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Polycarbonate Architecture

# Poly Pac

## arcoPlus<sup>®</sup> Connectable

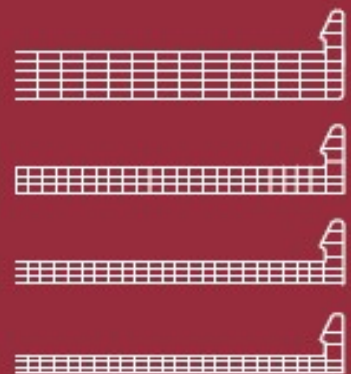
Translucent Roofing Systems

626

6.12.4

6.10.4

684



arcoPlus<sup>®</sup>



dott.gallina

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## 1 - System definition

Reverso installation on arcoPlus® connectable roofing systems is used to create flat or curved translucent roofs. These systems are made of cellular polycarbonate panels, anti - UV co-extruded on both sides.

arcoPlus® connectable roofing systems have got specifically designed lateral edges allowing a single clip-on position for aluminium or polycarbonate connectors.

arcoPlus® panels can be used without any restriction of width or height.

arcoPlus® connectable roofing systems can be used without any restriction of width or height on works to be realized.

## 2 - Field of application of the system

The system allows creating zenithal lighting with a minimum slope of 5° (about 9%).

The system is suitable for:

- both new construction and refurbishment,
- in humidity levels ranging from « low » to « high »,
- at a maximum altitude of 900 m.

arcoPlus® connectable panels do not contribute to the global stability of the construction and cannot fulfill the functions of bracing and purlins anti-spilling. Those functions are dealt with by the supporting structure.

arcoPlus® connectable systems Reverso installation can be used on curved roofs.

Minimum cold bend radii are:

- arcoPlus® Connectable 6410: 8000 mm
- arcoPlus® Connectable 626: 3500 mm
- arcoPlus® Connectable 6166: 3500 mm
- arcoPlus® Connectable 684: 1700 mm
- arcoPlus® Connectable 6104: 2000 mm
- arcoPlus® Connectable 6124: 2500 mm
- arcoPlus® Connectable 920-7: 4000 mm
- arcoPlus® Connectable 925-7: 6000 mm
- arcoPlus® Connectable 932-7: 7500 mm

**Any application falling out from those general criteria, such as an installation at an altitude > 900 m, can be submitted to our technical department to be assessed within a specific analysis.**

## 3 – Technical Assistance

Technical assistance and distribution over France and UK are provided by Poly-Pac, ZA La Porte de Ker Lann, Bruz (France).

Poly-Pac analyses the solution best suited to the project and develops a detailed list of panels, profiles and accessories required for the installation.

Even though Poly-Pac does not install, the company can attend the beginning of the implementation and provide advices at customer request

## 4 - Panels specifications

### 4.1 Panels description

- **900 mm width:**

|                | 932-7 | 925-7 | 920-7 |
|----------------|-------|-------|-------|
| Width (mm)     | 900±2 | 900±2 | 900±2 |
| Thickness (mm) | 32    | 25    | 20    |
| Weight (kg)    | 4.30  | 4.00  | 3.50  |
| AR             | ✓     | ✓     | ✓     |
| IR             | ✓     | ✓     | ✓     |
| Bi-colored     | ✓     | ✓     | ✓     |
| UV Tech        | ✓     | ✓     | ✓     |
| UV Matt        | ✓     | ✓     | ✓     |
| AG / HP        | ✓     | ✓     | ✓     |

- **600 mm width:**

|                | 6410  | 626   | 6166  | 6124  | 6104  | 684   |
|----------------|-------|-------|-------|-------|-------|-------|
| Width (mm)     | 600±2 | 600±2 | 600±2 | 600±2 | 600±2 | 600±2 |
| Thickness (mm) | 60    | 20    | 16    | 12    | 10    | 8     |
| Weight (kg)    | 4     | 3.20  | 3.00  | 2.50  | 2.20  | 1.85  |
| AR             | ✓     | ✓     | ✓     | ✓     | ✓     | ✓     |
| IR             | ✓     | ✓     | ✓     | ✓     | ✓     | ✓     |
| Bi-colored     | ✓     | ✓     | ✓     | ✗     | ✗     | ✗     |
| UV Tech        | ✓     | ✓     | ✓     | ✓     | ✓     | ✓     |
| UV Matt        | ✓     | ✓     | ✓     | ✓     | ✓     | ✓     |
| AG / HP        | ✓     | ✓     | ✓     | ✓     | ✓     | ✓     |

AR: Anti-glare treatment (visual comfort, prevent from neon effect)

IR: Infrared treatment (prevent from heat increase within the building)

UV Tech\*: Reinforced UV Protection – 15 years warranty.

UV Matt: External matt finish

AG/HP: Anti-graffiti/ High protection

\*Available on cristal or bicolor: color internal - cristal extend

Panels are available in various colors. Please refer to our Caleido range.

Due to extrusion process constraints, a visual difference in color shade is admitted as long as it does not interfere with the mechanical characteristics of the polycarbonate components.

Some treatments like AR (anti-glare) and IR (infrared) can create some shade variations with the color range.

### 4.2 - Thermal expansion

The linear expansion coefficient is 0,065mm/ml/°C.

Panels are freely expanding within the connectors.

Expansion works towards the eave purlins.

Expansion over the width of the roof is contained by the connectors juxtaposition system.

### 4.3- Thermal specifications

| Panels | U <sub>g</sub> (W/m <sup>2</sup> . K) | ψ <sub>i</sub> (W/m.K) | χ (W/k) |
|--------|---------------------------------------|------------------------|---------|
| 932-7  | 1.31                                  | 0.132                  | 0.06    |
| 925-7  | 1.49                                  | 0.132                  | 0.06    |
| 920-7  | 1.76                                  | 0.132                  | 0.06    |
| 6410   | 0.97                                  | 0.041                  | 0.06    |
| 626    | 1.78                                  | 0.132                  | 0.06    |
| 6166   | 2.0                                   | 0.132                  | 0.06    |
| 6124   | 2.69                                  | 0.132                  | 0.06    |
| 6104   | 2.98                                  | 0.132                  | 0.06    |
| 684    | 3.35                                  | 0.132                  | 0.06    |

CSTB Test Report: DER/HTO 2010-177-RB/LS  
DEIS/HTO 2016-034-KZ/LS\_N° SAP 70052175  
DIR/HTO 2013-244-RB/LS

U<sub>g</sub>: Thermal coefficient in the core part of the panel (in between connectors)

ψ<sub>i</sub> and χ : Thermal coefficient alongside the connectors

### 4.4 - Shock resistance

External and internal shock resistance is Q4 / O3.

Report: GINGER CEBTP n°ORE6. B.0015 dated 13/09/2011 according to the norm P08-302 (October 1990) and CSTB booklet 3534 (December 2005).

### 4.5 – Interior/Exterior sound absorption

| Panels | Interior SA | Exterior SA | R <sub>w</sub> (C, Ctr) |
|--------|-------------|-------------|-------------------------|
| 932-7  | 21 dB (A)   | 21 dB (A)   | 22 (-1; -1) dB          |
| 925-7  | 22 dB (A)   | 20 dB (A)   | 23 (-1; -2) dB          |
| 626    | 18 dB(A)    | 16 dB(A)    | 19 (-1, -4) dB          |

Report: CFI Andrésy n° ACOU/09/03 - Phonic Test according to norms ISO 140-4 and UNI ISO 10140

Reports: EUROFINIS n° EPT.16.AVM.0007/53641 dated 20/01/16 and EPT.16.AVM.0008/53941 dated 21/01/16

### 4.6 – Fire resistance

| Panel | Fire classification | Combustible mass (MJ/m <sup>2</sup> ) |
|-------|---------------------|---------------------------------------|
| 932-7 | B, s1-d0            | 133                                   |
| 925-7 | B, s1-d0            | 121                                   |
| 920-7 | B, s1-d0            | 102                                   |
| 6410  | B, s1-d0            | 119                                   |
| 626   | B, s1-d0            | 80                                    |
| 6166  | B, s1-d0            | 78                                    |
| 6124  | B, s1-d0            | 74                                    |
| 6104  | B, s1-d0            | 70                                    |
| 684   | B, s1-d0            | 58                                    |

Report: AFITI LICOF n° Exap- 2607T13-2 (14/06/13) and n°2900T15-2 (07/01/2016)

### 4.7 - Optical characteristics

| Panel | Color   | Light Transmission (TL) in % | Solar Factor (SF) in % |
|-------|---------|------------------------------|------------------------|
| 932-7 | Cristal | 53                           | 60                     |
|       | Opale   | 41                           | 52                     |
|       | Green   | 29                           | 49                     |
|       | Red     | 9                            | 50                     |
|       | Blue    | 40                           | 57                     |
| 925-7 | Cristal | 54                           | 60                     |
|       | Opale   | 43                           | 53                     |
| 920-7 | Cristal | 55                           | 60                     |
|       | Opale   | 43                           | 53                     |
| 6410  | Cristal | 46                           | 49                     |
|       | Opale   | 35                           | 46                     |
| 626   | Cristal | 58                           | 58                     |
|       | Opale   | 33                           | 45                     |
|       | Green   | 55                           | 58                     |
|       | Red     | 11                           | 49                     |
|       | Purple  | 14                           | 51                     |
|       | AL grey | 5                            | 5                      |
| 6166  | Cristal | 58                           | 61                     |
|       | Opale   | 36                           | 48                     |
| 6124  | Cristal | 68                           | 66                     |
|       | Opale   | 36                           | 48                     |
| 6104  | Cristal | 69                           | 66                     |
|       | Opale   | 38                           | 49                     |
| 684   | Cristal | 70                           | 67                     |
|       | Opale   | 42                           | 51                     |

CSTB Test Reports n°DER/HTO 2010-177-RB/LS, n°EMI-26057688-1 and EMI 13/260 - 45966

### 4.8 - Storage

arcoPlus® systems should be stored avoiding exposure to direct sunlight and rain. Should storage be outside, it should not be directly in contact with the ground (a ventilation space must be kept) and should be protected with a light colored non-transparent tarpaulin.

To avoid oxidation, untreated aluminium profiles should be unpacked straight away after unloading to avoid any contact with potential residual humidity within the package and stored in a dry environment. In any case, untreated aluminium profiles should not be kept in contact of each others in a humid environment.

Do not store more than two pallets on top of each other. In case of heavy wind, use straps.

## 4.9 - Resistance to chemical agents

arcoPlus® connectable panels have good resistance to most chemicals with which it is likely to come into contact during normal use.

| Chemical agents            | Resistance      |
|----------------------------|-----------------|
| Diluted acids              | Good            |
| Concentrated acids         | Average to good |
| Alkali                     | Low to average  |
| Organic solvents – alcohol | Good            |
| Chlorinated hydrocarbons   | Low             |
| Aromatic hydrocarbons      | Low             |
| Aliphatic polycarbons      | Low             |
| Lubricating oils           | Good            |
| Detergents                 | Good            |

AG/HP treatments improve the resistance to chemical agents.

Preliminary tests are recommended in case of intense or specific exposure. Use of solvent must be avoided.

## 5 - Maintenance

arcoPlus® panels should be frequently cleaned with mild soapy water (neutral detergent) and thoroughly rinsed with clear water. Do not use warm water. Do not use organic solvents, abrasive or alkaline products.

### 5.1 – How to replace a damaged panel?

1. Starting from the bottom, unclip the connector.
2. Starting from the bottom, push the panel from the inside to the outside of the building to remove the panel from its fixing halters.
3. Slightly bend the edge of the fixing halters.
4. Put the new panel in place.
5. Put the fixing halters back in place using a hammer.
6. Clip the connector back on.

When using the aluminium connectors ref. 4310 or 4499, you need to loosen the lateral blind bolt before unclipping and then to tighten them after clipping the connector back on.

### 5.2 – How to avoid injuries?

Installation of arcoPlus® connectable panels must comply with the safety rules that apply to the access to light materials roofs.

