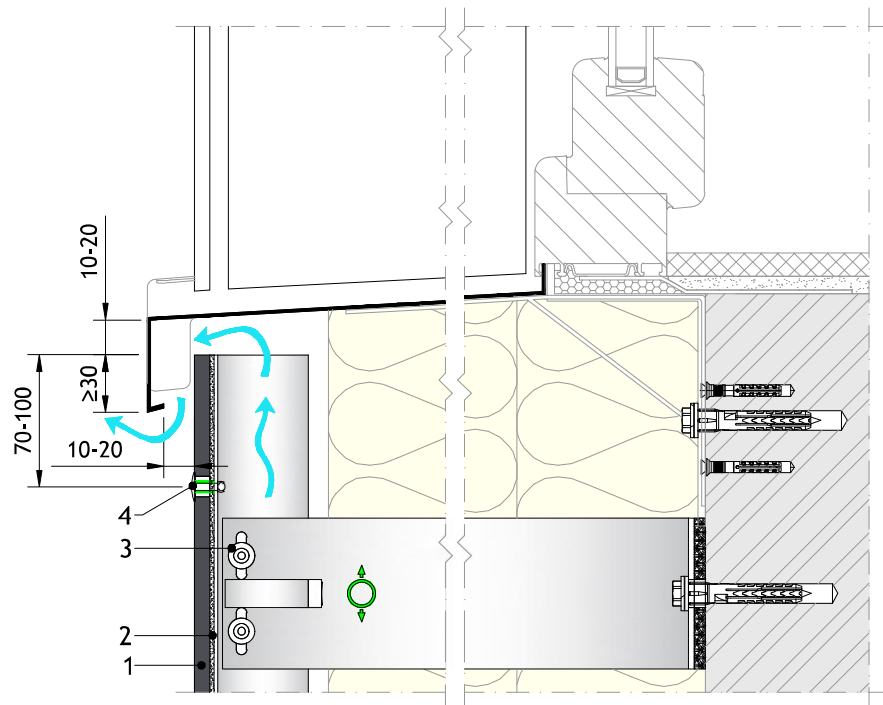


1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet

Free air flow

Detail 14 - Window head – Option 2

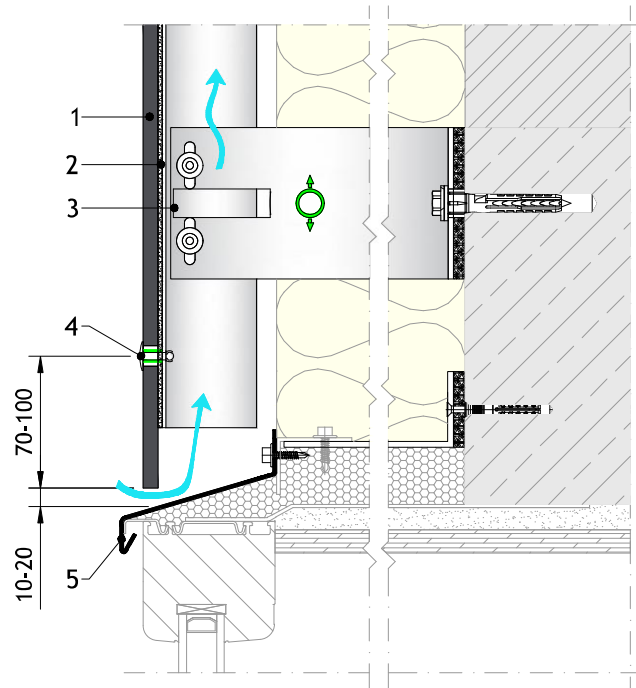
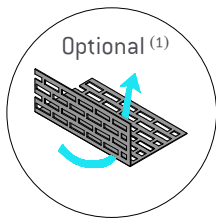
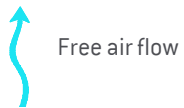


Detail 15 - Window sill – Option 2

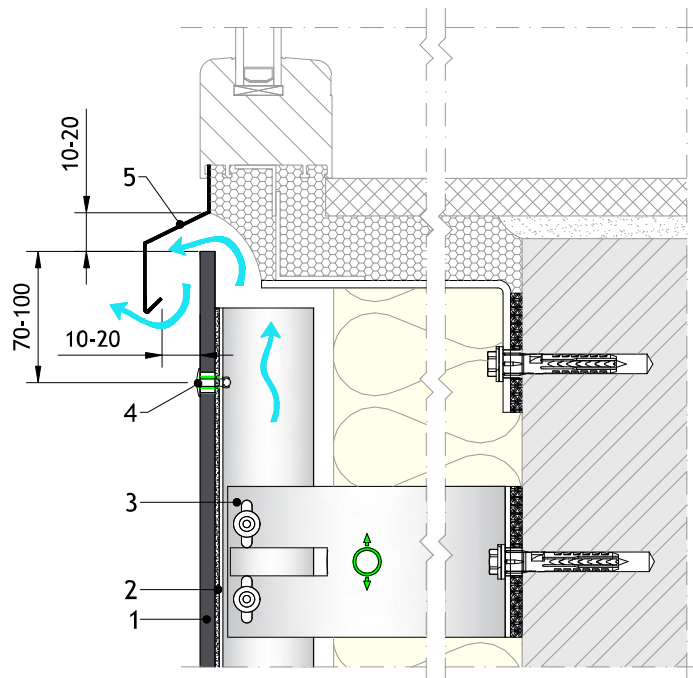
Notes:

- 1) The ventilation inlet should be increased depending on building height and local legislation. When the inlet is wider than 20 mm, a perforated closure is recommended. Total perforation should have a minimum of 100 cm<sup>2</sup>/m.

