



Architectures Polycarbonate
Agence Technique Gallina France

Technical book Aeration window

Integrations in arcoPlus Systems

Interlocking
Connectable



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The graphic elements reproduced in this document are schematic diagrams of principles to be adapted to the specifications of each project and the regulations in force.

Please observe current building safety regulations. We exclude any liability in this regard.

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Interlocking

1 - System Definition

Aeration windows with interlocking filling are used to meet the natural ventilation needs of a building.

These openings can be integrated directly into polycarbonate facades with interlocking panels which allows easy integration and aesthetic consistency:

- Lacquering of the frames identical to the profiles of the polycarbonate cladding
- Visual appearance identical to polycarbonate cladding
- Simplified integration
- Perfect sealing between window and polycarbonate cladding

On the other hand, thermal bridge breaker components make it possible to meet energy performance needs.

2 - Field of use

The opening fits into the interlocking polycarbonate facades. The area of use is similar to that of the façade in which the opening is integrated (refer to the corresponding technical book). The maximum inclination is +/- 15°.

3 - Technical assistance

Technical assistance and distribution from France are carried out by the company Poly-Pac, ZA La Porte de Ker Lann in Bruz (Rennes). Poly-Pac defines the typology best suited to the project by listing a precise description of panels, profiles and accessories necessary for its realization. Poly-Pac does not install itself, but can, at the request of the user, provide technical assistance for the start of the installation.

4 - Specifications

Maximum dimensions

- Height between 500 and 2000 mm x Max width 1500 mm for manual opening
- Height between 500 and 2000 mm x Max width 2000 mm for electric opening with a chain stroke of 250 mm

Finishes

Two types of finishes are available for aluminium profiles:

- Lacquering (SFPI range)
- Natural anodizing

Filling

The filling is done in 40 mm thick interlocking polycarbonate sheets. Other filling solutions can be studied on request.

Number of hinges

The number of hinges will be established according to the dimensions and filling of the opening.

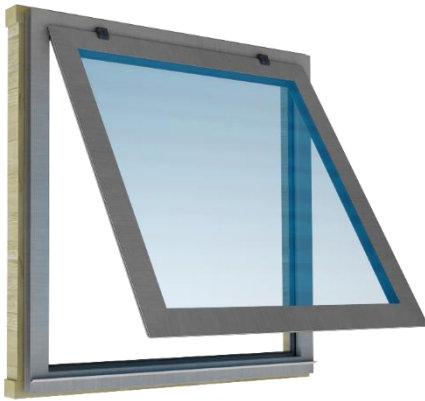
Reaction to fire

The reaction to fire of chassis with interlocking arcoPlus filling is: B, s1-d0.

Window weight

Surface weight of window without opening system = 15 kg/m²

Top-hung window



Bottom-hung window



5 - Optional devices

Rain/wind probe, detects the presence of rain or wind

CO₂/VOC probe, detects the amount of CO₂/VOC contained in indoor air

6 - Implementation

6.1. Aeration window

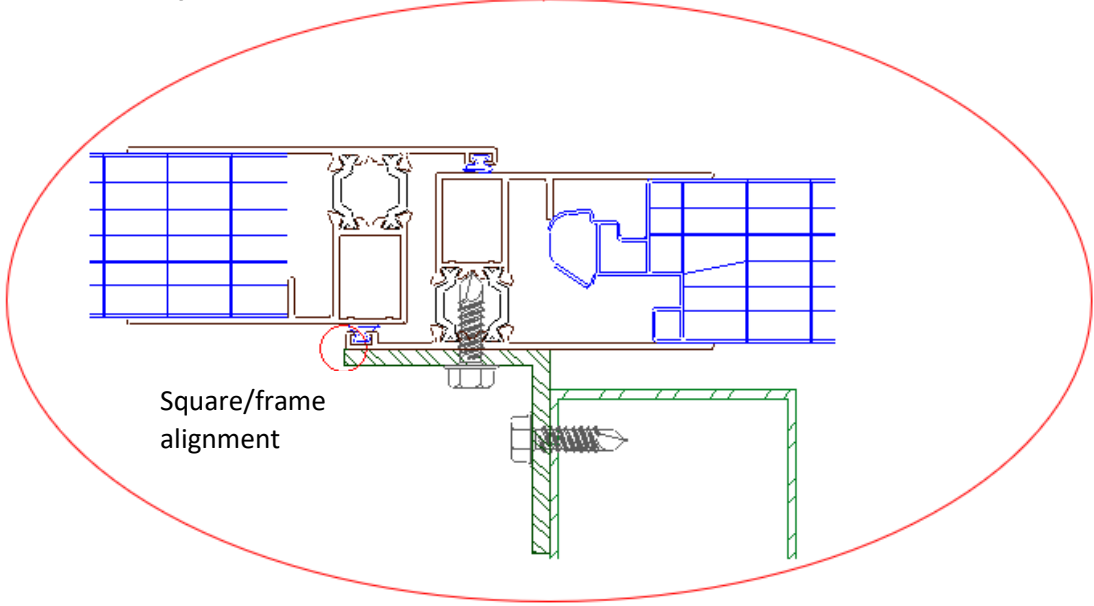
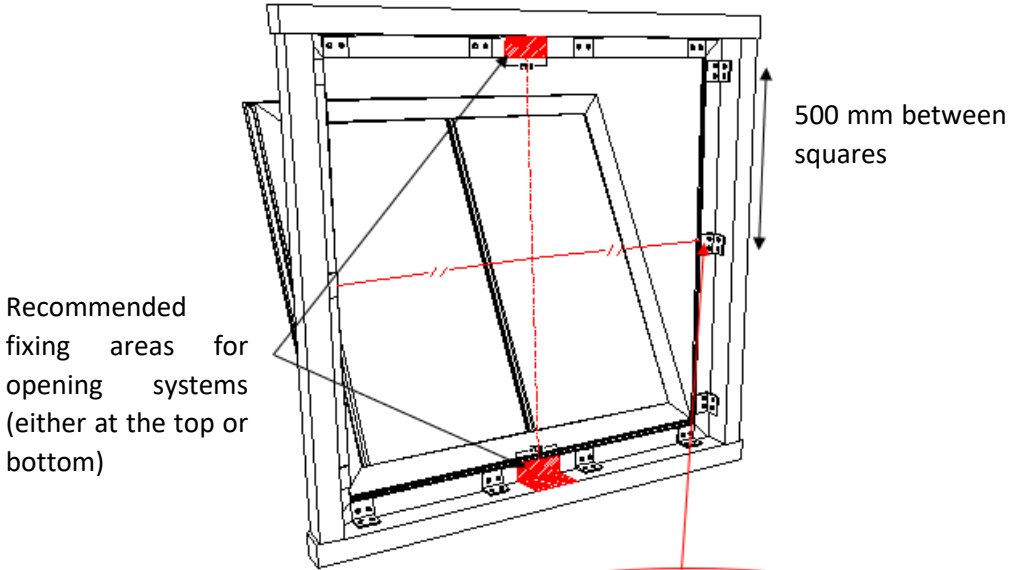
The aeration windows are delivered pre-assembled. The window frame is always placed and fixed on a trimmer.

Items received:

- Pre-assembled window including frames, openings and filling
- The opening system, including fixing screws

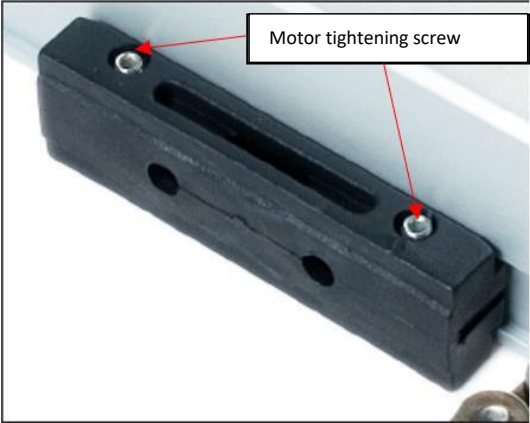
Items to be provided by the installer:

- 50*50*60*3 mm squares
- Squares fasteners
 - o On frames, H head stainless steel A2 screws 5.5x19 mm, 2 per square
- Squares fasteners
 - o On supports, H head stainless steel A2 screws 5.5x X mm, length depending on the support material, 2 per square