Particular attention must be paid to load spread by standing on purlins and not directly on the panels. These rules apply to both installation and maintenance

## 6 – Screws minimum tearing resistance depending on various fixing halters

| Fixing halters Types  | Wooden support          | Steel support Thickness. > 5 mm | Steel support mm ≤ Thick ≤ 5 mm | Minimum Tearing Resistance |
|---|-------------------------|---------------------------------|---------------------------------|----------------------------|
| Ref. 4328, 4326, 4350, 4355, 4401<br>Flat/Vertical fixing halters | VBU/ZNJ PZ TF<br>5 x 40 | PERFIX TF PH 5.5 X 38           | PERFIX TF PH 5.5 X 38           | 430 daN                    |
| Ref. 4264<br>Side fixing halters                                  | VBU/ZNJ PZ TF<br>5 x 40 | PERFIX TF PH 5.5 X 38           | PERFIX TF PH 5.5 X 38           | 430 daN                    |
| Ref. 4555, 4710, 4712<br>Twister fixing halters                   | VBU/ZNJ PZ TF<br>5 x 60 | E-X BOHR 5 FLT 5.5 X 60         | N/A                             | 900 daN                    |

## 7 - Maximum loads charts

### 7.1 - Maximum loads in normal installation with PC connector 2146

| Nb                  | Panels             | Maximum distance between supports (L) | Maximum loads daN/m <sup>2</sup> | Deflections values |          |
|---------------------|--------------------|---------------------------------------|----------------------------------|--------------------|----------|
|                     |                    |                                       |                                  | 9% ≤ P ≤ 18 %      | P ≥ 18 % |
| 3 supports and more | 932                | L ≤ 1600 mm                           | Positive pressure                | 74                 | 78       |
|                     |                    |                                       | Negative pressure                | 55                 | 72       |
|                     | 925                | L ≤ 1600 mm                           | Positive pressure                | 32                 | 75       |
|                     |                    |                                       | Negative pressure                | 32                 | 74       |
|                     | 920                | L ≤ 1600 mm                           | Positive pressure                | 32                 | 75       |
|                     |                    |                                       | Negative pressure                | 32                 | 74       |
|                     | 626/6410           | L ≤ 1300 mm                           | Positive pressure                | 163                | 285      |
|                     |                    |                                       | Negative pressure                | 71                 | 112      |
|                     |                    | 1300 < L ≤ 1600 mm                    | Positive pressure                | 51                 | 132      |
|                     |                    |                                       | Negative pressure                | 82                 | 105      |
|                     | 6166               | L ≤ 1000 mm                           | Positive pressure                | 123                | 250      |
|                     |                    |                                       | Negative pressure                | 71                 | 97       |
|                     |                    | 1000 < L ≤ 1300 mm                    | Positive pressure                | 76                 | 189      |
|                     |                    |                                       | Negative pressure                | 72                 | 72       |
|                     |                    | 1300 < L ≤ 1600 mm                    | Positive pressure                | 52                 | 102      |
|                     |                    |                                       | Negative pressure                | 52                 | 70       |
|                     | 6124               | L ≤ 1000 mm                           | Positive pressure                | 123                | 250      |
|                     |                    |                                       | Negative pressure                | 71                 | 97       |
|                     |                    | 1000 < L ≤ 1300 mm                    | Positive pressure                | 76                 | 189      |
|                     |                    |                                       | Negative pressure                | 72                 | 72       |
|                     |                    | 1300 < L ≤ 1600 mm                    | Positive pressure                | 52                 | 102      |
|                     |                    |                                       | Negative pressure                | 52                 | 70       |
|                     | 6104               | L ≤ 1000 mm                           | Positive pressure                | 73                 | 202      |
|                     |                    |                                       | Negative pressure                | 54                 | 54       |
|                     |                    | 1000 < L ≤ 1300 mm                    | Positive pressure                | 56                 | 155      |
|                     |                    |                                       | Negative pressure                | 53                 | 53       |
|                     |                    | 1300 < L ≤ 1600 mm                    | Positive pressure                | 53                 | 102      |
|                     |                    |                                       | Negative pressure                | 52                 | 52       |
| 684                 | L ≤ 1000 mm        | Positive pressure                     | 73                               | 202                |          |
|                     |                    | Negative pressure                     | 54                               | 54                 |          |
|                     | 1000 < L ≤ 1300 mm | Positive pressure                     | 56                               | 155                |          |
|                     |                    | Negative pressure                     | 53                               | 53                 |          |
|                     | 1300 < L ≤ 1600 mm | Positive pressure                     | 53                               | 102                |          |
|                     |                    | Negative pressure                     | 52                               | 52                 |          |

## 7.2 - Maximum loads in normal installation with AL connector 4310

| Nb                  | Panels   | Maximum distance between supports (L) | Maximum loads daN/m <sup>2</sup> | Deflections values |          |
|---------------------|----------|---------------------------------------|----------------------------------|--------------------|----------|
|                     |          |                                       |                                  | 9% ≤ P ≤ 18 %      | P ≥ 18 % |
| 2 supports          | 932      | L ≤ 2500 mm                           | Positive pressure                | 75                 | 95       |
|                     |          |                                       | Negative pressure                | 63                 | 98       |
|                     | 925      | L ≤ 2500 mm                           | Positive pressure                | 75                 | 95       |
|                     |          |                                       | Negative pressure                | 63                 | 98       |
|                     | 920      | L ≤ 2500 mm                           | Positive pressure                | 75                 | 95       |
|                     |          |                                       | Negative pressure                | 63                 | 98       |
|                     | 626/6410 | L ≤ 2000 mm                           | Positive pressure                | 145                | 145      |
|                     |          |                                       | Negative pressure                | 140                | 140      |
|                     |          | 2000 < L ≤ 2500 mm                    | Positive pressure                | 107                | 134      |
|                     |          |                                       | Negative pressure                | 90                 | 107      |
|                     | 6166     | L ≤ 2000 mm                           | Positive pressure                | 113                | 113      |
|                     |          |                                       | Negative pressure                | 100                | 101      |
|                     |          | 2000 < L ≤ 2500 mm                    | Positive pressure                | 88                 | 88       |
|                     |          |                                       | Negative pressure                | 80                 | 80       |
|                     | 6124     | L ≤ 2000 mm                           | Positive pressure                | 113                | 113      |
|                     |          |                                       | Negative pressure                | 100                | 101      |
|                     |          | 2000 < L ≤ 2500 mm                    | Positive pressure                | 88                 | 88       |
|                     |          |                                       | Negative pressure                | 80                 | 80       |
|                     | 6104     | L ≤ 2000 mm                           | Positive pressure                | 75                 | 75       |
|                     |          |                                       | Negative pressure                | 74                 | 74       |
|                     |          | 2000 < L ≤ 2500 mm                    | Positive pressure                | 67                 | 67       |
|                     |          |                                       | Negative pressure                | 61                 | 61       |
|                     | 684      | L ≤ 2000 mm                           | Positive pressure                | 75                 | 75       |
|                     |          |                                       | Negative pressure                | 74                 | 74       |
| 2000 < L ≤ 2500 mm  |          | Positive pressure                     | 67                               | 67                 |          |
|                     |          | Negative pressure                     | 61                               | 61                 |          |
| 3 supports and more | 932      | L ≤ 2500 mm                           | Positive pressure                | 101                | 101      |
|                     |          |                                       | Negative pressure                | 98                 | 98       |
|                     | 925      | L ≤ 2500 mm                           | Positive pressure                | 101                | 101      |
|                     |          |                                       | Negative pressure                | 98                 | 98       |
|                     | 920      | L ≤ 2500 mm                           | Positive pressure                | 101                | 101      |
|                     |          |                                       | Negative pressure                | 98                 | 98       |
|                     | 626/6410 | L ≤ 2000 mm                           | Positive pressure                | 132                | 300      |
|                     |          |                                       | Negative pressure                | 102                | 102      |
|                     |          | 2000 < L ≤ 2500 mm                    | Positive pressure                | 153                | 214      |
|                     |          |                                       | Negative pressure                | 95                 | 95       |
|                     | 6166     | L ≤ 1600 mm                           | Positive pressure                | 300                | 300      |
|                     |          |                                       | Negative pressure                | 80                 | 80       |
|                     |          | 1600 < L ≤ 2500 mm                    | Positive pressure                | 210                | 300      |
|                     |          |                                       | Negative pressure                | 63                 | 63       |
|                     | 6124     | L ≤ 1600 mm                           | Positive pressure                | 300                | 300      |
|                     |          |                                       | Negative pressure                | 80                 | 80       |
|                     |          | 1600 < L ≤ 2500 mm                    | Positive pressure                | 210                | 300      |
|                     |          |                                       | Negative pressure                | 63                 | 63       |
|                     | 6104     | L ≤ 1600 mm                           | Positive pressure                | 300                | 300      |
|                     |          |                                       | Negative pressure                | 70                 | 70       |
|                     |          | 1600 < L ≤ 2500 mm                    | Positive pressure                | 197                | 300      |
|                     |          |                                       | Negative pressure                | 57                 | 57       |
|                     | 684      | L ≤ 1600 mm                           | Positive pressure                | 300                | 300      |
|                     |          |                                       | Negative pressure                | 70                 | 70       |
| 1600 < L ≤ 2500 mm  |          | Positive pressure                     | 197                              | 300                |          |
|                     |          | Negative pressure                     | 57                               | 57                 |          |

### 7.3 - Maximum loads in normal installation with **AL connector 4499**

| Nb                  | Panels      | Maximum distance between supports (L) | Maximum loads daN/m <sup>2</sup> | Deflections values |          |
|---------------------|-------------|---------------------------------------|----------------------------------|--------------------|----------|
|                     |             |                                       |                                  | 9% ≤ P ≤ 18 %      | P ≥ 18 % |
| 2 supports          | 932         | L ≤ 3200 mm                           | Positive pressure                | 77                 | 101      |
|                     |             |                                       | Negative pressure                | 59                 | 98       |
|                     | 925         | L ≤ 3200 mm                           | Positive pressure                | 77                 | 101      |
|                     |             |                                       | Negative pressure                | 59                 | 93       |
|                     | 920         | L ≤ 3200 mm                           | Positive pressure                | 77                 | 101      |
|                     |             |                                       | Negative pressure                | 59                 | 93       |
| 626/6410            | L ≤ 3500 mm | Positive pressure                     | 94                               | 132                |          |
|                     |             | Negative pressure                     | 83                               | 83                 |          |
| 3 supports and more | 932         | L ≤ 3200 mm                           | Positive pressure                | 82                 | 82       |
|                     |             |                                       | Negative pressure                | 101                | 101      |
|                     | 925         | L ≤ 3200 mm                           | Positive pressure                | 82                 | 82       |
|                     |             |                                       | Negative pressure                | 101                | 101      |
|                     | 920         | L ≤ 3200 mm                           | Positive pressure                | 82                 | 82       |
|                     |             |                                       | Negative pressure                | 101                | 101      |
| 626/6410            | L ≤ 3100 mm | Positive pressure                     | 300                              | 300                |          |
|                     |             | Negative pressure                     | 118                              | 118                |          |

### 7.4 - Maximum load in normal installation with **AL connector 4702**

| Nb                  | Panels             | Maximum distance between supports (L) | Maximum loads daN/m <sup>2</sup> | Deflections values |          |
|---------------------|--------------------|---------------------------------------|----------------------------------|--------------------|----------|
|                     |                    |                                       |                                  | 9% ≤ P ≤ 18 %      | P ≥ 18 % |
| 2 supports          | 626/6410           | L ≤ 1800 mm                           | Positive pressure                | 78                 | 78       |
|                     |                    |                                       | Negative pressure                | 82                 | 82       |
|                     |                    | 1800 < L ≤ 2000 mm                    | Positive pressure                | 72                 | 72       |
|                     |                    |                                       | Negative pressure                | 75                 | 75       |
|                     | 6166               | 2000 < L ≤ 2500 mm                    | Positive pressure                | 69                 | 69       |
|                     |                    |                                       | Negative pressure                | 75                 | 75       |
|                     |                    | L ≤ 1800 mm                           | Positive pressure                | 78                 | 78       |
|                     |                    |                                       | Negative pressure                | 82                 | 82       |
| 6166                | 1800 < L ≤ 2000 mm | Positive pressure                     | 72                               | 72                 |          |
|                     |                    | Negative pressure                     | 75                               | 75                 |          |
|                     | 2000 < L ≤ 2500 mm | Positive pressure                     | 69                               | 69                 |          |
|                     |                    | Negative pressure                     | 75                               | 75                 |          |
| 3 supports and more | 626/6410           | L ≤ 2000 mm                           | Positive pressure                | 98                 | 98       |
|                     |                    |                                       | Negative pressure                | 101                | 101      |
|                     |                    | 2000 < L ≤ 2500 mm                    | Positive pressure                | 88                 | 88       |
|                     |                    |                                       | Negative pressure                | 85                 | 85       |
|                     | 6166               | L ≤ 2000 mm                           | Positive pressure                | 98                 | 98       |
|                     |                    |                                       | Negative pressure                | 101                | 101      |
|                     |                    | 2000 < L ≤ 2500 mm                    | Positive pressure                | 88                 | 88       |
|                     |                    |                                       | Negative pressure                | 85                 | 85       |