1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet
5. Aluminium flashing



Detail 16 - Window head – Flush window

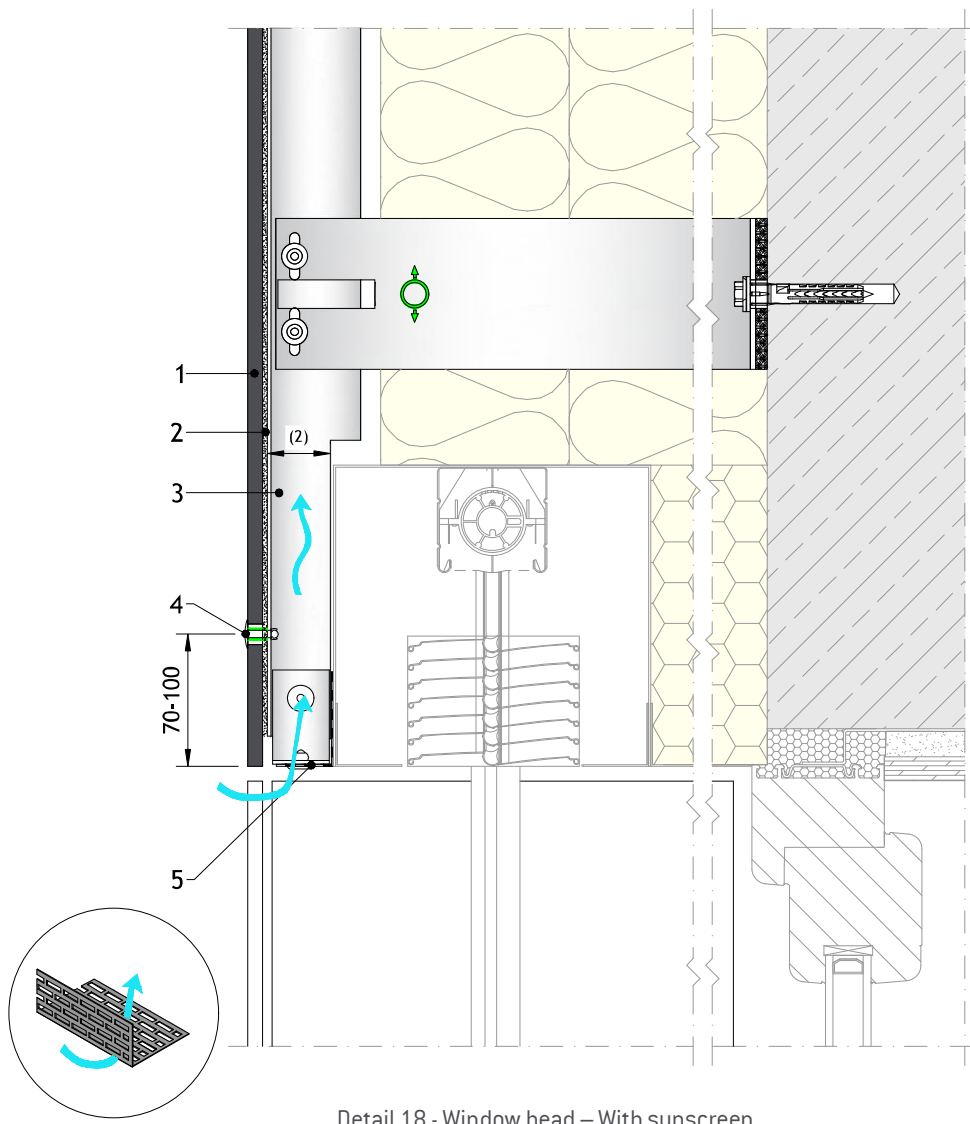
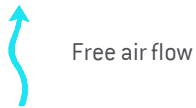


Detail 17 - Window sill – Flush window

Notes:

- 1) The ventilation inlet should be increased depending on building height and local legislation. When the inlet is wider than 20 mm, a perforated closure is recommended. Total perforation should have a minimum of 100 cm<sup>2</sup>/m.

1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet
5. Perforated closure

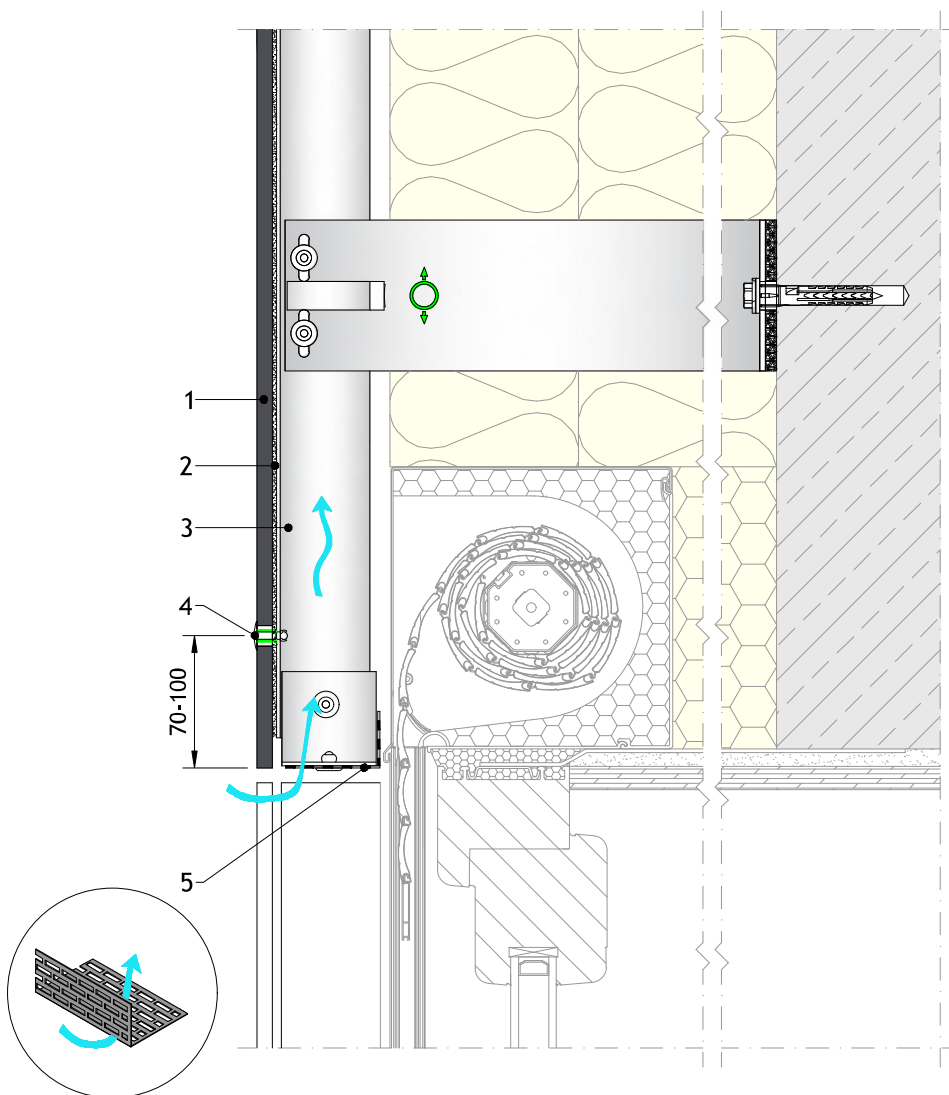
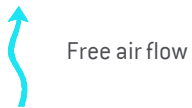


Detail 18 - Window head – With sunscreen

Notes:

- 1) The ventilation inlet should be increased depending on building height and local legislation. When the inlet is wider than 20 mm, a perforated closure is recommended. Total perforation should have a minimum of 100 cm<sup>2</sup>/m.
- 2) The reduced section of the support profiles must be taken into account during static calculations.