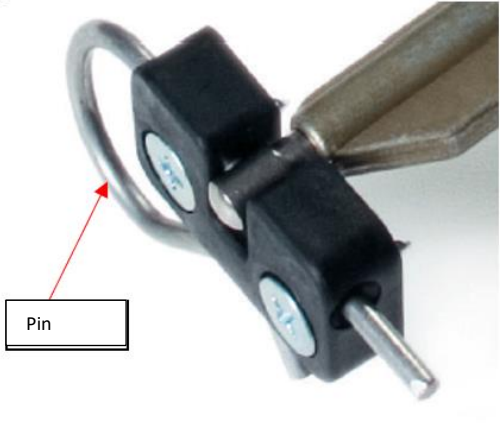
6.2. Opening systems

Fixation on window frame



Motor position adjustment system

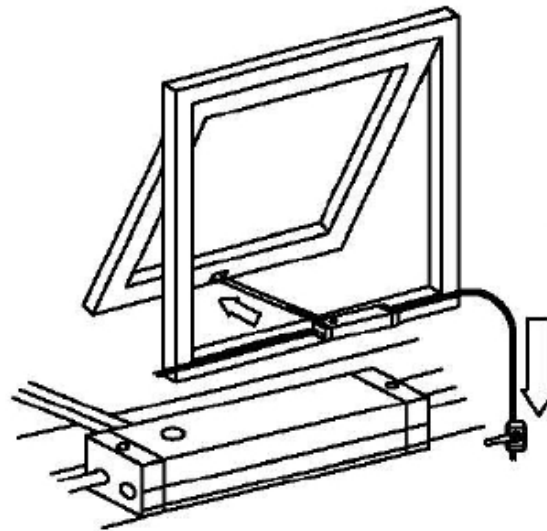
Fixation on opening



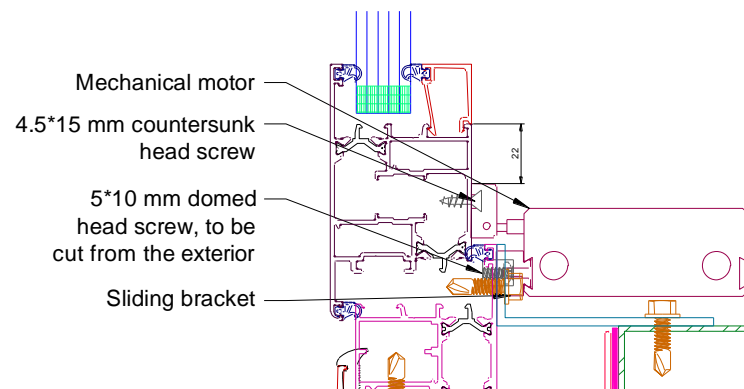
Pin to connect the opening to the chain

Mechanical, mechanical system with a crank to be operated manually. The maximum stroke of the chain is 250 mm.

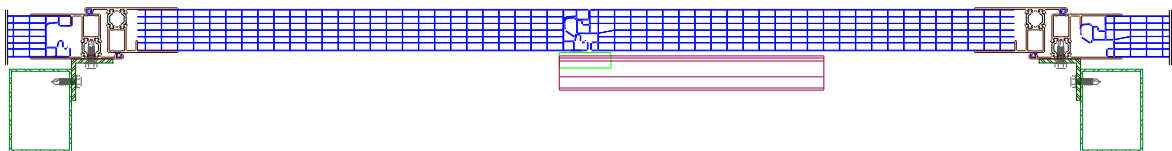
Overall diagram



Position and dimensions

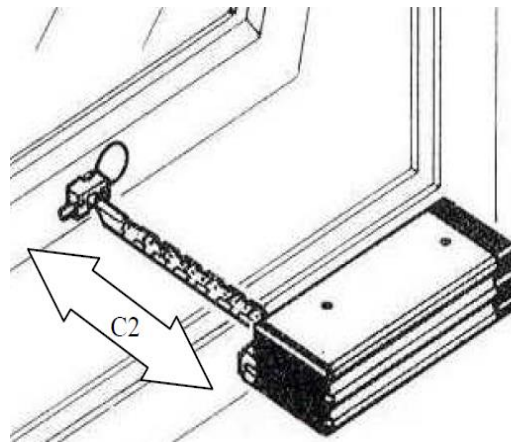


Horizontal section

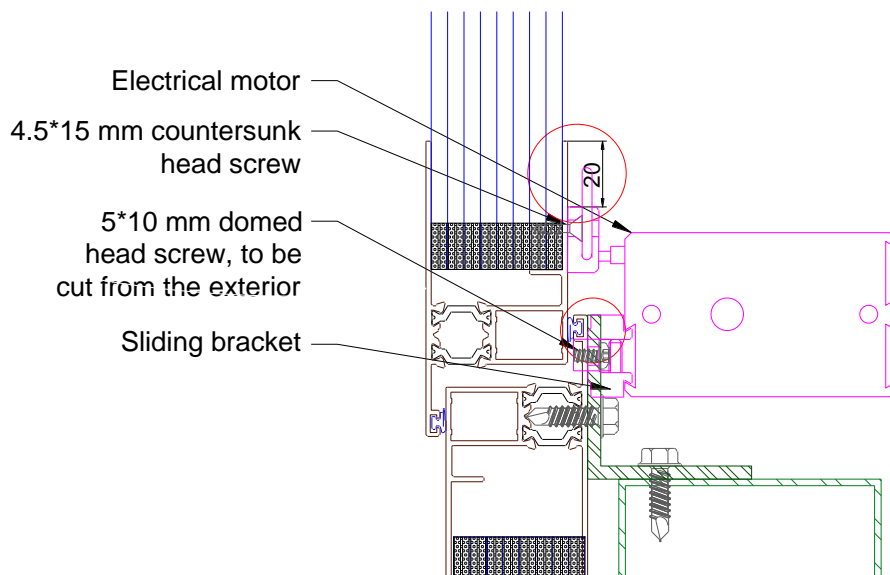


Electric. It works with a 230 V power supply and 3 wires + ground. The maximum stroke of the chain is 250 mm (C2). The motor is fixed to the frame.

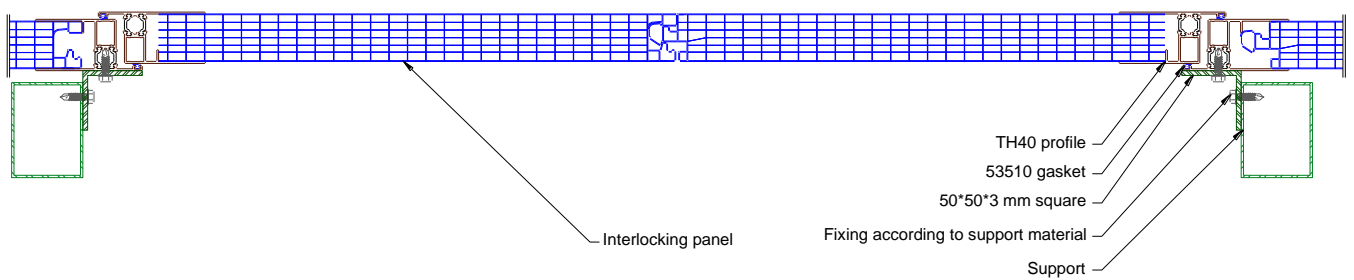
Overall diagram



Position and dimensions

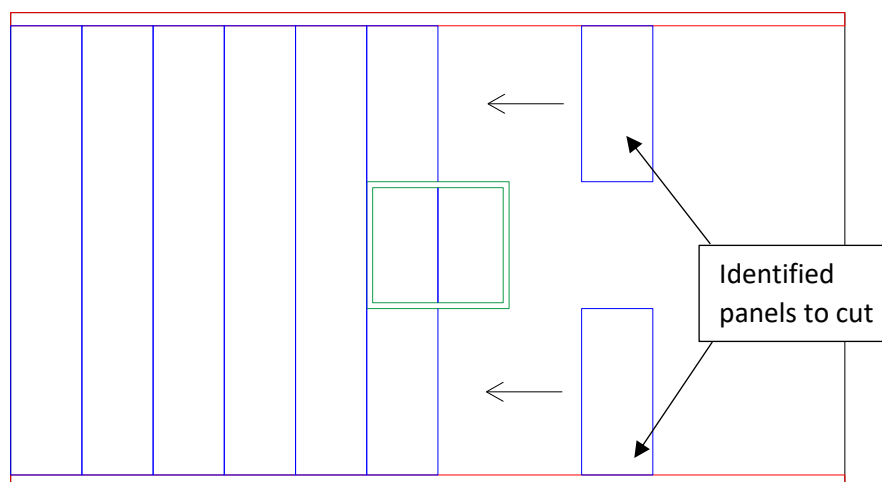


Horizontal section



6.3. Panels in upper and lower parts

The insertion of the panels can be done from the side according to the following image:

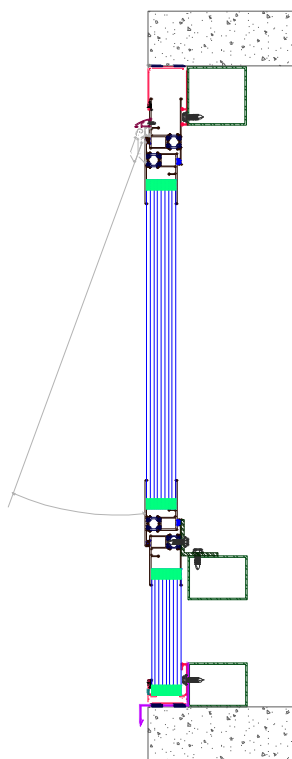


In red, the cladding profiles, in blue the polycarbonate panels and in green the aeration window.