### 7.5 - Maximum load in suspended installation with **AL connector**

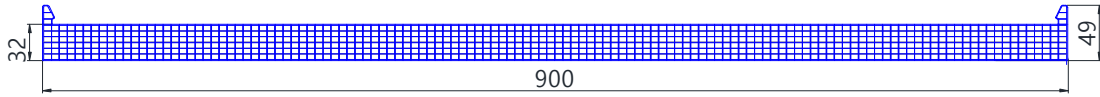
| Nb                  | Panels                              | Connector | Maximum distance between supports (L) | Maximum loads daN/m <sup>2</sup> | Deflections values |          |
|---------------------|-------------------------------------|-----------|---------------------------------------|----------------------------------|--------------------|----------|
|                     |                                     |           |                                       |                                  | 9% ≤ P ≤ 18 %      | P ≥ 18 % |
| 3 supports and more | 626/6410                            | 4310      | L ≤ 1200 mm                           | Positive pressure                | 62                 | 62       |
|                     |                                     |           |                                       | Negative pressure                | 62                 | 62       |
|                     | 626/6410<br>920-7<br>925-7<br>932-7 | 4499      | L ≤ 3200 mm                           | Positive pressure                | 82                 | 82       |
|                     |                                     |           |                                       | Negative pressure                | 127                | 127      |



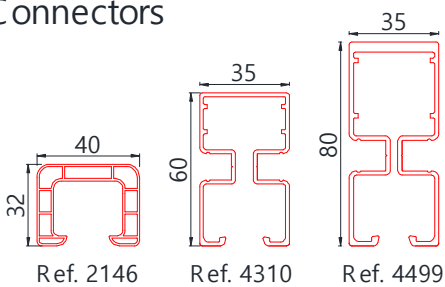
## arcoPlus® 932-7 system

### Panel

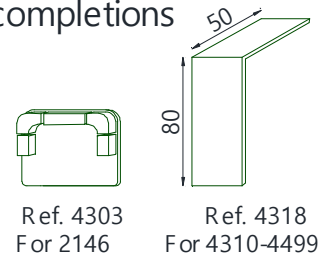
| Ref panel      | Width  | Thickness | Weight/m <sup>2</sup> |
|----------------|--------|-----------|-----------------------|
| arcoPlus 932-7 | 900 mm | 32 mm     | 4000 g/m <sup>2</sup> |



### Connectors



### Connector completions



### Bolt



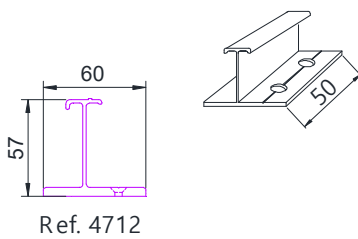
Ref. 4312  
For 4310-4499

### Adhesive



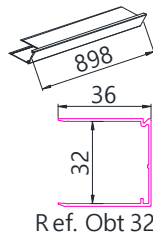
Ref. 4083

### Fixing halter



Ref. 4712

### Block-cover



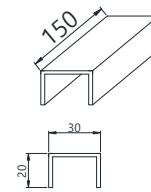
Ref. Obt 32

### Gasket



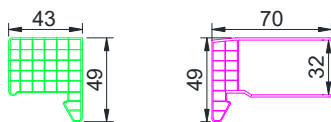
Ref. 4329

### Joint bar



Ref. 4319

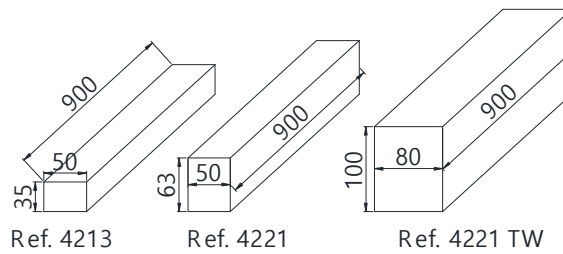
### Profiles : start - end



Ref. 2710

Ref. 2712

### Pads



Ref. 4213

Ref. 4221

Ref. 4221 TW

**arcoPlus® 925-7 system**

Panel

| Ref. panel     | Width  | Thickness | Weight/m <sup>2</sup> |
|----------------|--------|-----------|-----------------------|
| arcoPlus 925-7 | 900 mm | 25 mm     | 3500 g/m <sup>2</sup> |

Connectors

Ref. 2146      Ref. 4310      Ref. 4499

Connector completions

Ref. 4303 for 2146      Ref. 4318 for 4310-4499

Bolt

Ref. 4312 for 4310-4499

Adhesive

Ref. 4083

Fixing halter

Réf. 4710

Block-Cover

Ref. Obt 25

Gasket

Ref. 4329

Joint bar

Ref. 4319

Profiles : start - end

Ref. 2714      Ref. 2716

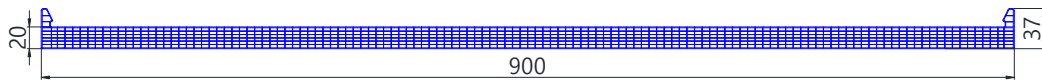
Pads

Ref. 4213      Ref. 4221      Ref. 4221 TW

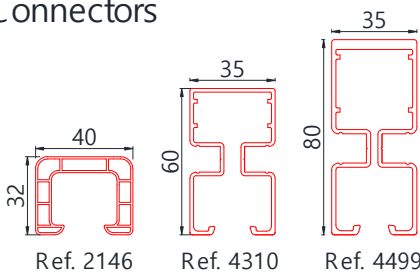
## arcoPlus® 920-7 system

### Panel

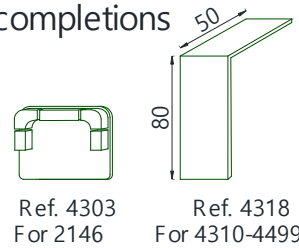
| Ref. panel     | Width  | Thickness | Weight/m <sup>2</sup> |
|----------------|--------|-----------|-----------------------|
| arcoPlus 920-7 | 900 mm | 20 mm     | 3200 g/m <sup>2</sup> |



### Connectors



### Connector completions



### Bolt



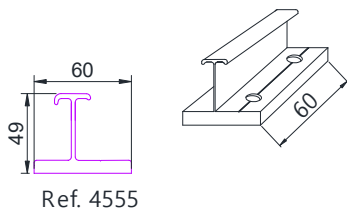
Ref. 4312  
For 4310-4499

### Adhesive



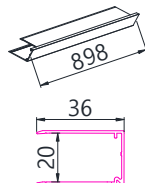
Ref. 4083

### Fixing halter



Ref. 4555

### Block-cover



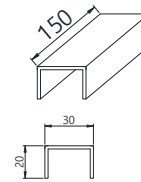
Ref. Obt 20  
For Panel

### Gasket



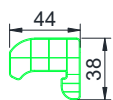
Ref. 4329

### Joint bar

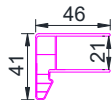


Ref. 4319

### Profiles : start - end

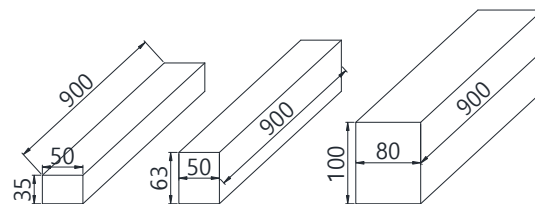


Ref. 2179



Ref. 2180

### Pads



Ref. 4213

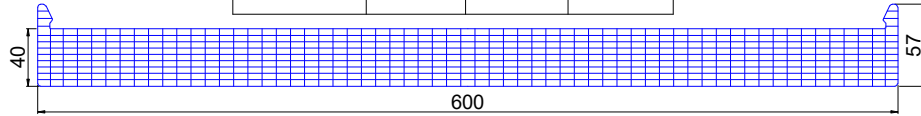
Ref. 4221

Ref. 4221 TW

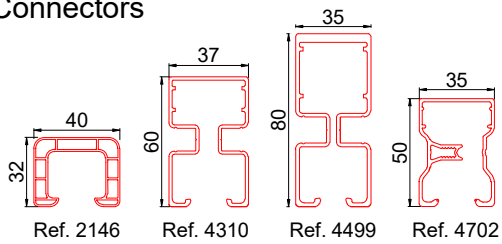
## arcoPlus® 6410 system

### Panel

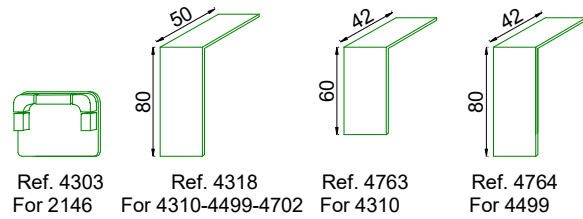
| Ref. panel    | Width  | Thickness | Weight/m <sup>2</sup> |
|---------------|--------|-----------|-----------------------|
| arcoPlus 6410 | 600 mm | 40 mm     | 4000 g/m <sup>2</sup> |



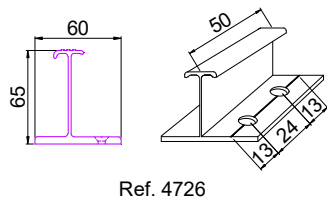
### Connectors



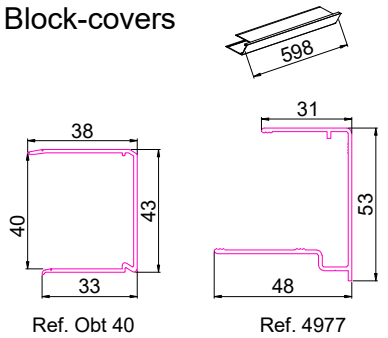
### Connector completions



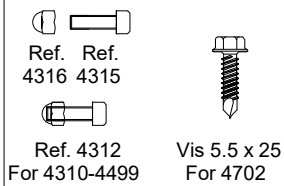
### Fixing brackets



### Block-covers



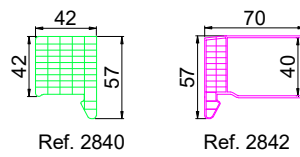
### Bolt and screw



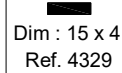
### Adhesive



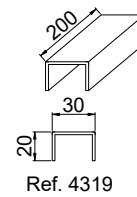
### Profiles : start - end



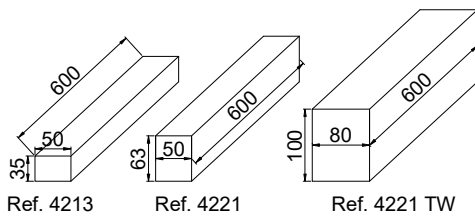
### Gasket



### Joint bar



### Pads



**arcoPlus® 626 system**

Panel

| Ref panel    | Width  | Thickness | Weight/m <sup>2</sup> |
|--------------|--------|-----------|-----------------------|
| arcoPlus 626 | 600 mm | 20 mm     | 3200 g/m <sup>2</sup> |

Connectors

Ref. 2146    Ref. 4310    Ref. 4499    Ref. 4702

Connector completions

Ref. 4303 for 2146    Ref. 4318 for 4310-4499

Bolt

Ref. 4312 For 4310-4499

Fixing halter

Ref. 4328    Ref. 4555    Ref. 4264

Block-cover

Ref. Obt 20 For Panel

Gasket

Ref. 4329

Joint bar

Ref. 4319

Profiles : start - end

Ref. 2179    Ref. 2180

Pads

Ref. 4213    Ref. 4221    Ref. 4221 TW

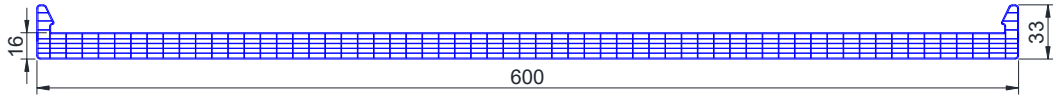
Adhesive

Ref. 4083

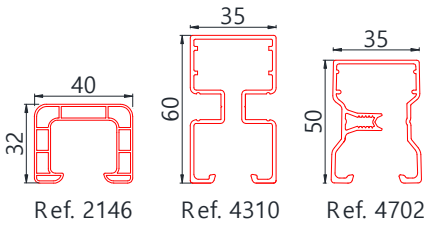
**arcoPlus® 6166 "arcoBât 16" system**

**Panel**

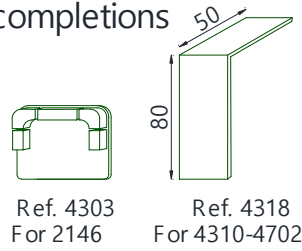
| Ref. panel    | Width  | Thickness | Weight/m <sup>2</sup> |
|---------------|--------|-----------|-----------------------|
| arcoPlus 6166 | 600 mm | 16 mm     | 3000 g/m <sup>2</sup> |