1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet
5. Perforated closure

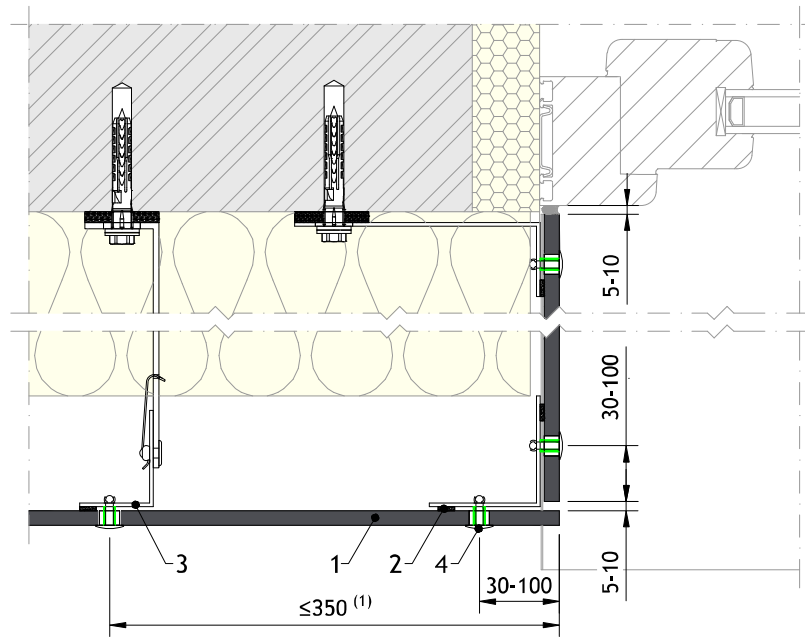


Detail 19 - Window head – With shutter

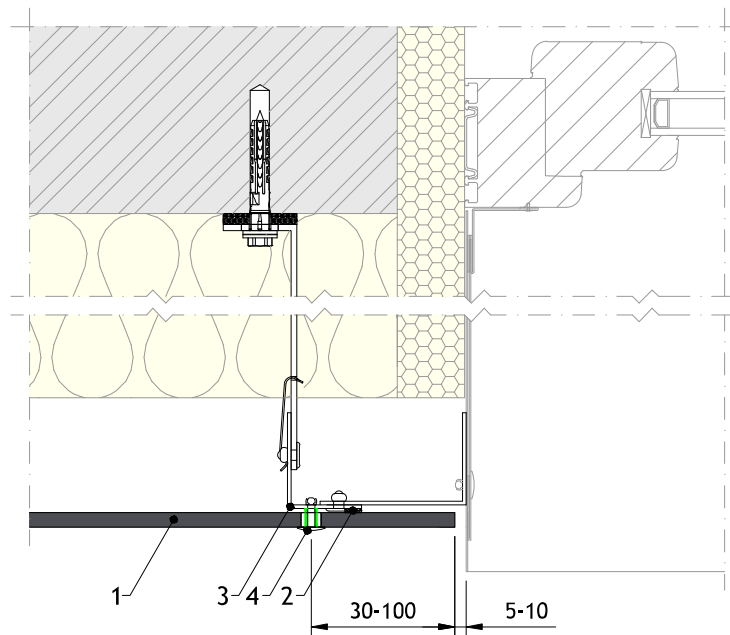
Note:

The ventilation inlet should be increased depending on building height and local legislation. When the inlet is wider than 20 mm, a perforated closure is recommended. Total perforation should have a minimum of 100 cm<sup>2</sup>/m.

1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet



Detail 20 - Window jamb – Option 1

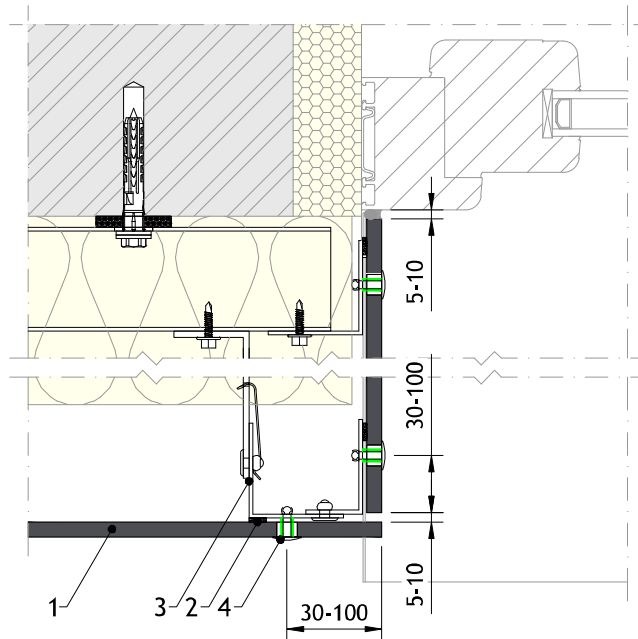


Detail 21 - Window jamb – Metal flashing

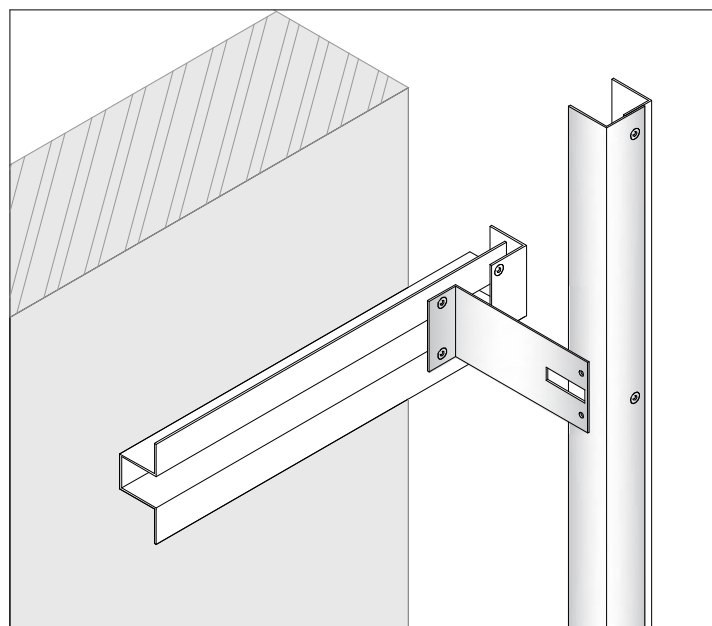
Note:

1) Panels with single span (panels with 2 columns of fixings) cannot be fixed to a floating angle like shown in the detail.