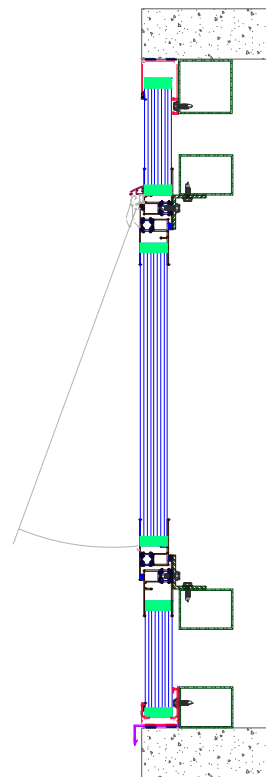
The maximum height of the panels is 5 m in the lower part and 10 m in the upper part.

Complete façade

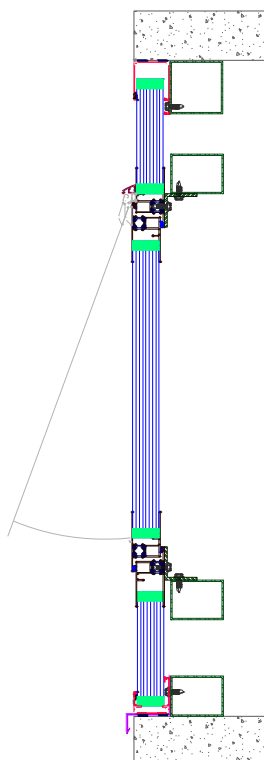
Top aeration window



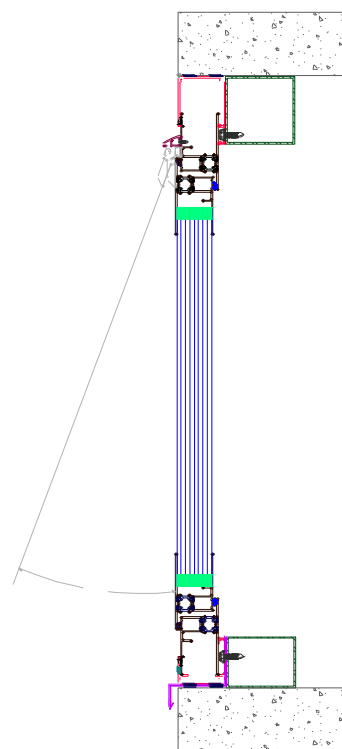
Bottom aeration window



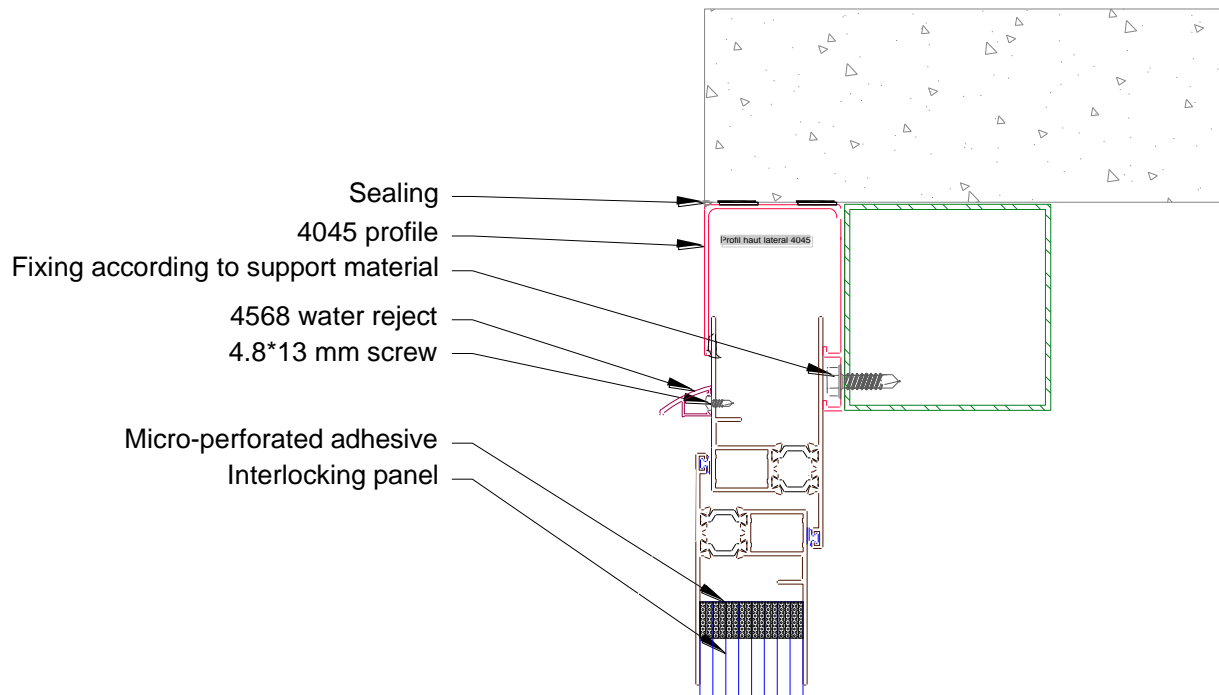
Mid aeration window



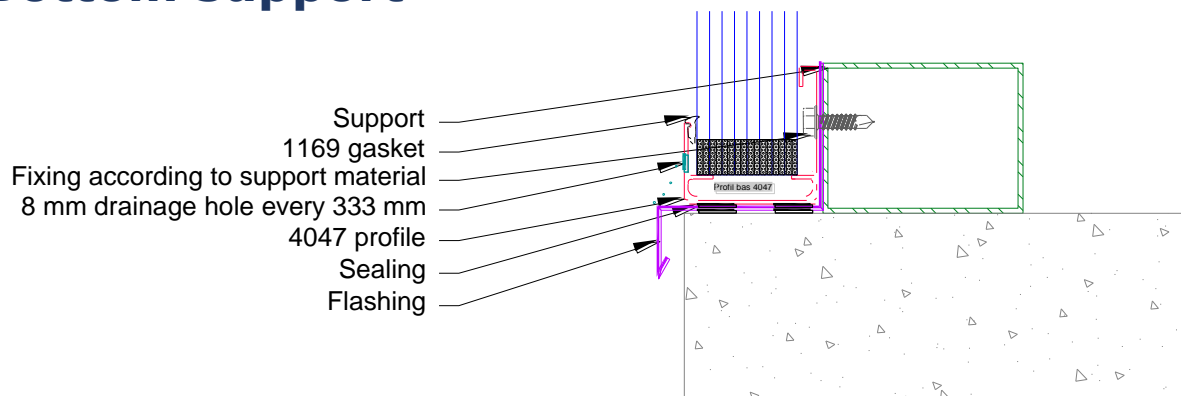
Full-height aeration window



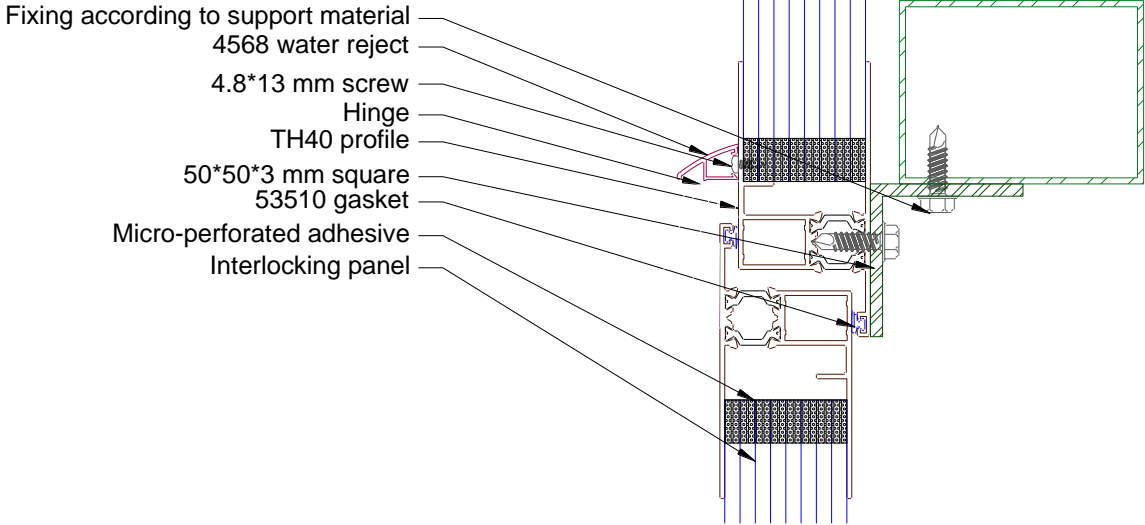
Top support



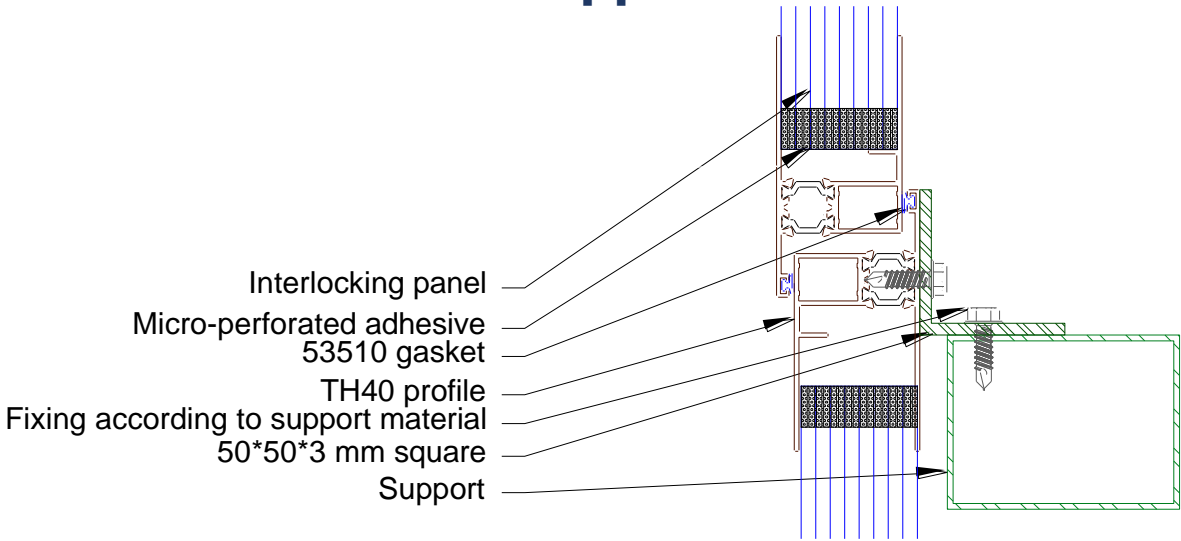
Bottom support



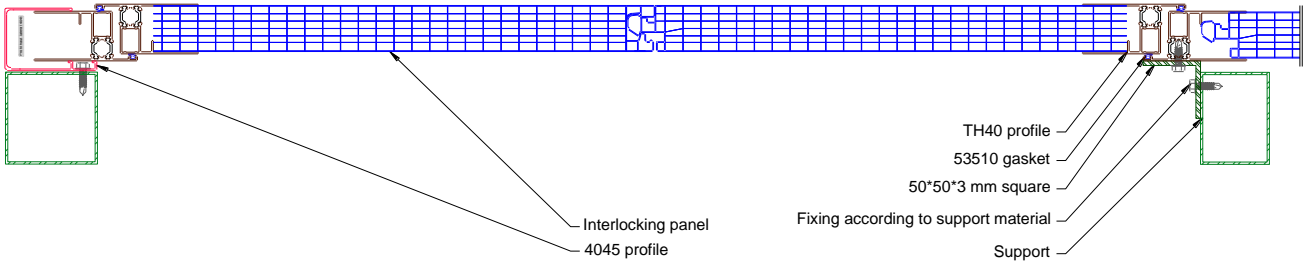
Upper intermediate support



Lower intermediate support



Horizontal section



Connectable

1 - System Definition

Aeration windows with connectable filling are used to meet the natural ventilation needs of a building.

These openings can be integrated directly into polycarbonate facades with interlocking panels which allows easy integration and aesthetic consistency:

- Lacquering of the frames identical to the profiles of the polycarbonate cladding
- Visual appearance identical to polycarbonate cladding
- Simplified integration
- Perfect sealing between window and polycarbonate cladding

On the other hand, thermal bridge breaker components make it possible to meet energy performance needs.

2 - Field of use

The opening fits into the interlocking polycarbonate facades. The area of use is similar to that of the façade in which the opening is integrated (refer to the corresponding technical book). The maximum inclination is +/- 15°.

3 - Technical assistance