**Connectors**



**Connector completions**



**Bolt**



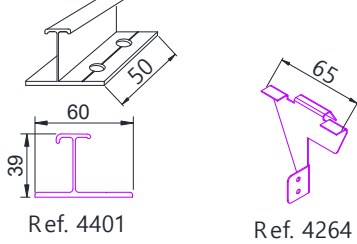
Ref. 4312  
For 4310

**Stainless steel screw**

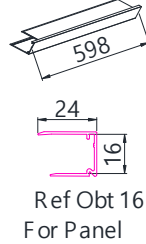


Ref. 5.5 x 25  
For 4702

**Fixing halter**



**Block-cover**



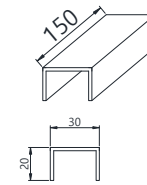
Ref Obt 16  
For Panel

**Gasket**



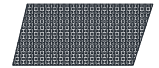
Ref. 4329

**Joint bar**



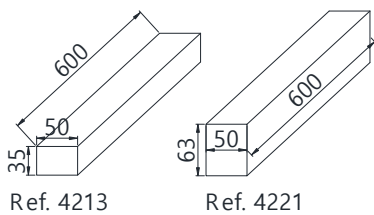
Ref. 4319

**Adhesive**



Ref. 4083

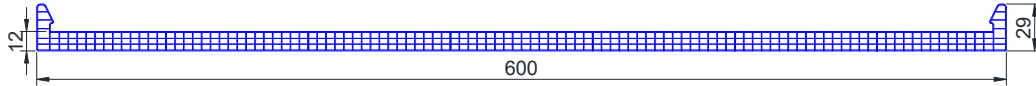
**Pads**



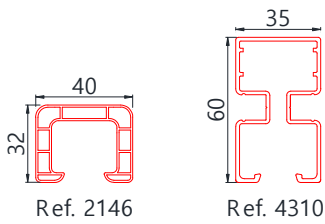
**arcoPlus® 6124 system**

Panel

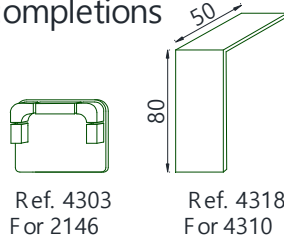
| Ref panel     | Width  | Thickness | Weight/m <sup>2</sup> |
|---------------|--------|-----------|-----------------------|
| arcoPlus 6124 | 600 mm | 12 mm     | 2500 g/m <sup>2</sup> |



Connectors



Connector completions



Bolt



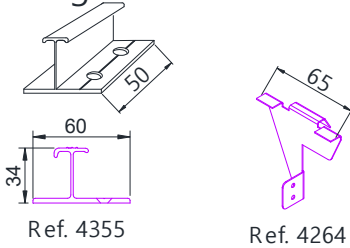
Ref. 4312  
For 4310

Adhesive

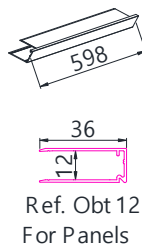


Ref. 4083

Fixing halter



Block-cover

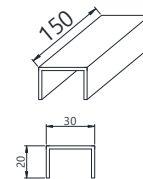


Gasket

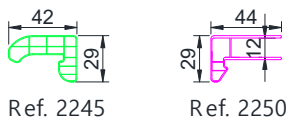


Ref. 4329

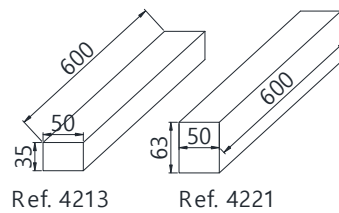
Joint bar



Profiles : start - end



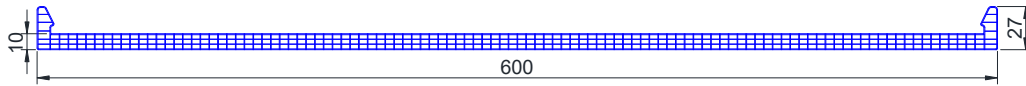
Pads



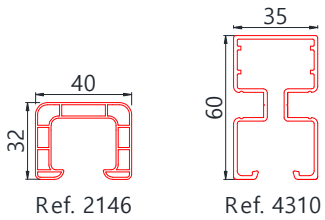
**arcoPlus® 6104 system**

**Panel**

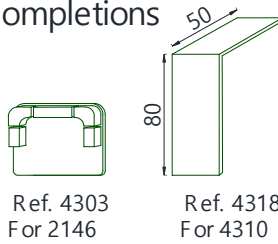
| Ref panel     | Width  | Thickness | Weight/m <sup>2</sup> |
|---------------|--------|-----------|-----------------------|
| arcoPlus 6104 | 600 mm | 10 mm     | 2200 g/m <sup>2</sup> |



**Connectors**



**Connector completions**



**Bolt**



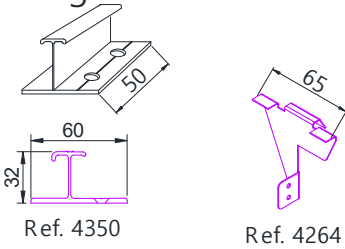
Ref. 4312  
For 4310

**Adhesive**

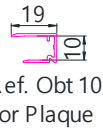


Ref. 4083

**Fixing halter**



**Block-cover**



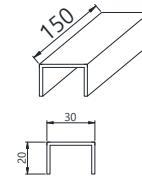
Ref. Obt 10  
For Plaque

**Gasket**



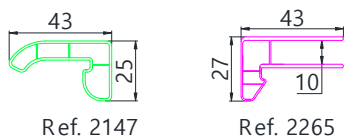
Ref. 4329

**Joint bar**

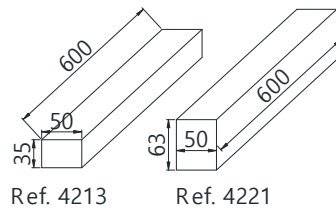


Ref. 4319

**Profiles : start - end**



**Pads**

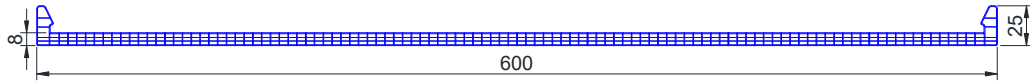




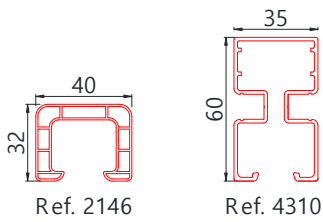
**arcoPlus® 684 system**

**Panel**

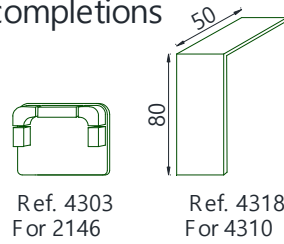
| Ref panel    | Width  | Thickness | Weight/m <sup>2</sup> |
|--------------|--------|-----------|-----------------------|
| arcoPlus 684 | 600 mm | 8 mm      | 1850 g/m <sup>2</sup> |