1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet

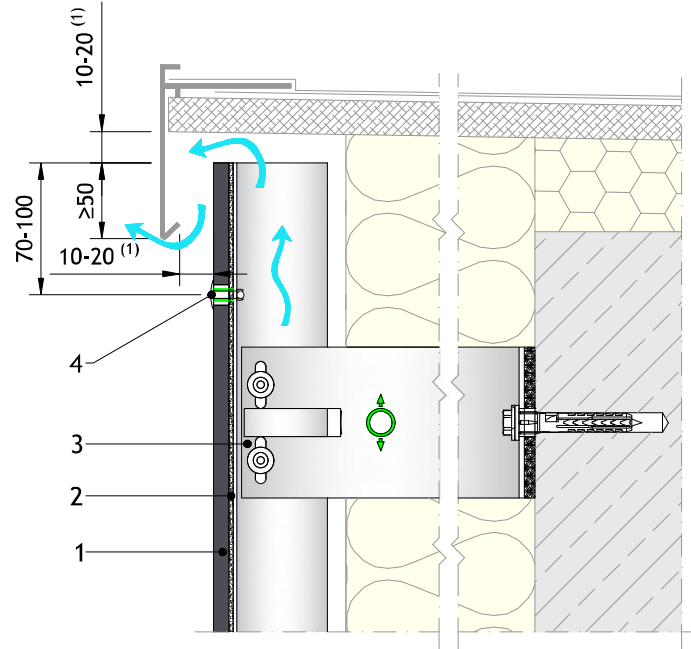
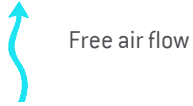