Technical assistance and distribution from France are carried out by the company Poly-Pac, ZA La Porte de Ker Lann in Bruz (Rennes). Poly-Pac defines the typology best suited to the project by listing a precise description of panels, profiles and accessories necessary for its realization. Poly-Pac does not install itself, but can, at the request of the user, provide technical assistance for the start of the installation.

4 - Specifications

Maximum dimensions

- Height between 500 and 2000 mm x Max width 1500 mm for manual opening
- Height between 500 and 2000 mm x Max width 2000 mm for electric opening with a chain stroke of 250 mm

Finishes

Two types of finishes are available for aluminium profiles:

- Lacquering (SFPI range)
- Natural anodizing

Filling

The filling is done with 20 mm thick connectable polycarbonate panels. Other filling solutions can be studied on request.

Number of hinges

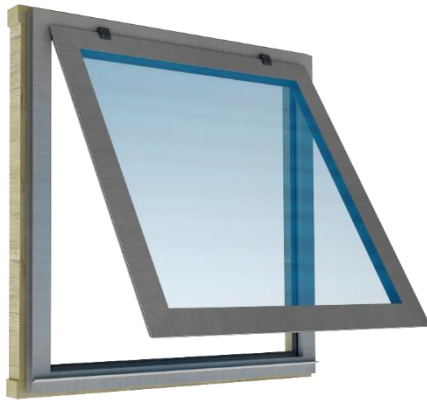
The number of hinges will be established according to the dimensions and filling of the opening.

Reaction to fire

The reaction to fire of chassis with interlocking arcoPlus filling is: B, s1-d0.

Window weight

Surface weight of window without opening system = 15 kg/m²

Top-hung window**Bottom-hung window****5 - Optional devices**

Rain/wind probe, detects the presence of rain or wind

CO2/VOC probe, detects the amount of CO2/VOC contained in indoor air

6 - Implementation**6.1. Aeration window**

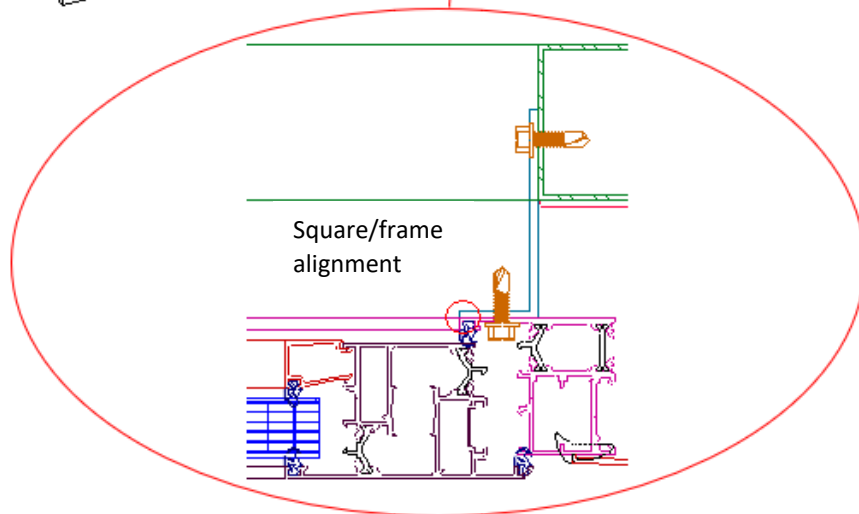
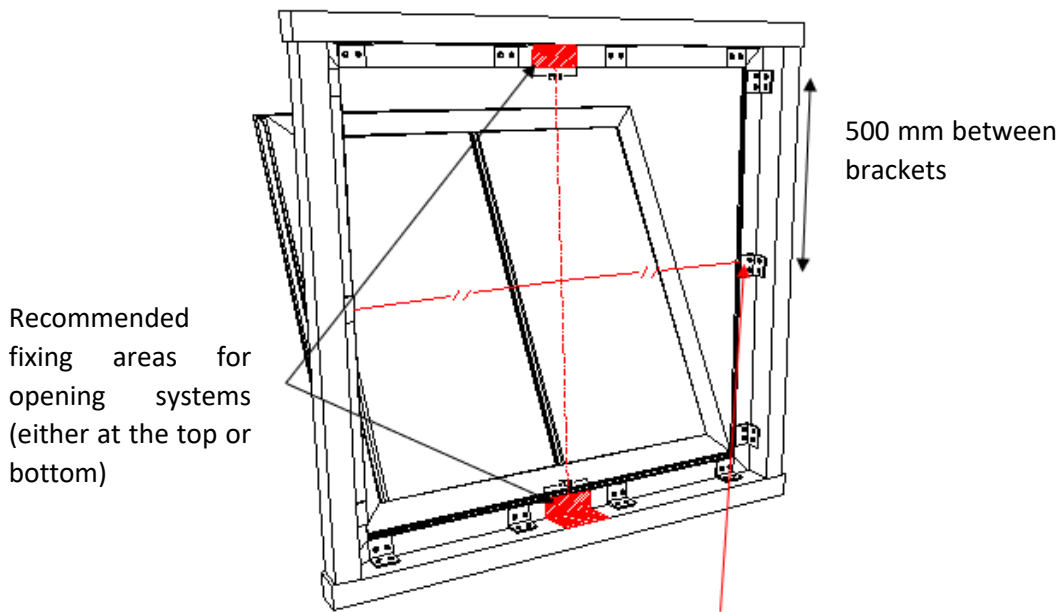
The aeration windows are delivered pre-assembled. The window frame is always placed and fixed on a trimmer.