**Connectors**



**Connector completions**



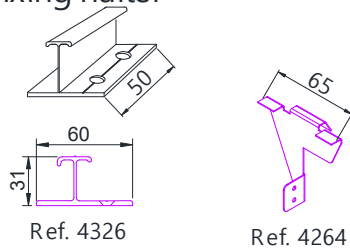
**Bolt**



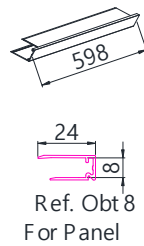
**Adhesive**



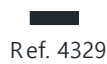
**Fixing halter**



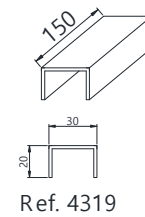
**Block-cover**



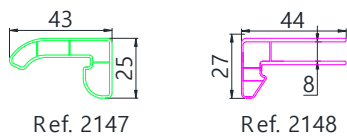
**Gasket**



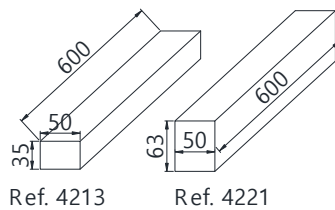
**Joint bar**



**Profiles : start - end**

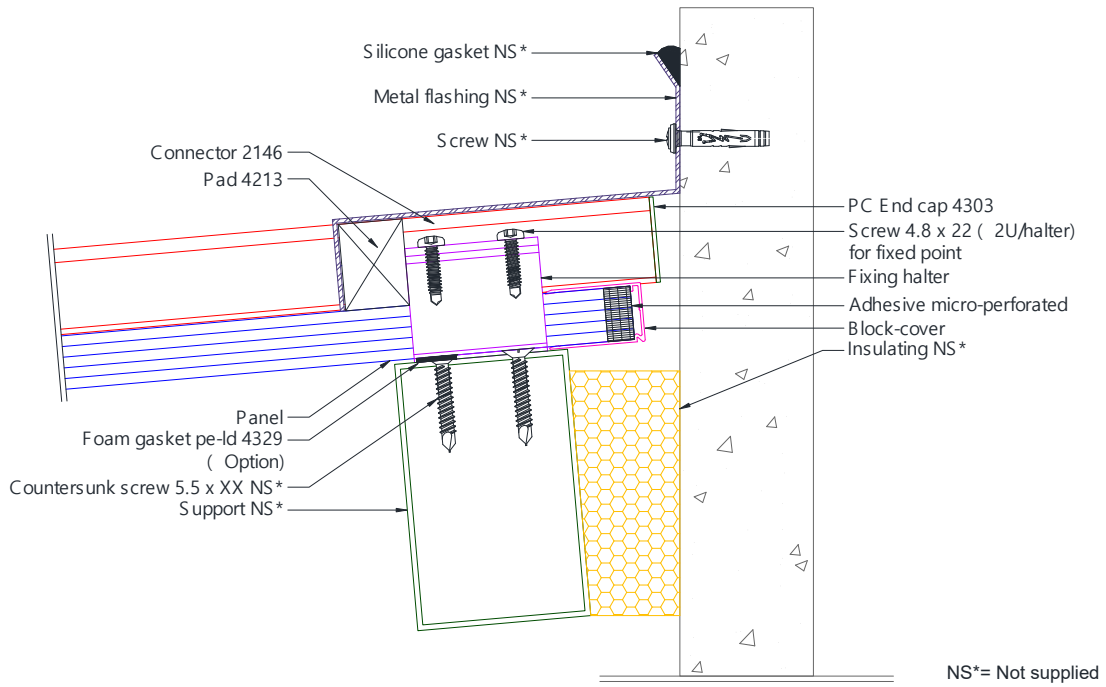


**Pads**

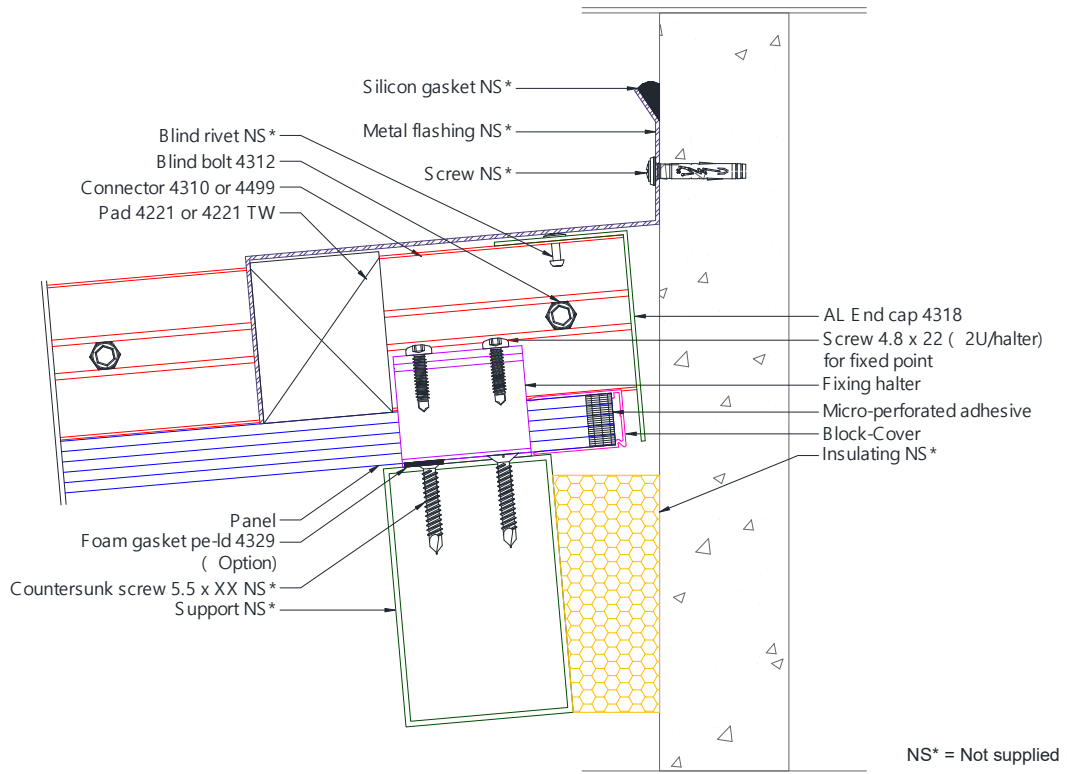


## Installation principle of mono pitch ridge

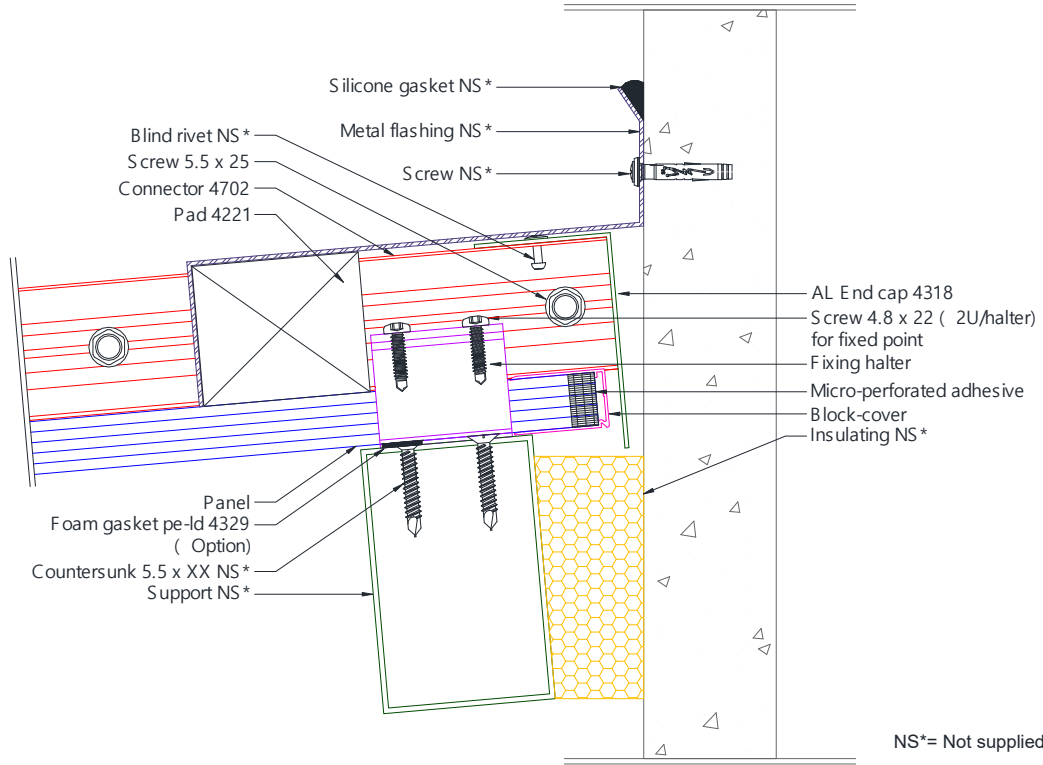
### PC Connector 2146



### AL connectors 4310 and 4499

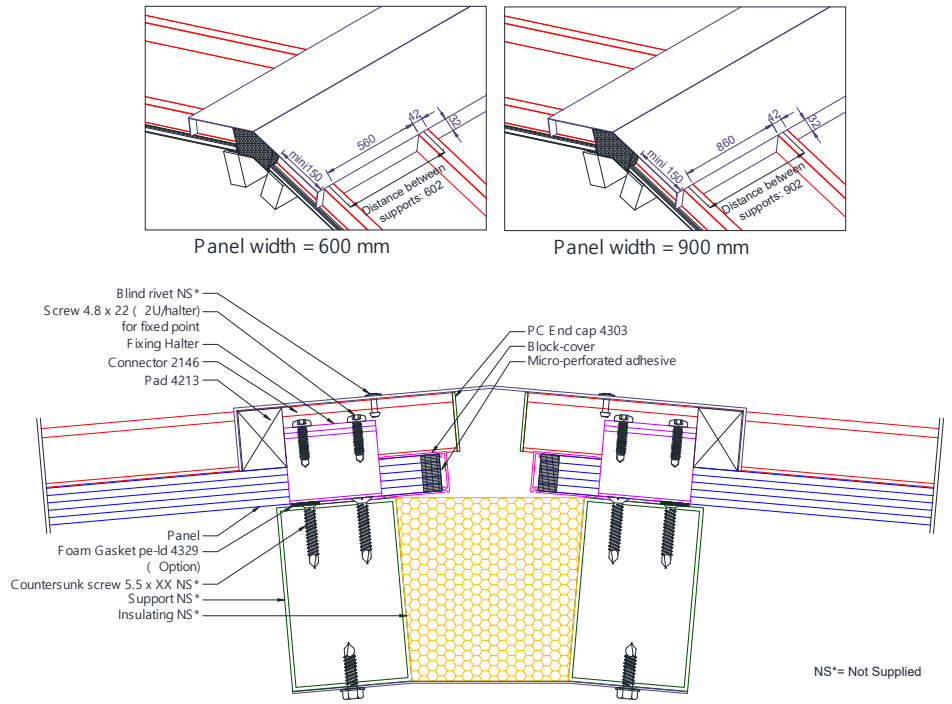


**AL Connector 4702**

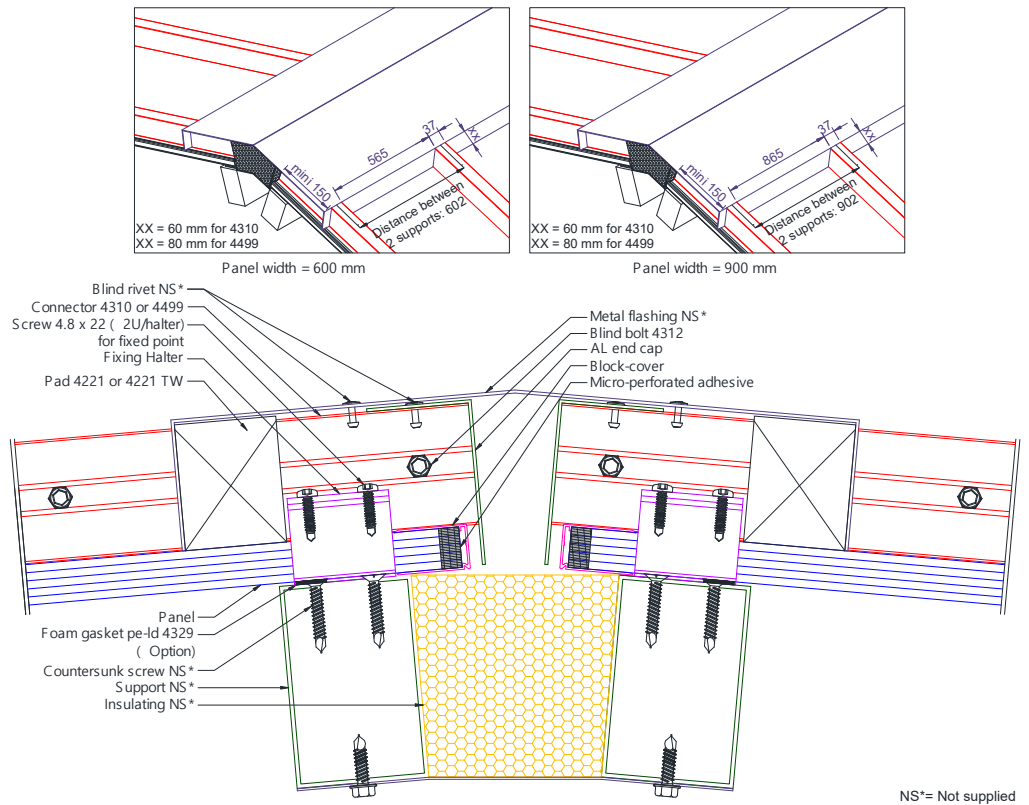


## Installation principle of double pitch ridge

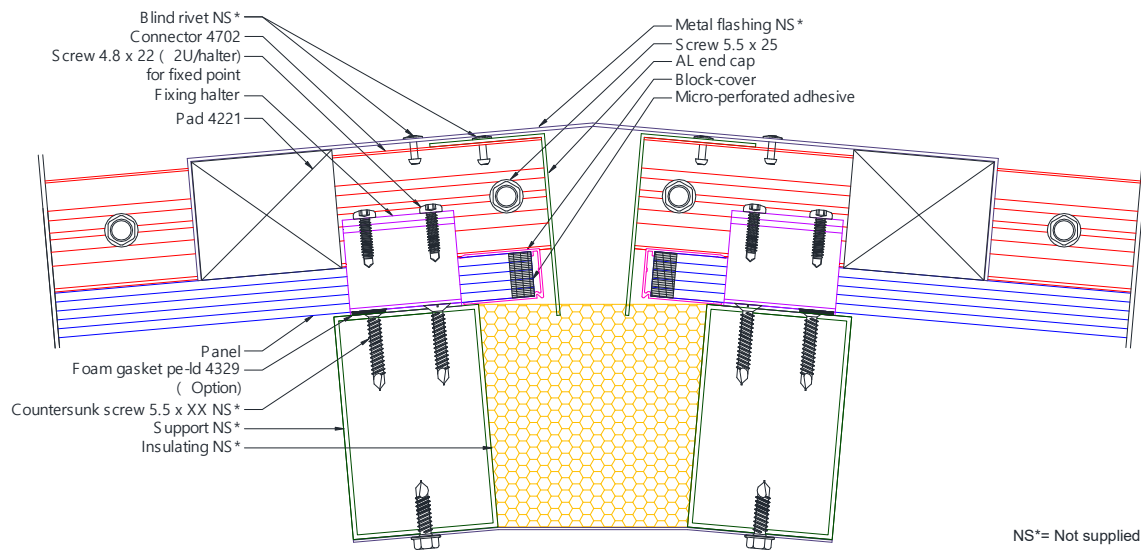
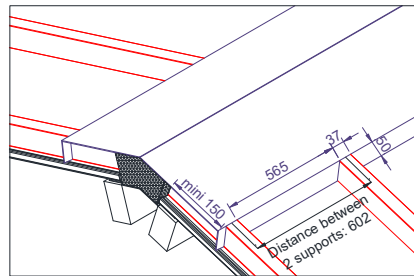
### PC Connector 2146