Detail 22 - Window jamb – Option 2

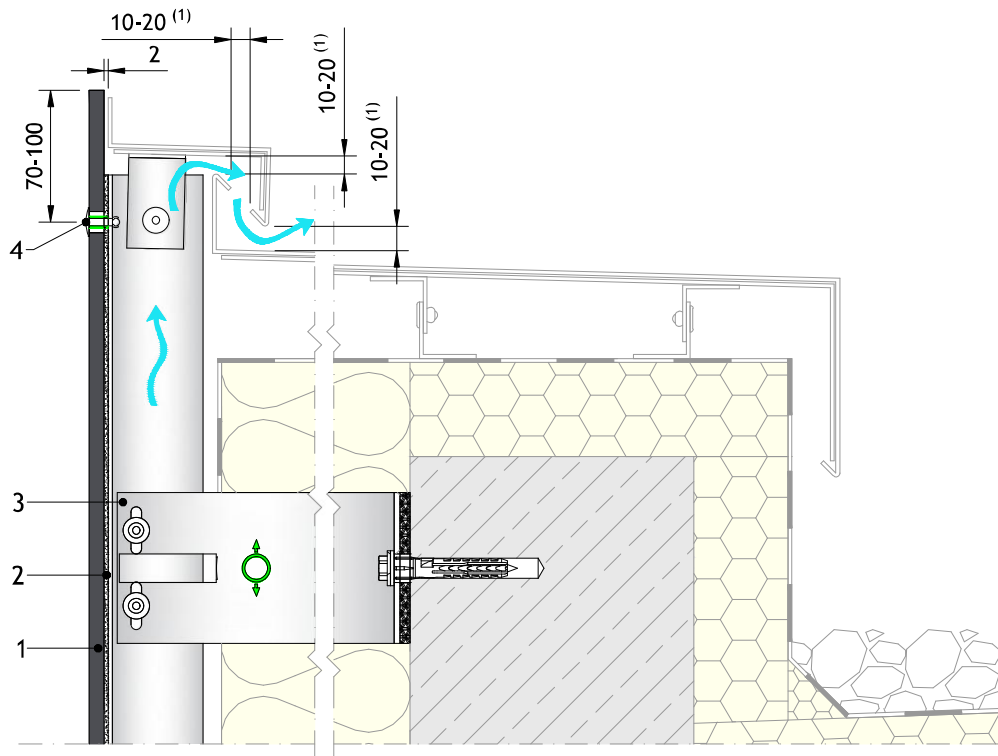


Isometric view of the support frame

1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet



Detail 23 - Capping

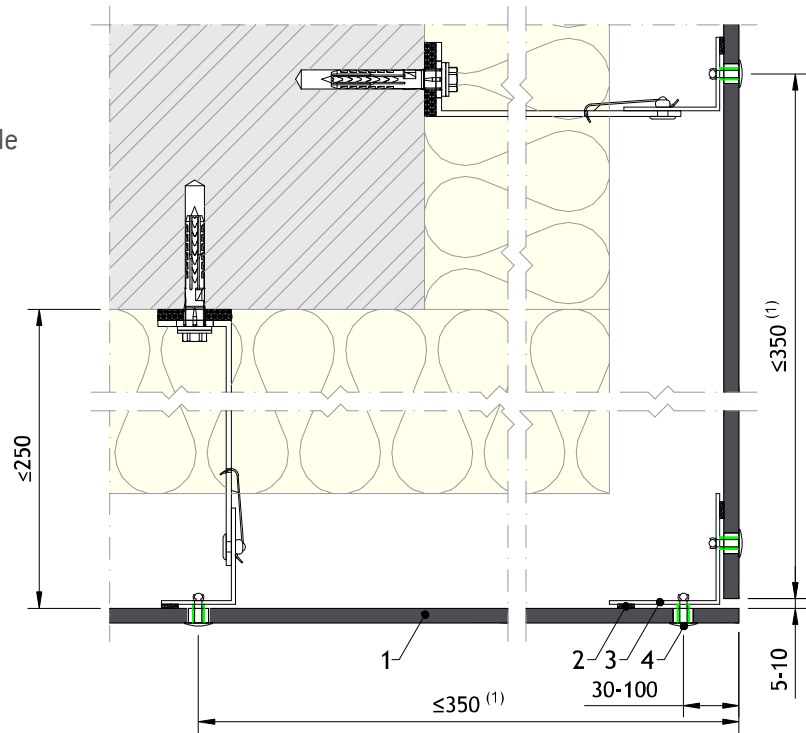


Detail 24 - Capping – Hidden ventilation

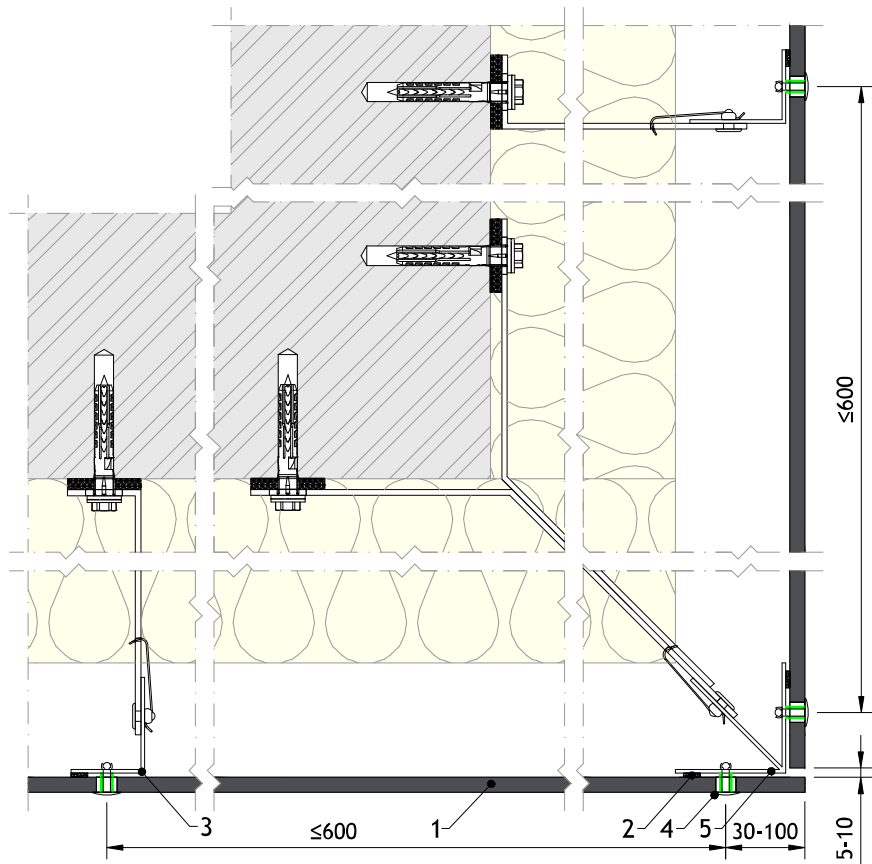
Notes:

- 1) When perforated closures are used underneath the capping the ventilation outlet opening between panel and capping should be a minimum of 30 mm.
- 2) The ventilation inlet should be increased depending on building height and local legislation. When the inlet is wider than 20 mm, a perforated closure is recommended. Total perforation should have a minimum of 100 cm<sup>2</sup>/m.

1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet
5. Custom made metal support profile



Detail 25 - External corner – Option 1

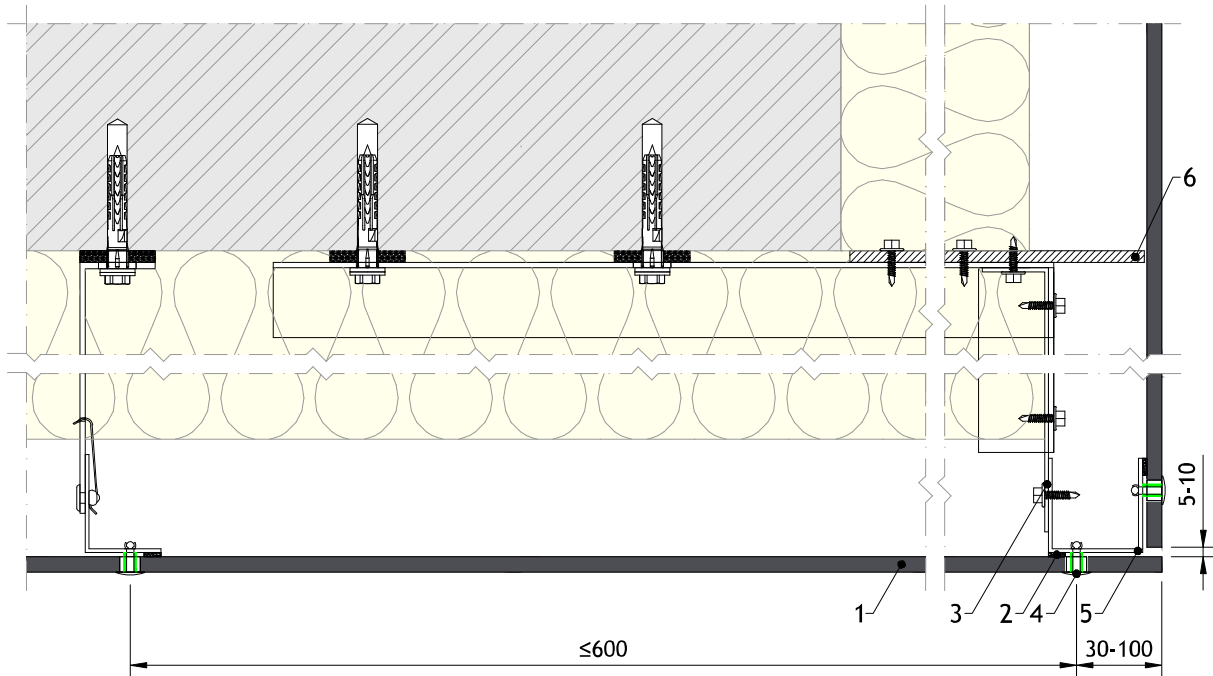


Detail 26 - External corner – Option 2

Notes:

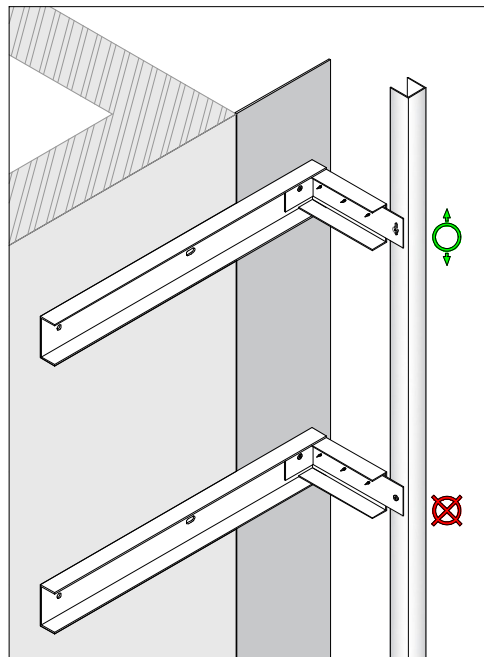
- 1) Panels with single span (panels with 2 columns of fixings) cannot be fixed to a floating angle like shown in the detail.