Items received:

- Pre-assembled chassis including frames, openings and filling
- The opening system, including fixing screws

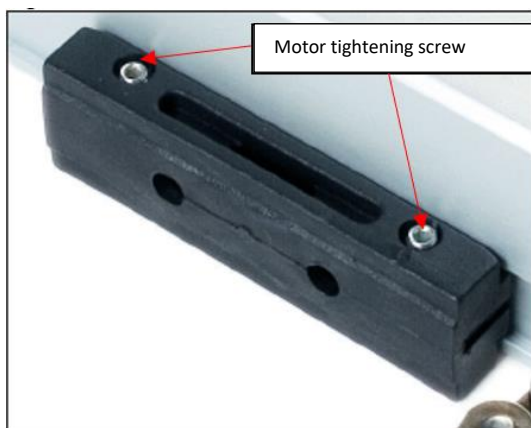
Items to be provided by the installer:

- 60*90*60*3 mm or 30*80*60*3 mm brackets (depending on configuration)
- Squares fasteners
 - On frames, H head stainless steel A2 screws 5.5x19 mm, 2 per square
- Squares fasteners
 - On supports, H head stainless steel A2 screws 5.5x X mm, length that depends on the support, 2 per support



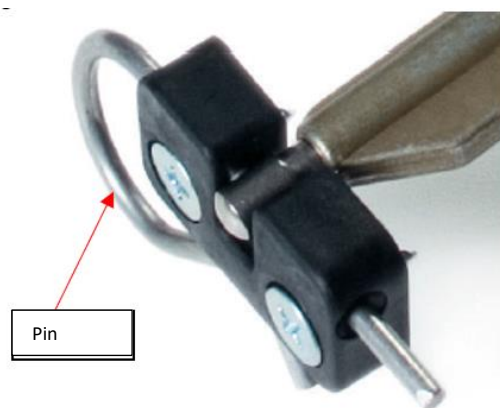
6.2. Opening systems

Fixation on window frame



Motor position adjustment system

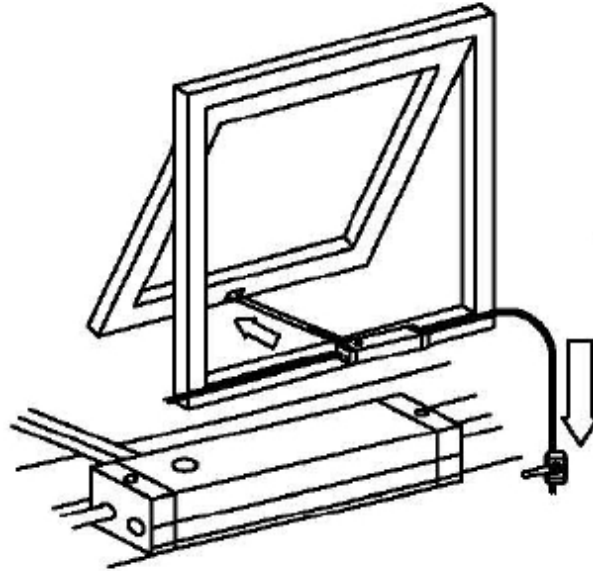
Fixation on opening



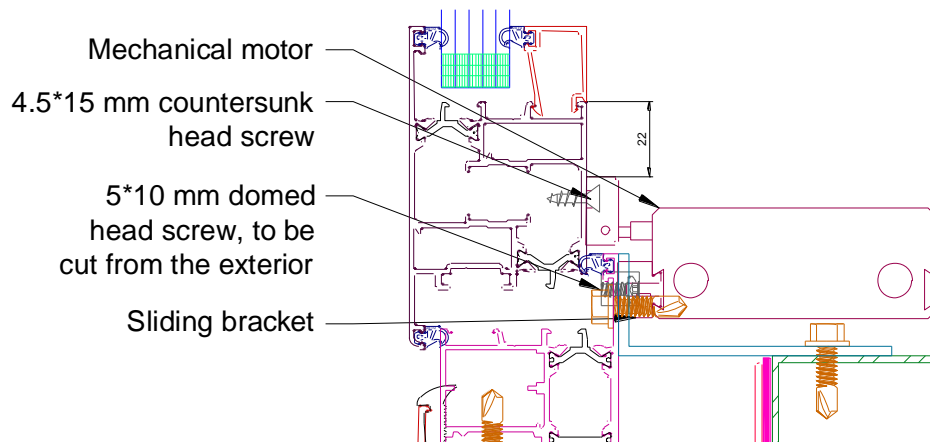
Pin to connect the opening to the chain

Mechanical, mechanical system with a crank to be operated manually. The maximum chain stroke is 250 mm.

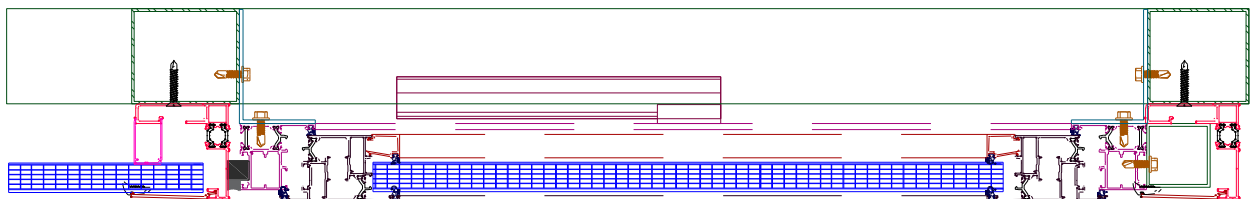
Overall diagram



Position and dimensions

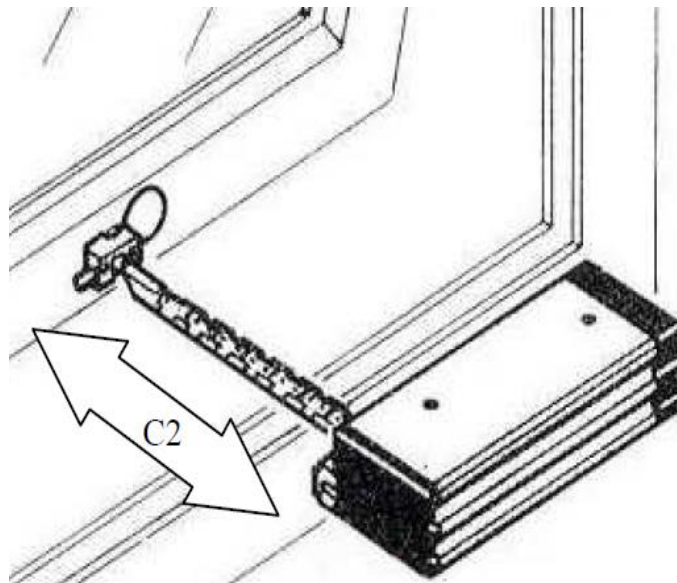


Horizontal section

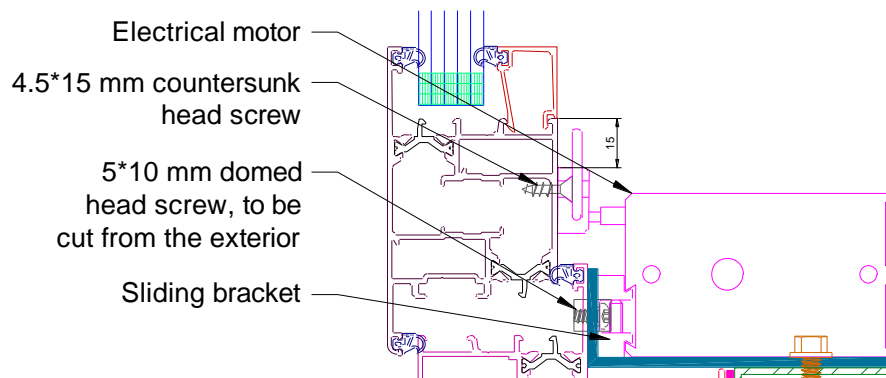


Electric. It works with a 230 V power supply and 3 wires + ground. The maximum stroke of the chain is 250 mm (C2). The motor is fixed to the window.