### AL connectors 4310 and 4499

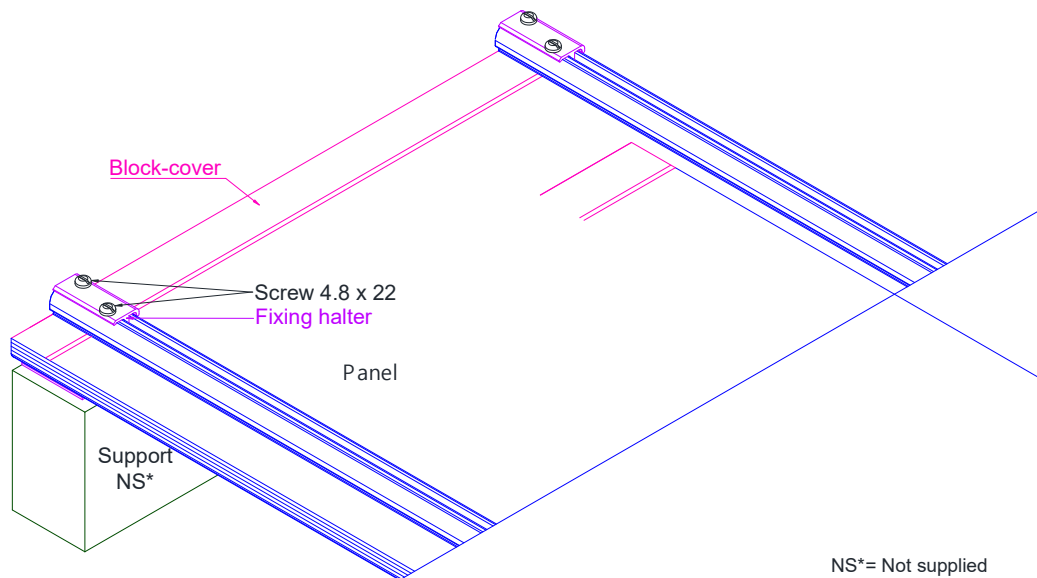
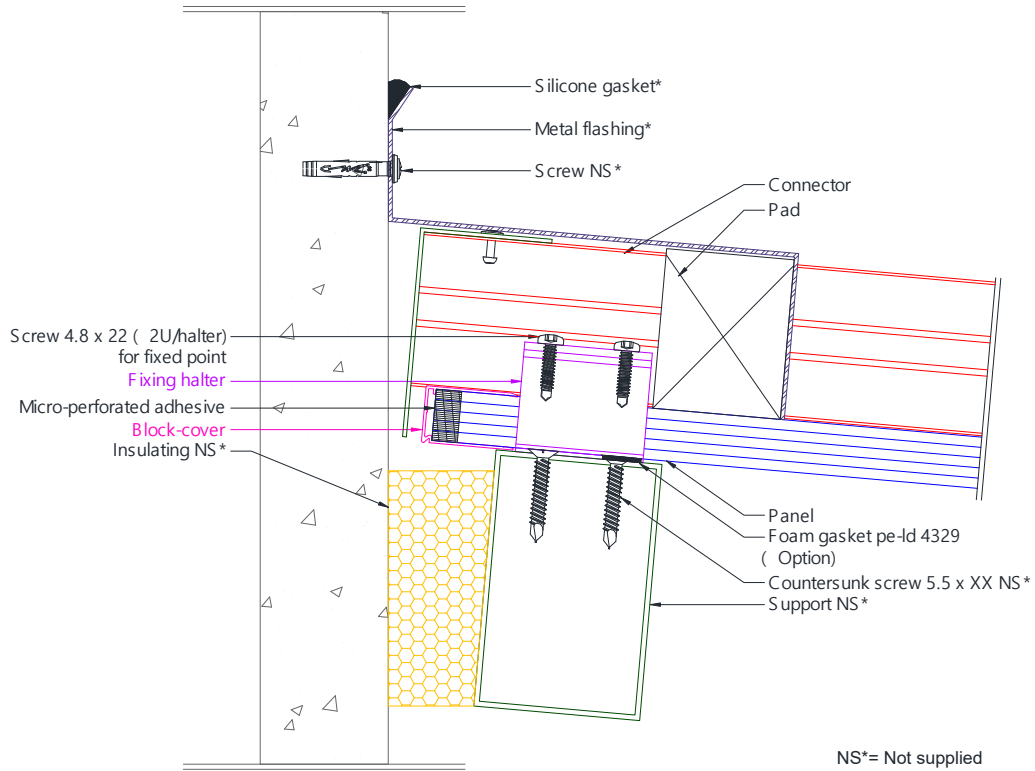


## AL Connector 4702



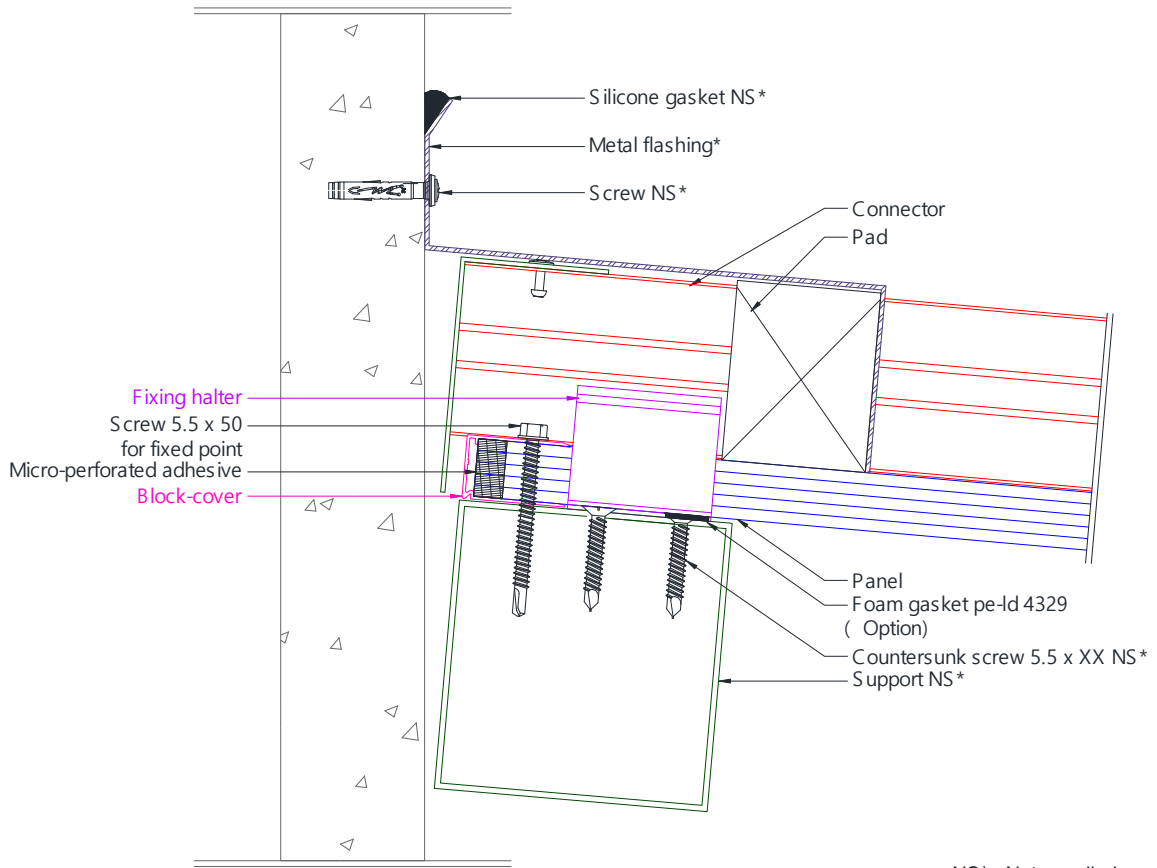
## Principle of fixed point

### Fixed point on fixing halters in ridge

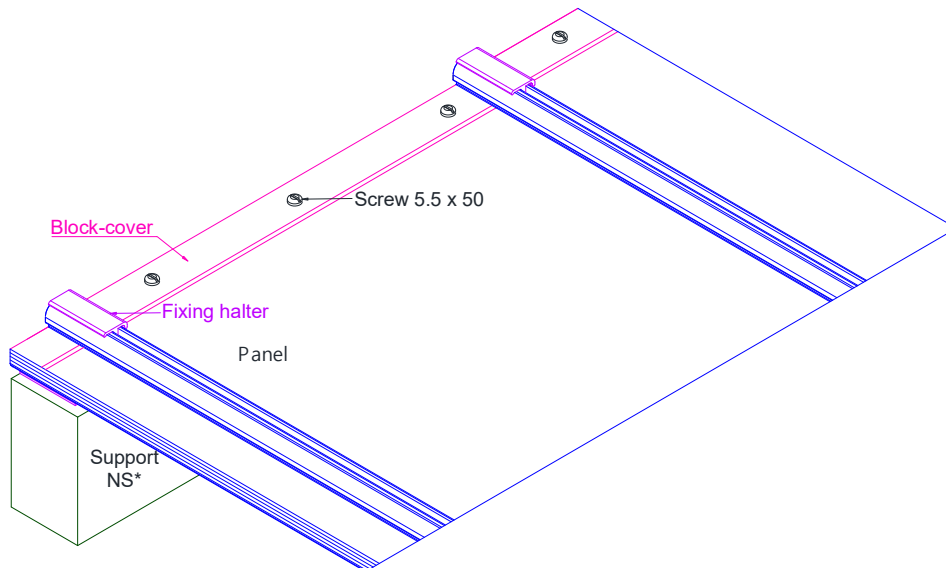


The fixed point is completed on the ridge using a fixing halter and screws 4.8 x 22;  
 The screws have to be fixed on the two top lugs.  
 The fixing halters have to be pre-drilled.