Detail 27 - External corner with wind barrier

- 1. EQUITONE facade panel
- 2. Foam tape
- 3. Metal support frame
- 4. UNI-Rivet
- 5. U-shaped profile
- 6. Wind barrier [metal or fibre-cement]

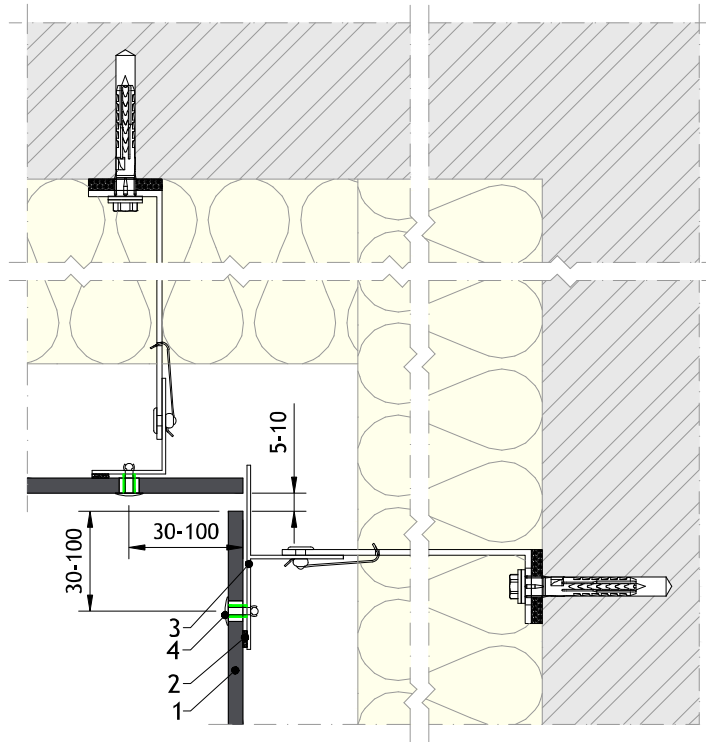


Isometric view of the support frame

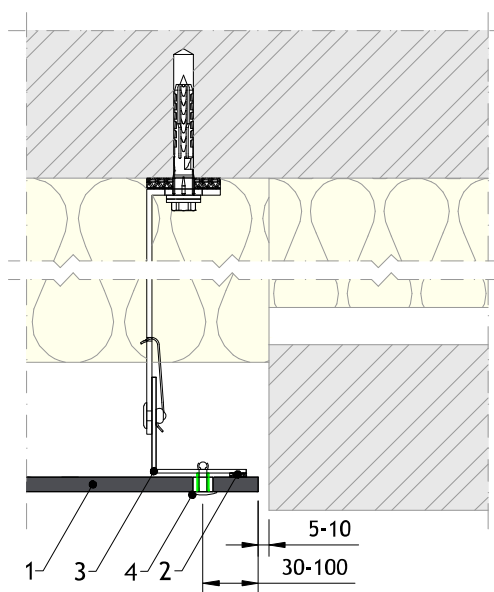
Notes:

The installation of wind barrier is subject to local standards and building regulation.

1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet

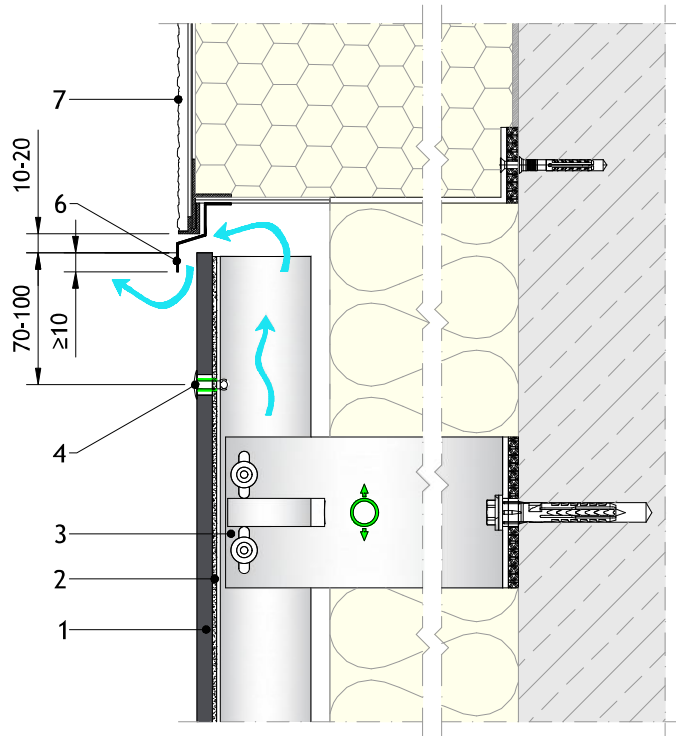
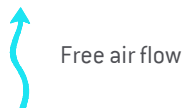


Detail 28 - Internal corner

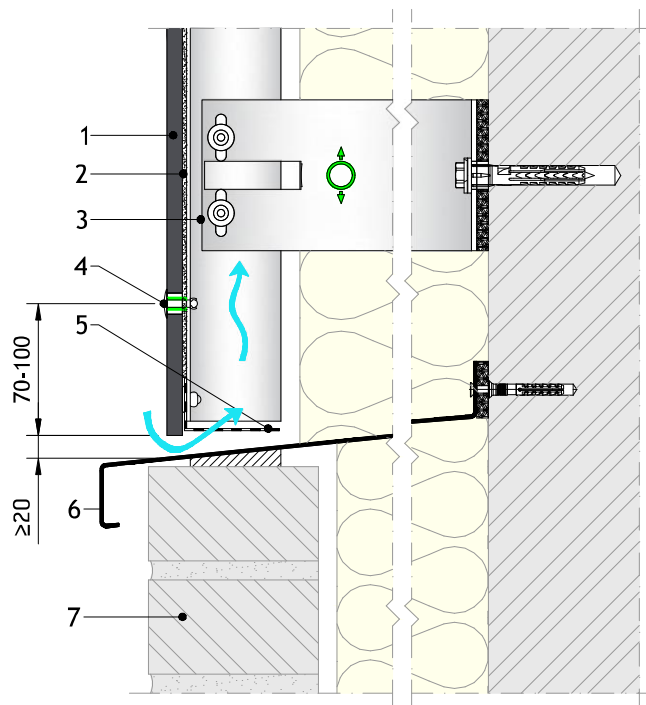


Detail 29 - Abutment

1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet
5. Perforated closure
6. Aluminium flashing
7. Adjacent facade system