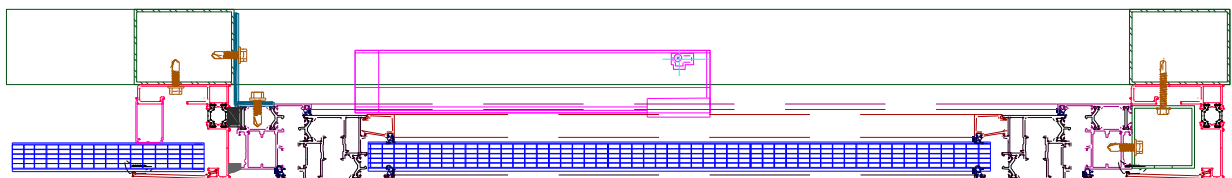
Overall diagram



Position and dimensions



Horizontal section



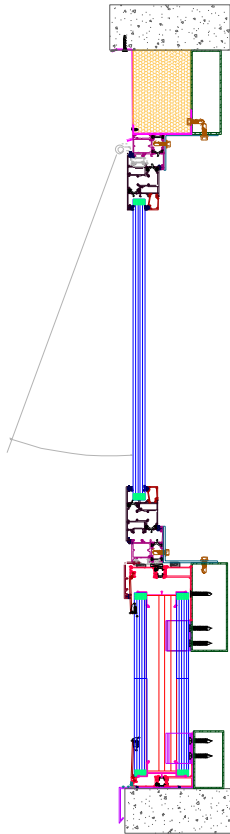
6.3. Panels in upper and lower parts

The insertion of the panels is done in the classic way, in accordance with the installation methodology indicated in the technical book.

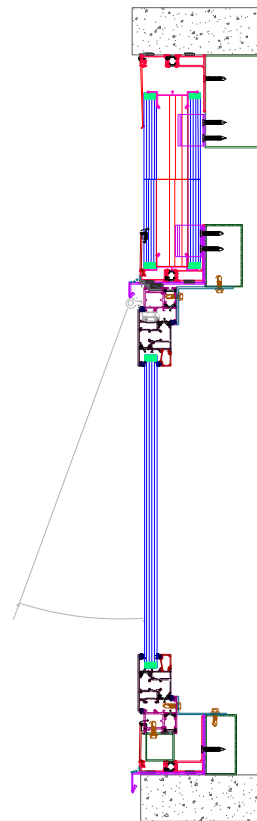
The maximum panel height is 16 m in the lower and upper parts.