Fixed point on block-covers



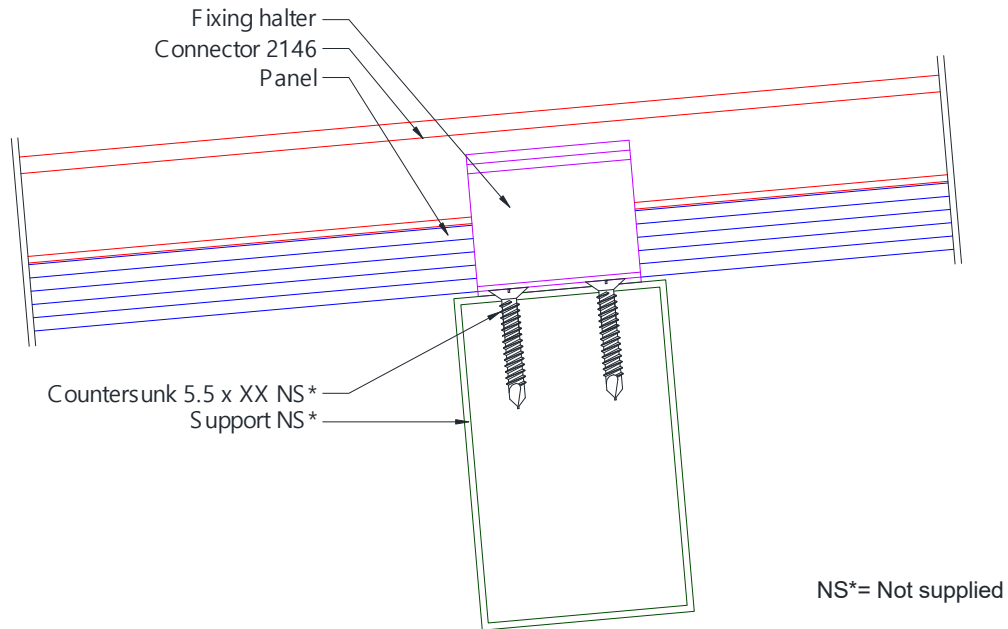
NS\*= Not supplied



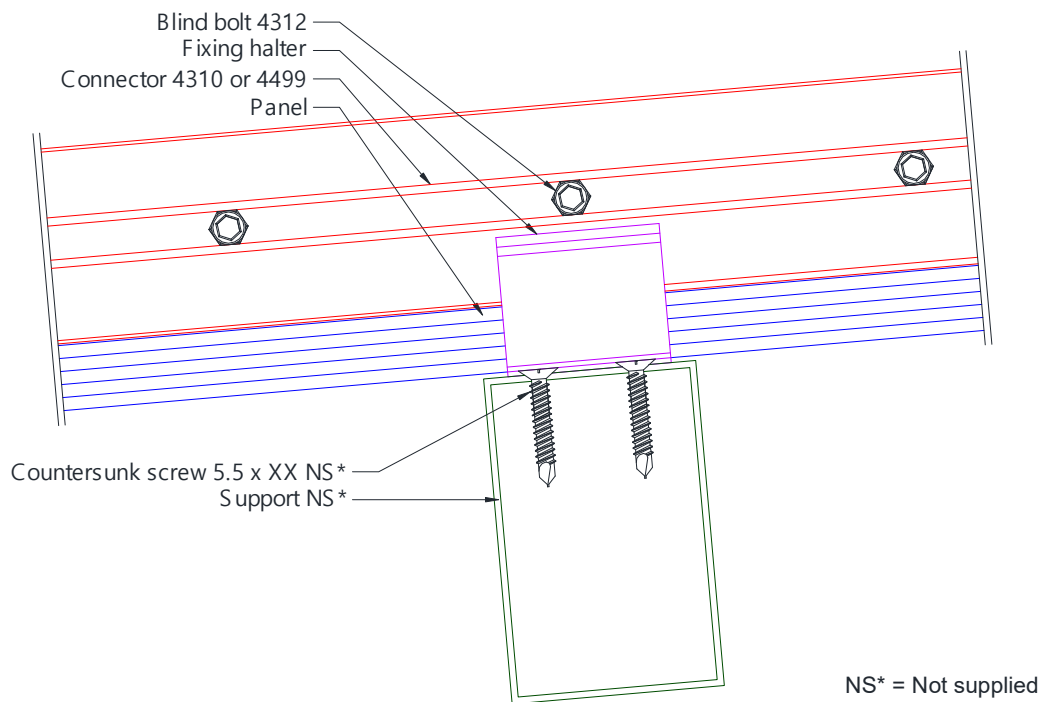
NS\*= Not supplied

## Installation principle on intermediary support

### PC Connector 2146

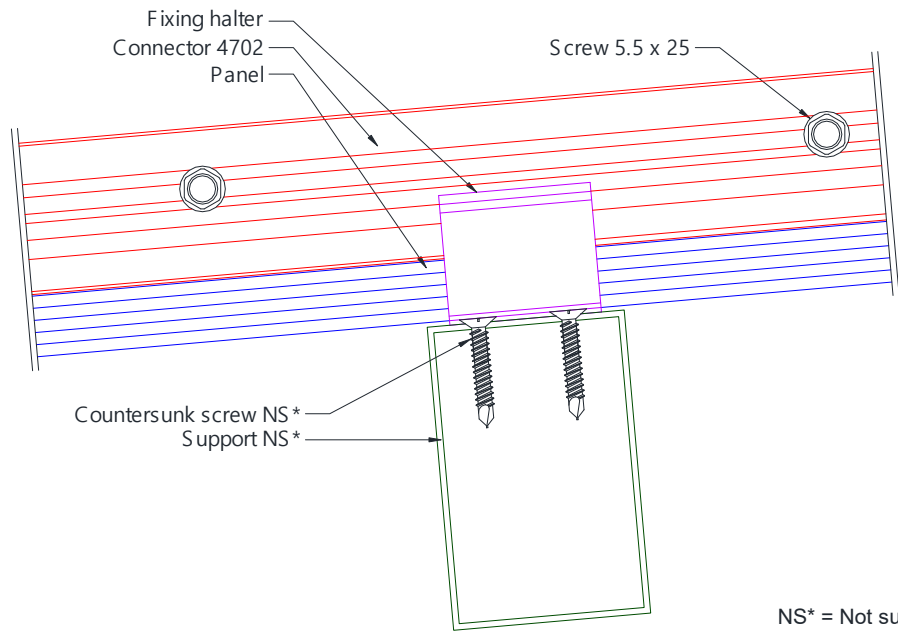


### AL connectors 4310 and 4499





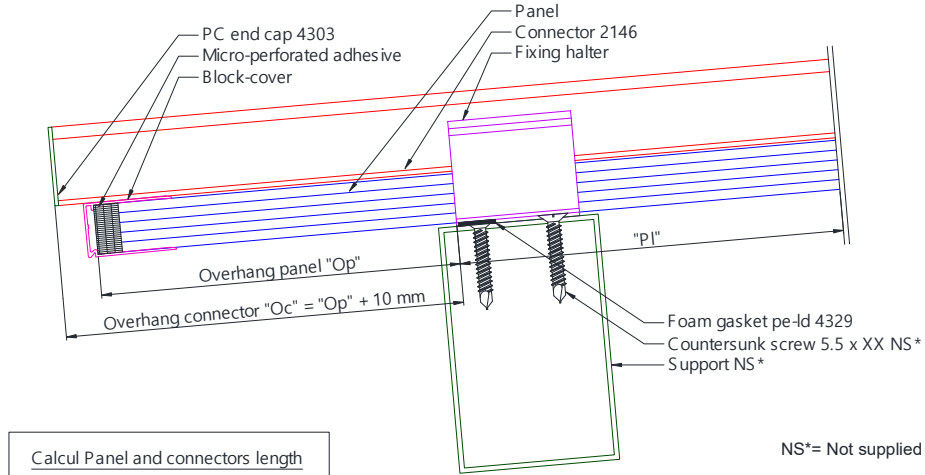
## AL connectors 4702



NS\* = Not supplied

## Installation principle - on low part

### PC Connector 2146

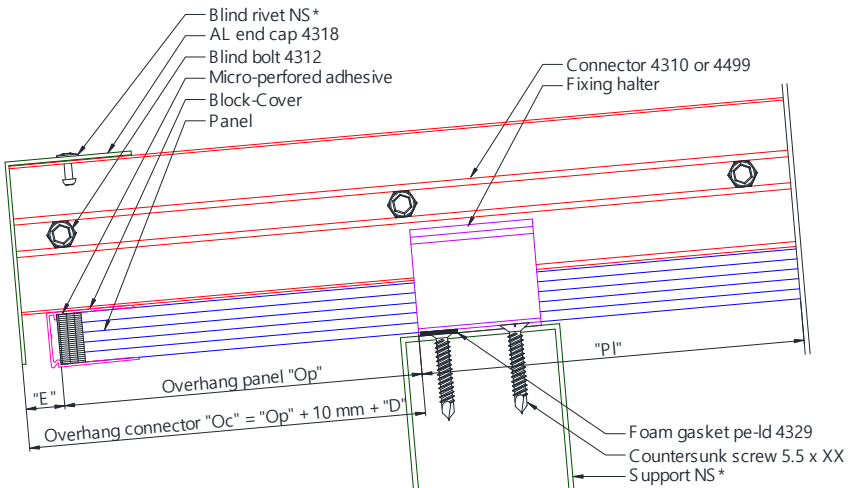


|   |
|---|
| <b>Calcul Panel and connectors length</b><br>Pl : Panel length without overhang in mm<br>Op : Overhang panel<br>Tpl : Total panel length<br>$Tpl = Pl + Op$ |
| Cl = Connector length<br>$Cl = Tpl + 20 \text{ mm}$   |
| Overhang mini = 60 mm<br>Overhang maxi = 150 mm   |

Overhang length depending on temperature while installing

| T°C    | Panel length in meters |       |       |       |       |       |       |        |        |        |  |
|--------|------------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--|
| Instal | 1                      | 2     | 3     | 5     | 7     | 8     | 10    | 12     | 14     | 16     |  |
| 00°C   | 60 mm                  | 60 mm | 60 mm | 60 mm | 70 mm | 70 mm | 70 mm | 80 mm  | 80 mm  | 90 mm  |  |
| 15°C   | 60 mm                  | 60 mm | 60 mm | 70 mm | 70 mm | 80 mm | 80 mm | 90 mm  | 90 mm  | 100 mm |  |
| 30°C   | 60 mm                  | 60 mm | 70 mm | 70 mm | 80 mm | 80 mm | 90 mm | 100 mm | 110 mm | 110 mm |  |

### AL connectors 4310 and 4499

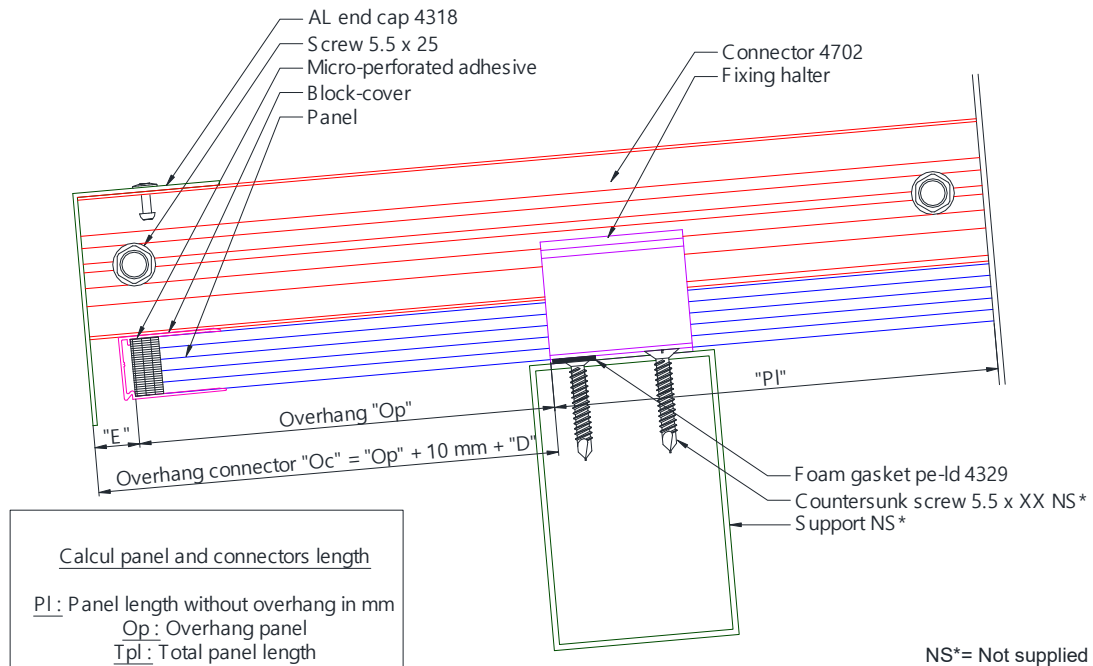


|   |
|---|
| <b>Calcul panel and connectors length</b><br>Pl : Panel length without overhang in mm<br>Op : Overhang panel<br>Tpl : Total panel length<br>$Tpl = Pl + Op$ |
| Cl = Connector length<br>$Cl = Tpl + 20 \text{ mm}$   |
| <b>Expansion "E" :</b><br>"E" = 4 mm/ml of panels<br><br>Overhang mini = 60 mm<br>Overhang maxi = 300 mm  |

Overhang length depending on temperature while installing

| T°C    | Panel length in meters |       |       |       |       |       |       |        |        |        |  |
|--------|------------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--|
| Instal | 1                      | 2     | 3     | 5     | 7     | 8     | 10    | 12     | 14     | 16     |  |
| 00°C   | 60 mm                  | 60 mm | 60 mm | 60 mm | 70 mm | 70 mm | 70 mm | 80 mm  | 80 mm  | 90 mm  |  |
| 15°C   | 60 mm                  | 60 mm | 60 mm | 70 mm | 70 mm | 80 mm | 80 mm | 90 mm  | 90 mm  | 100 mm |  |
| 30°C   | 60 mm                  | 60 mm | 70 mm | 70 mm | 80 mm | 80 mm | 90 mm | 100 mm | 110 mm | 110 mm |  |

## AL connectors 4702



|   |
|---|
| <p><u>Calcul panel and connectors length</u></p> <p>Pl : Panel length without overhang in mm<br/>         Op : Overhang panel<br/>         Tpl : Total panel length<br/> <math>Tpl = Pl + Op</math></p> |
| <p>Cl = Connector length<br/> <math>Cl = Tpl + 20 \text{ mm}</math></p> <p><b>Expansion "E" :</b><br/>         "E" = 4 mm/ml of panels</p>  |
| <p>Overhang mini = 60 mm<br/>         Overhang maxi = 300 mm</p>  |

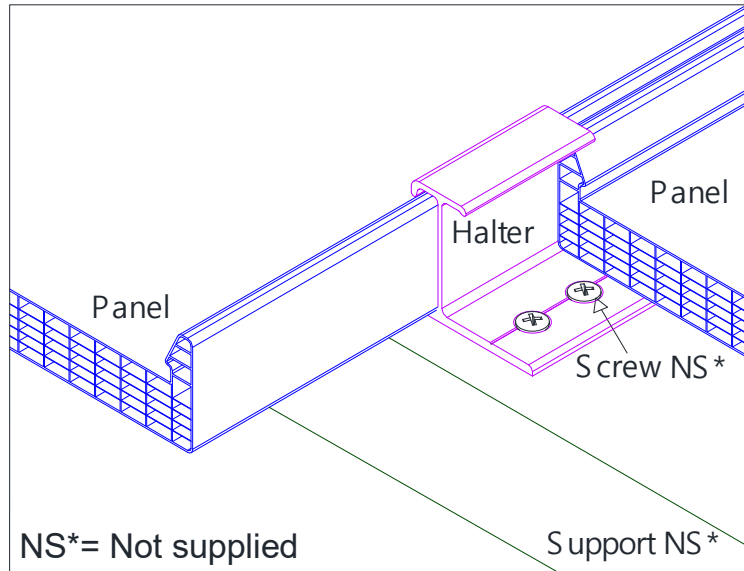
Overhang length depending on temperature while installing

| T°C    | Panels length in meters |       |       |       |       |       |       |        |        |        |
|--------|-------------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
|        | 1                       | 2     | 3     | 5     | 7     | 8     | 10    | 12     | 14     | 16     |
| Instal |                         |       |       |       |       |       |       |        |        |        |
| 00°C   | 60 mm                   | 60 mm | 60 mm | 60 mm | 70 mm | 70 mm | 70 mm | 80 mm  | 80 mm  | 90 mm  |
| 15°C   | 60 mm                   | 60 mm | 60 mm | 70 mm | 70 mm | 80 mm | 80 mm | 90 mm  | 90 mm  | 100 mm |
| 30°C   | 60 mm                   | 60 mm | 70 mm | 70 mm | 80 mm | 80 mm | 90 mm | 100 mm | 110 mm | 110 mm |