Detail 30 - Junction with other facade material – Head detail

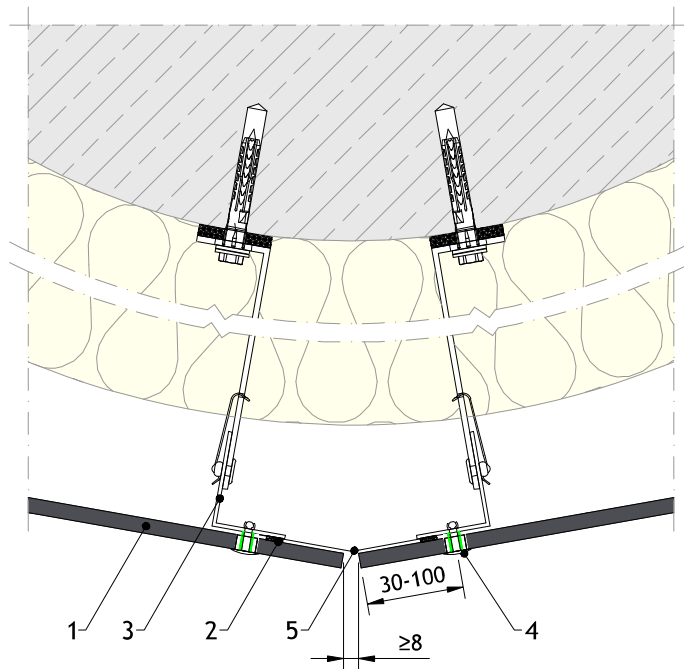


Detail 31 - Junction with other facade material – Base

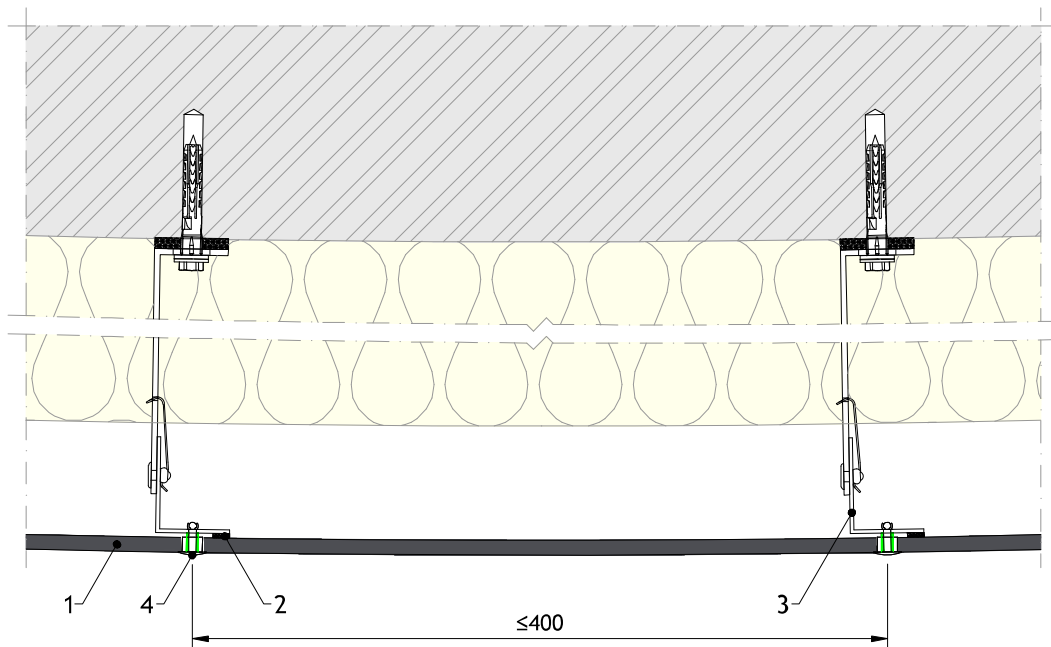
Note:

The ventilation inlet should be increased depending on building height and local legislation. When the inlet is wider than 20 mm, a perforated closure is recommended. Total perforation should have a minimum of 100 cm<sup>2</sup>/m.

1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet
5. Flashing<sup>(3)</sup>



Detail 32 - Segmented façade – Radius < 12 m

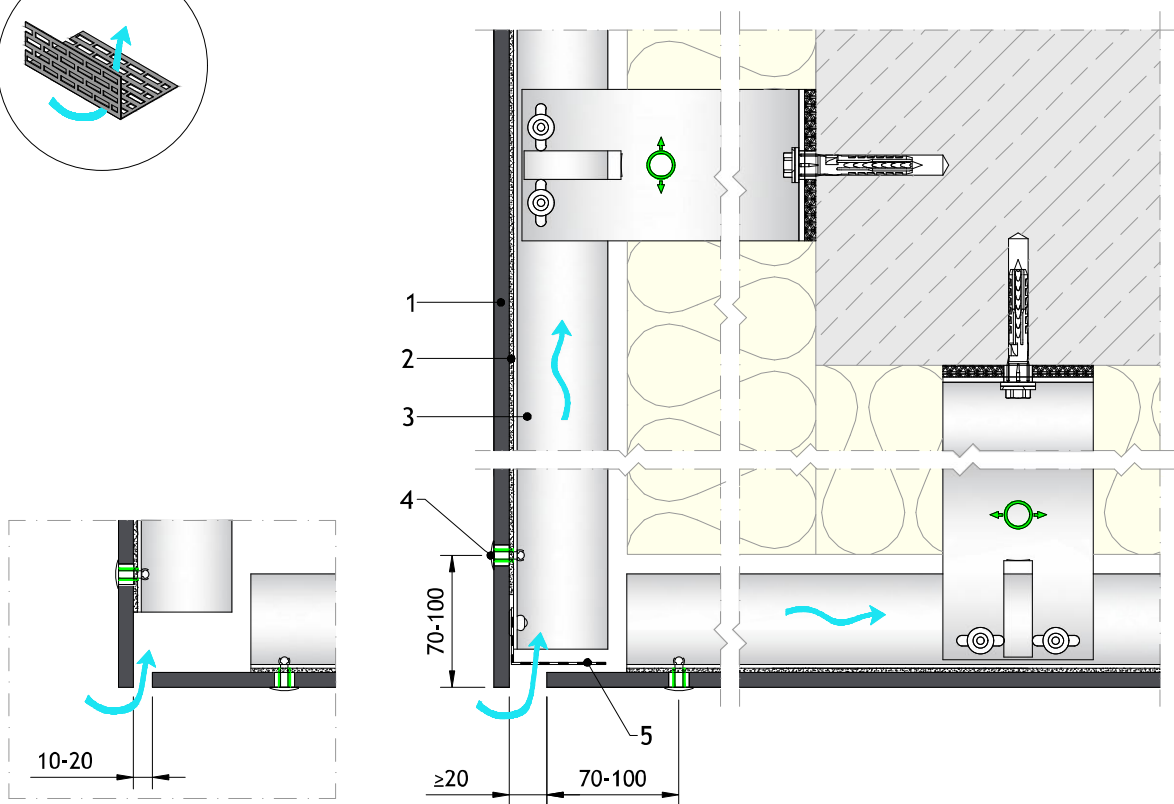
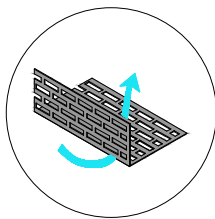
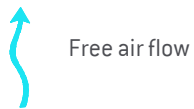


Detail 33 - Curved façade – Radius  $\geq$  12 m

Notes:

- 1) The minimum radius for curved facade is 12.0 m, the framing centers should be reduced to a maximum of 400 mm.
- 2) For smaller radii the facade should be executed as segmented facade.
- 3) Flashings to close the joints may not be thicker than 0.8 mm.