Complete arcoTherm façade

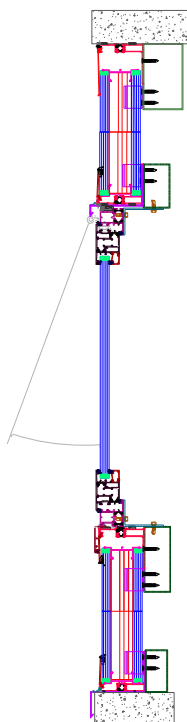
Top aeration window



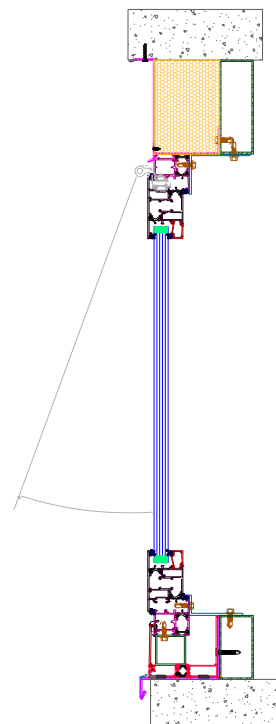
Bottom aeration window



Mid aeration window

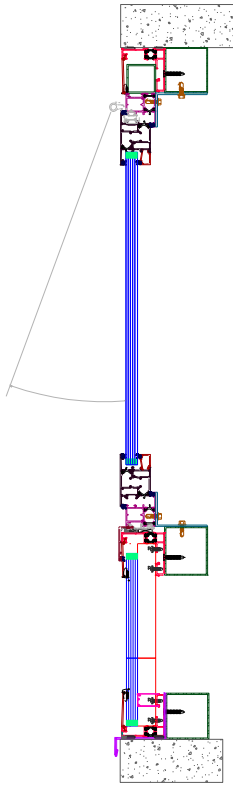


Full-height aeration window

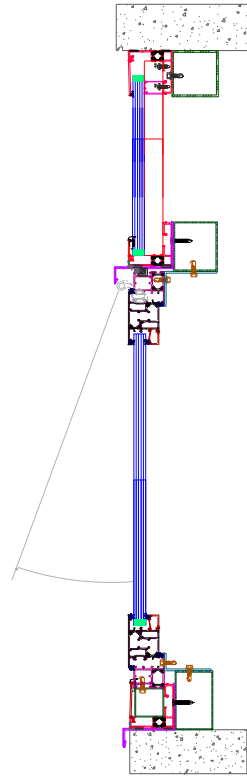


Complete single-skin façade

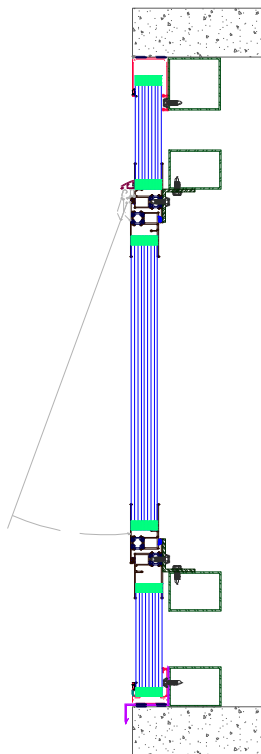
Top aeration window



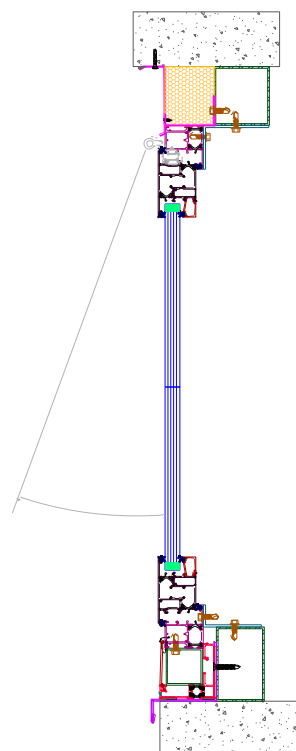
Bottom aeration window



Mid aeration window

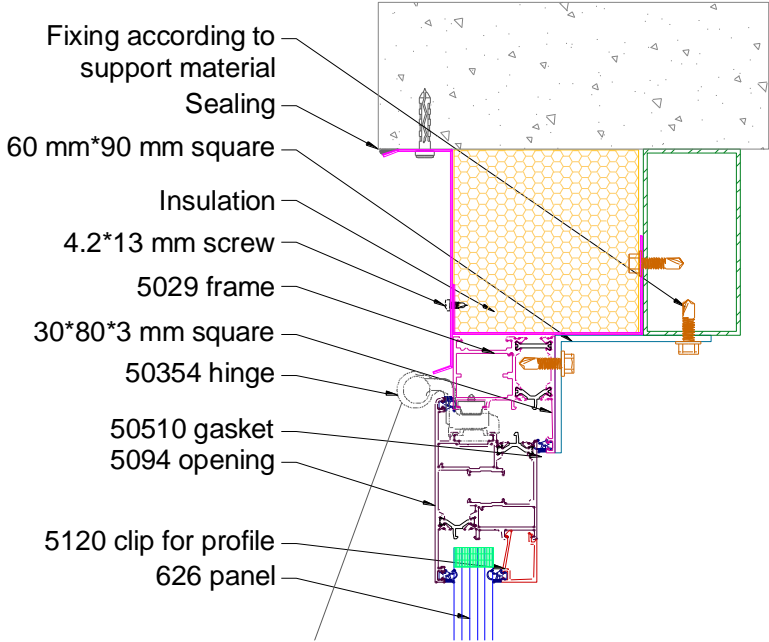


Full-height aeration window