1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet
5. Perforated closure




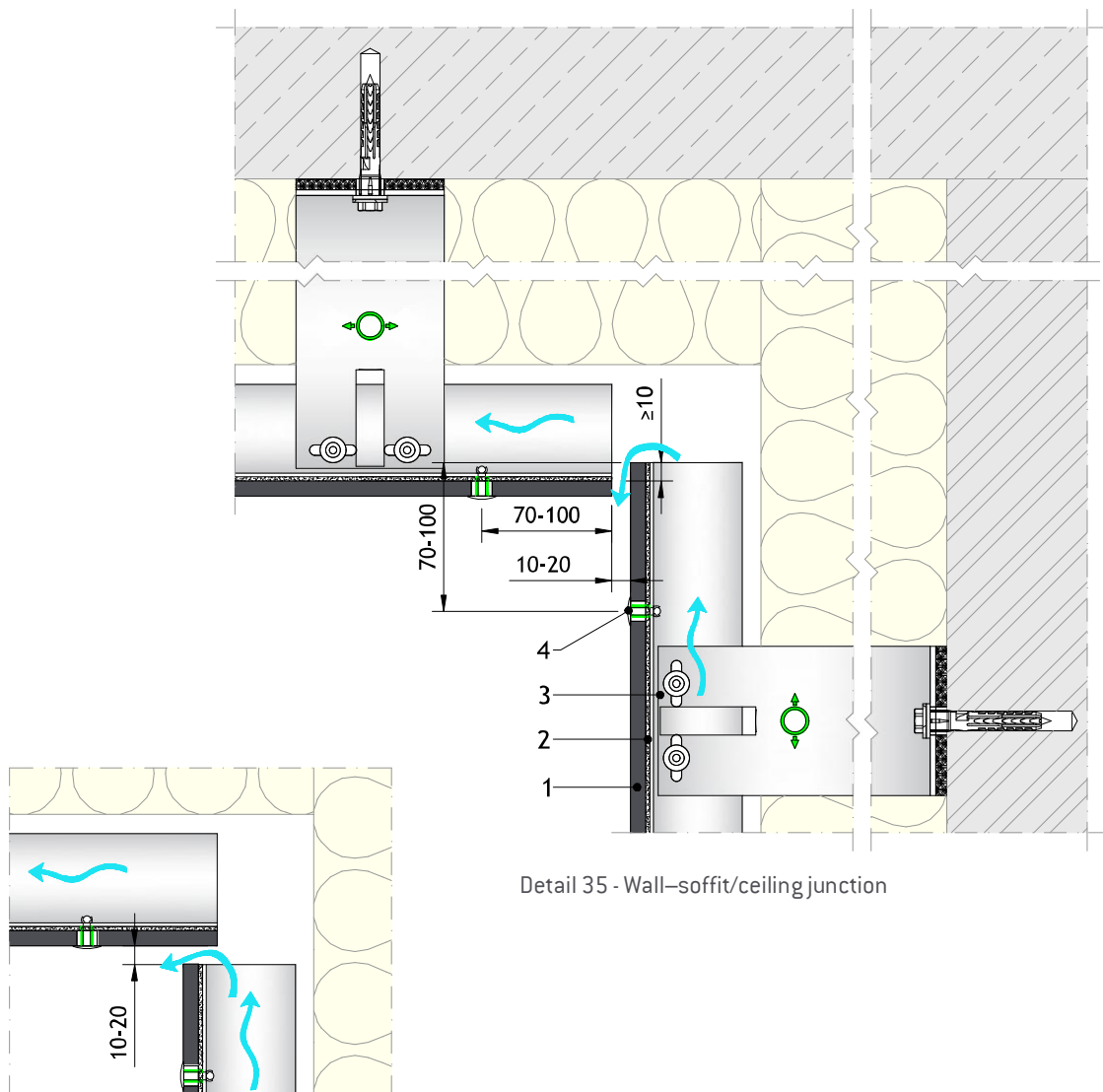
Detail 34 - Soffit/ceiling-wall junction

Notes:

- 1) The maximum centre-spacing between the UNI-rivets in a ceiling application is 400 mm.
- 2) When no perforated closure is used at the ventilation inlet, the inlet opening should be between 10 and 20 mm. Total perforation should have a minimum of 100 cm<sup>2</sup>/m.
- 3) The ventilation inlet should be increased depending on building height and local legislation. When the inlet is wider than 20 mm, a perforated closure is recommended.

1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet

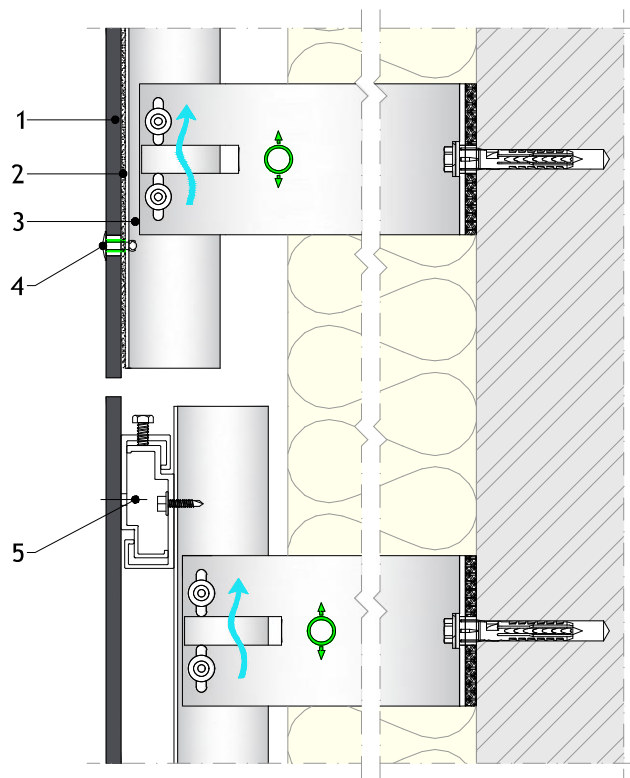
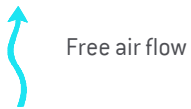
Free air flow

Notes:

- 1) The maximum centre-spacing between the UNI-rivets in a ceiling application is 400 mm.
- 2) When no perforated closure is used at the ventilation inlet, the inlet opening should be between 10 and 20 mm. Total perforation should have a minimum of 100 cm<sup>2</sup>/m.
- 3) The ventilation inlet should be increased depending on building height and local legislation. When the inlet is wider than 20 mm, a perforated closure is recommended.

1. EQUITONE facade panel
2. Foam tape
3. Metal support frame
4. UNI-Rivet
5. Concealed fixing



Detail 36 - Junction with panels with concealed fixings

Notes:

- 1) Check the construction details for concealed fixing for more information.
- 2) Depending on the specified concealed fixing system the minimum panel thickness could vary from 8 to 12 mm as applicable.
- 3) Special attention must be taken to the alignment of the panels with concealed fixing and the ones with face fixings.

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