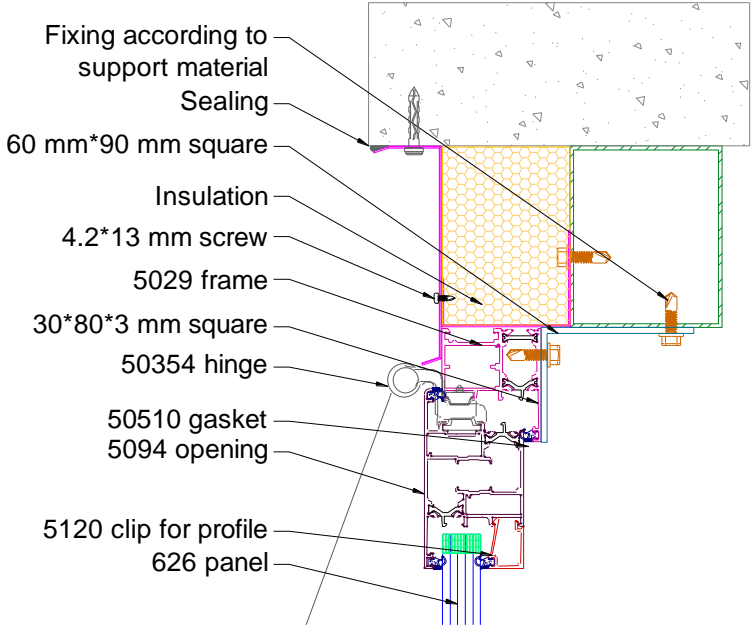


Top support

arcoTherm

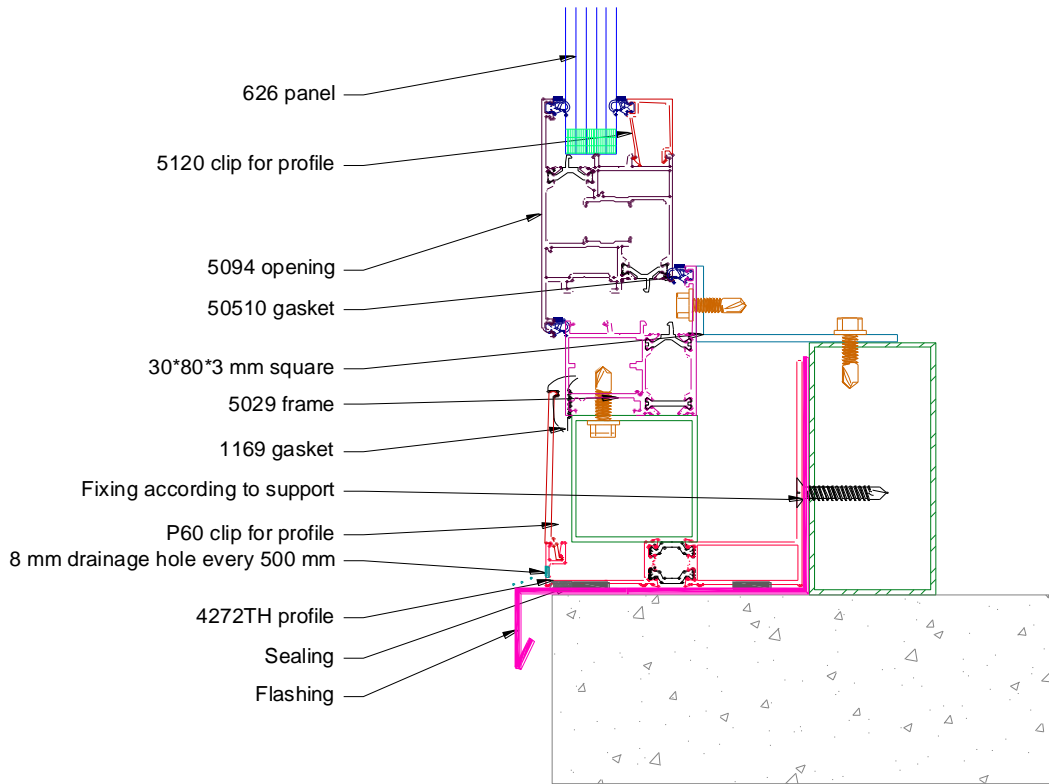


Single skin

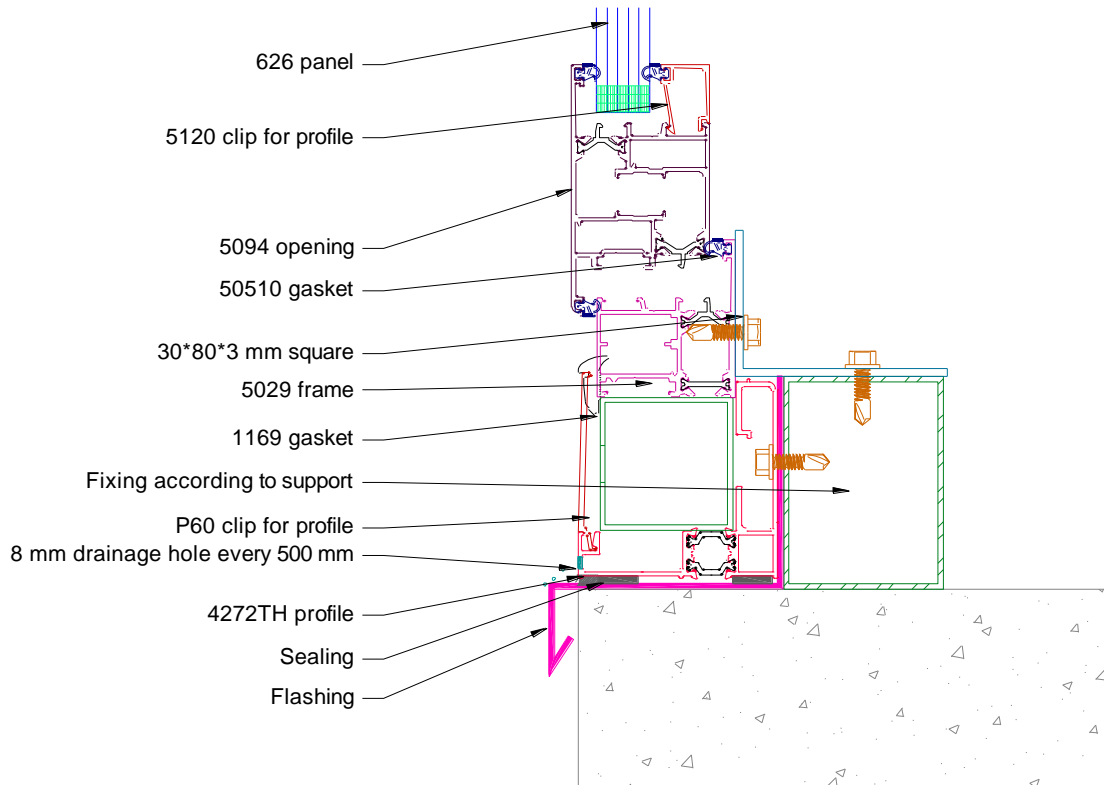


Bottom support

arcoTherm

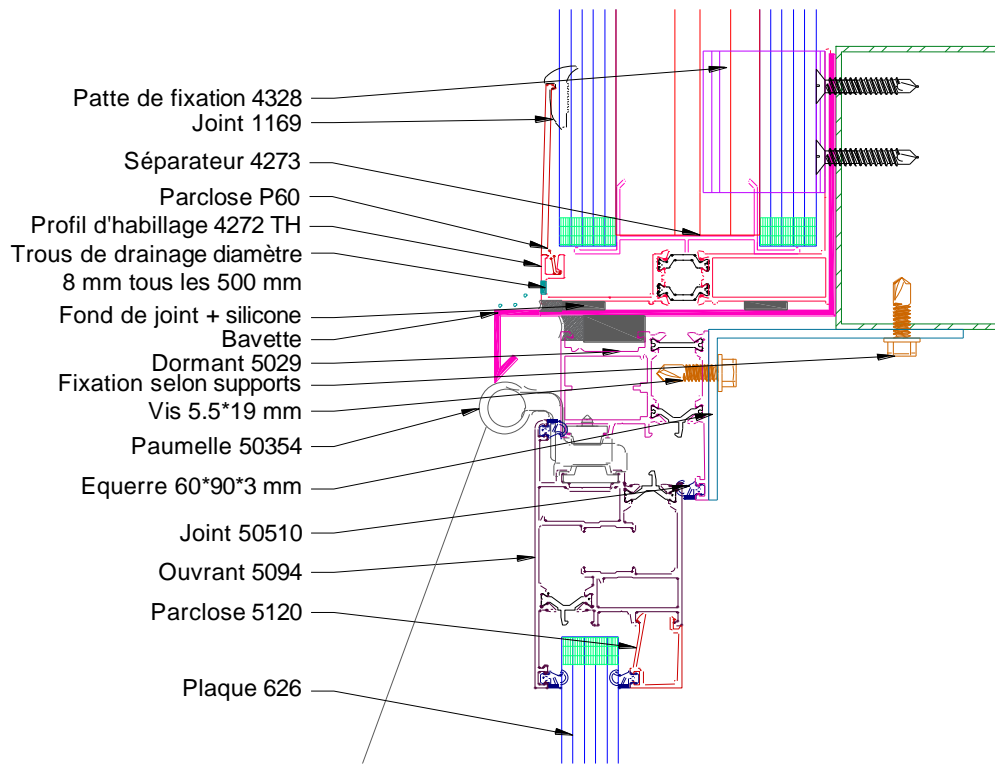


Single skin

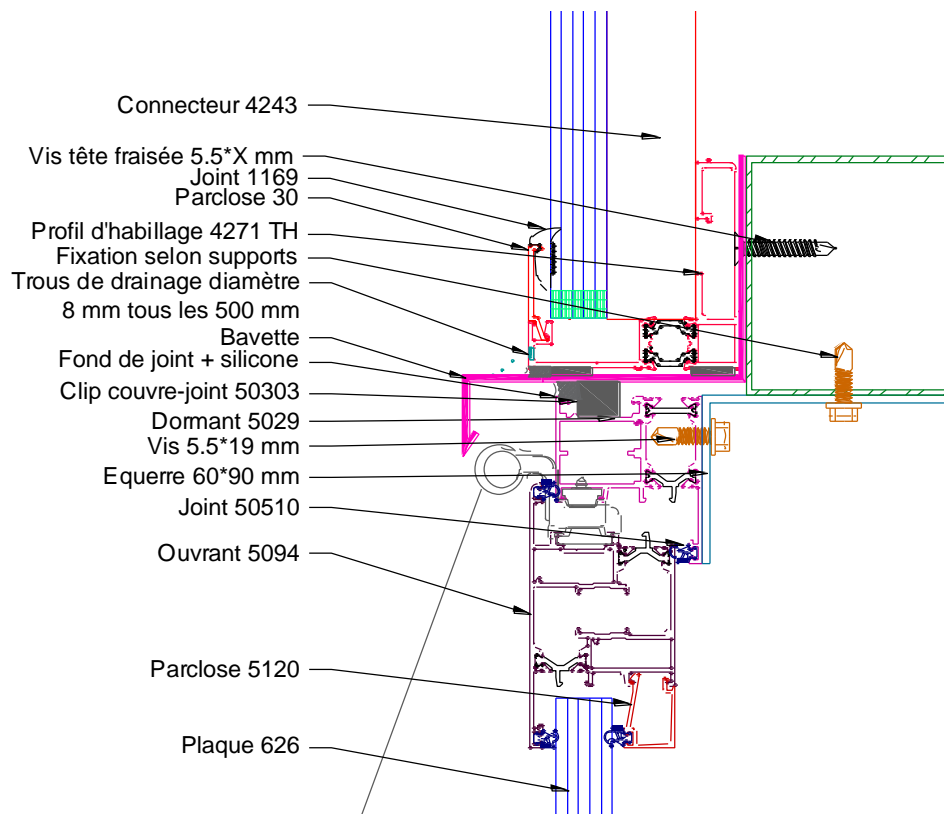


Upper intermediate support

arcoTherm

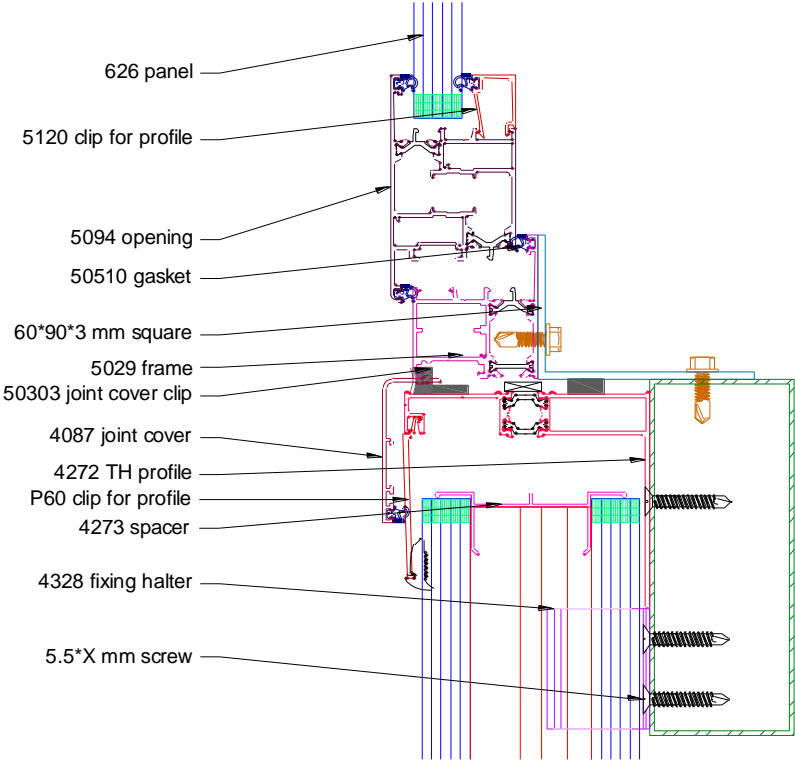


Single skin

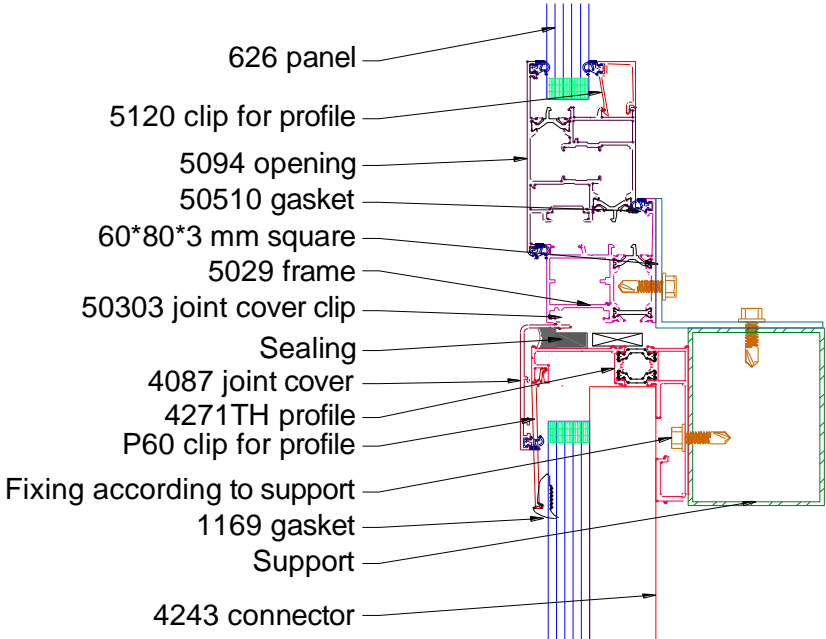


Lower intermediate support

arcoTherm

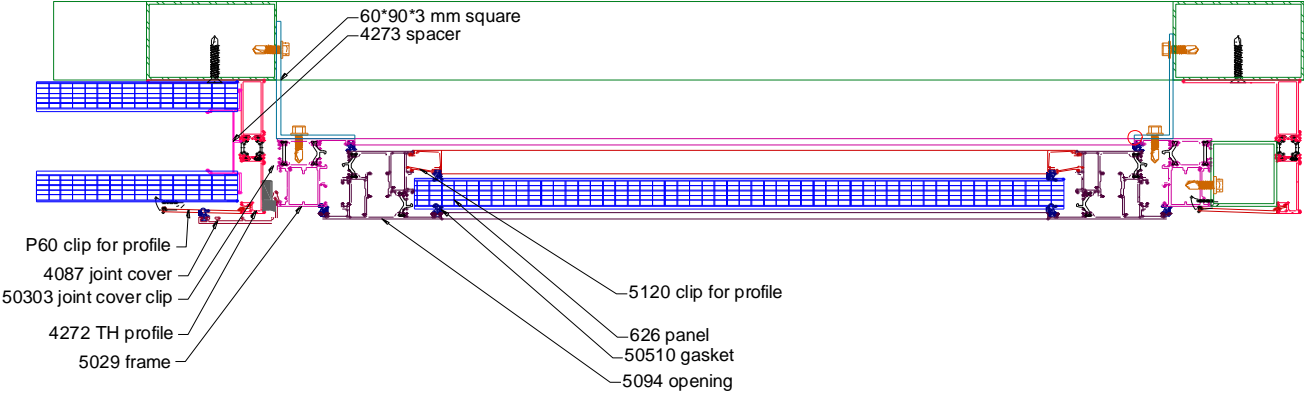


Single skin



Horizontal section

arcoTherm



Single skin