NS\*= Not supplied

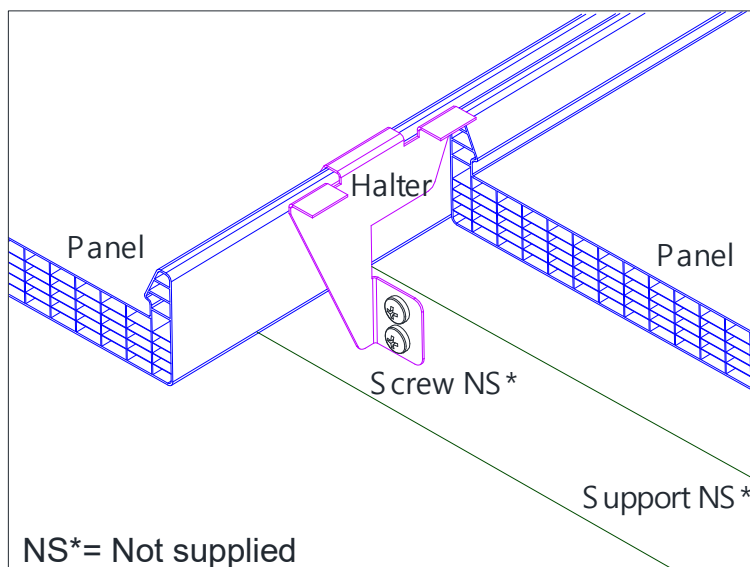
## Principle of fixing halters

### Fixation with AL halters



Wooden support: countersunk screw 5.5 X 40 mm or more  
Steel/Al support : countersunk screw 5.5 X 25 mm or more

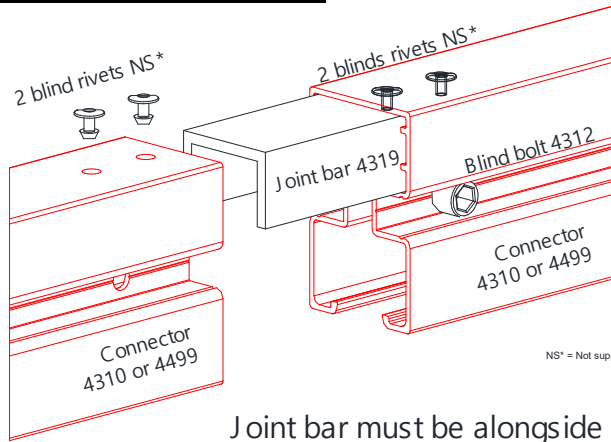
### Fixation with stainless steel halters



Wooden support : pan head screw 5.5 X 40 mm or more  
Steel/Al support : pan head screw 5.5 X 25 mm or more

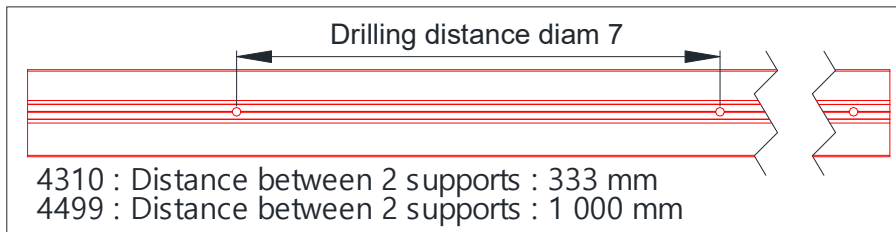
**Joint bar fitting principle**

**AL Connectors 4310 and 4499**



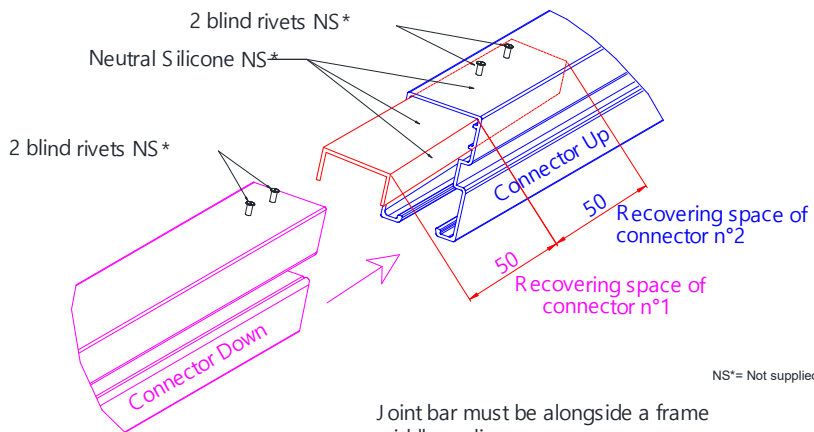
NS\* = Not supplied

Joint bar must be alongside a frame middle purlin



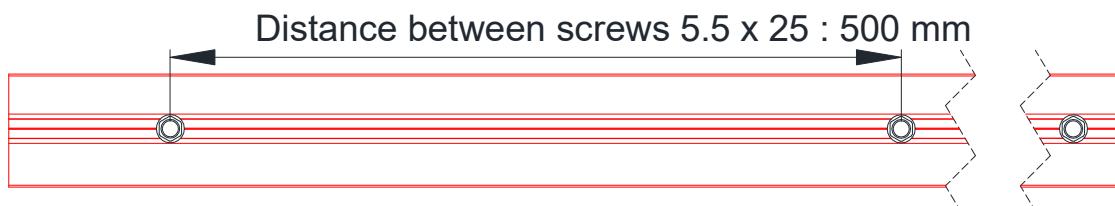
**AL Connectors 4310**

Junction of connectors 4702 is realized by joint bar in "U" form of 15 x 25 x 2 thick by 100 mm of length NS\*



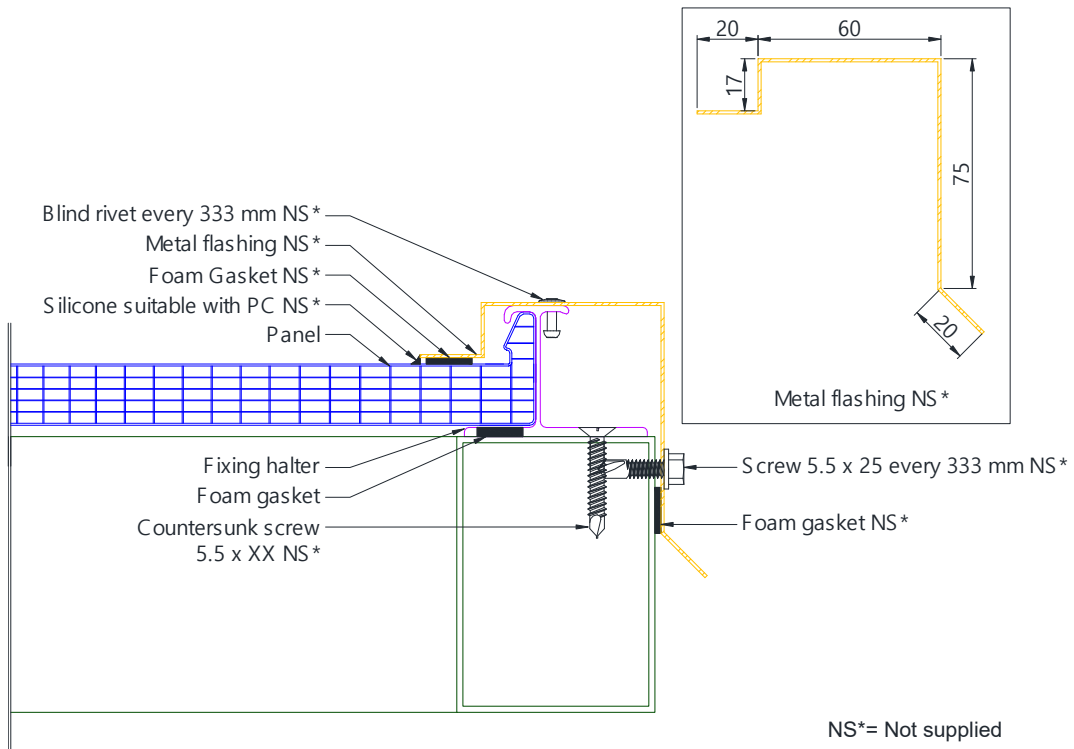
NS\* = Not supplied

Joint bar must be alongside a frame middle purlin

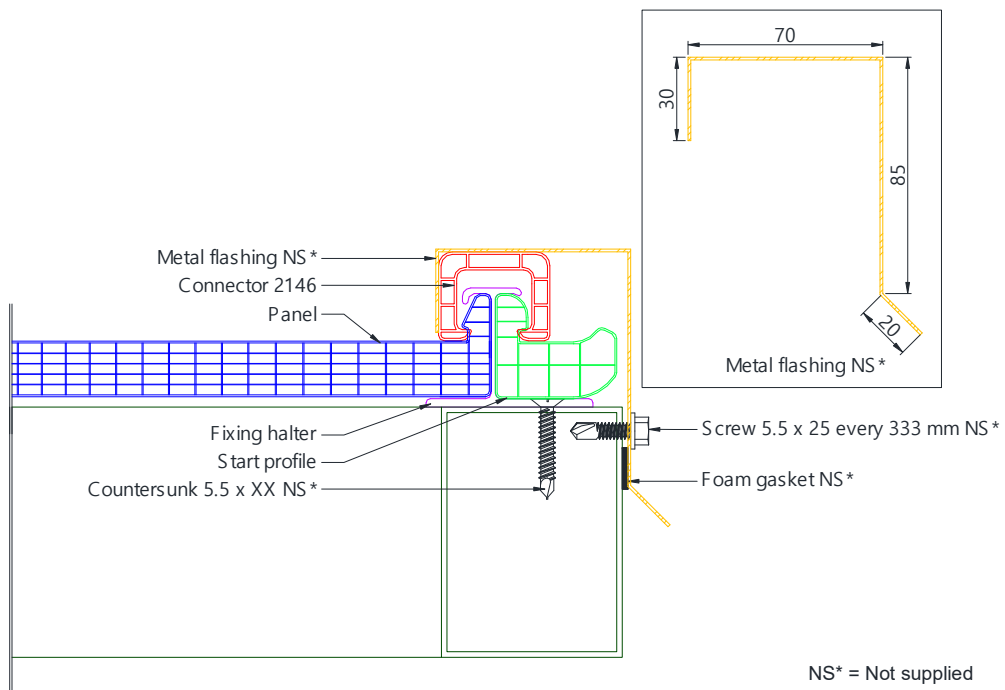


## Principle of edge completions

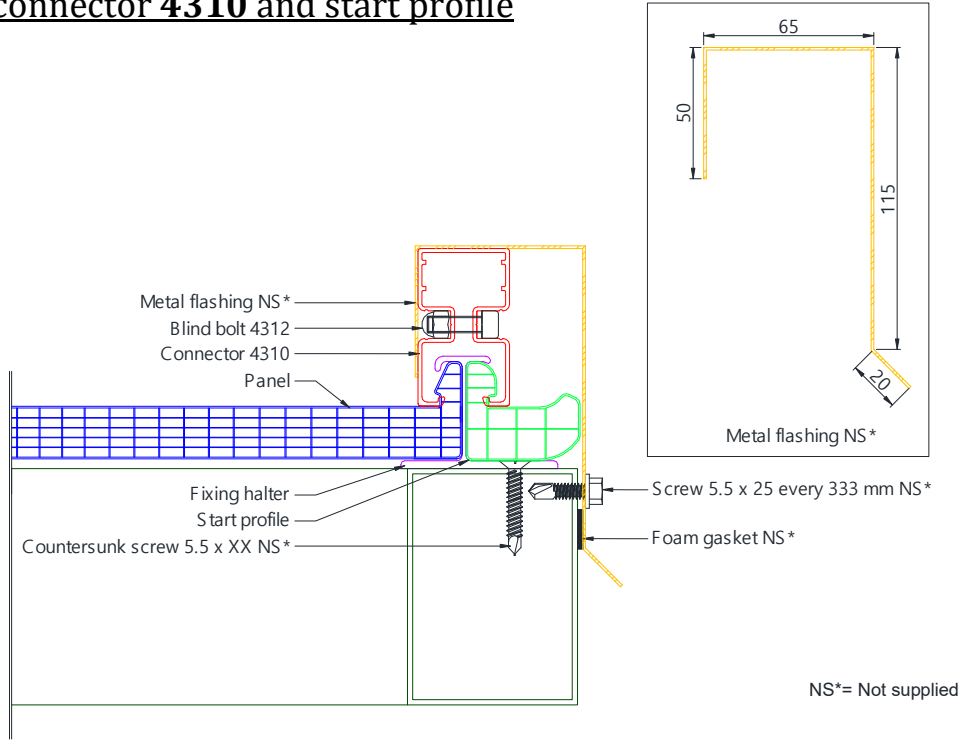
### With metal flashing only



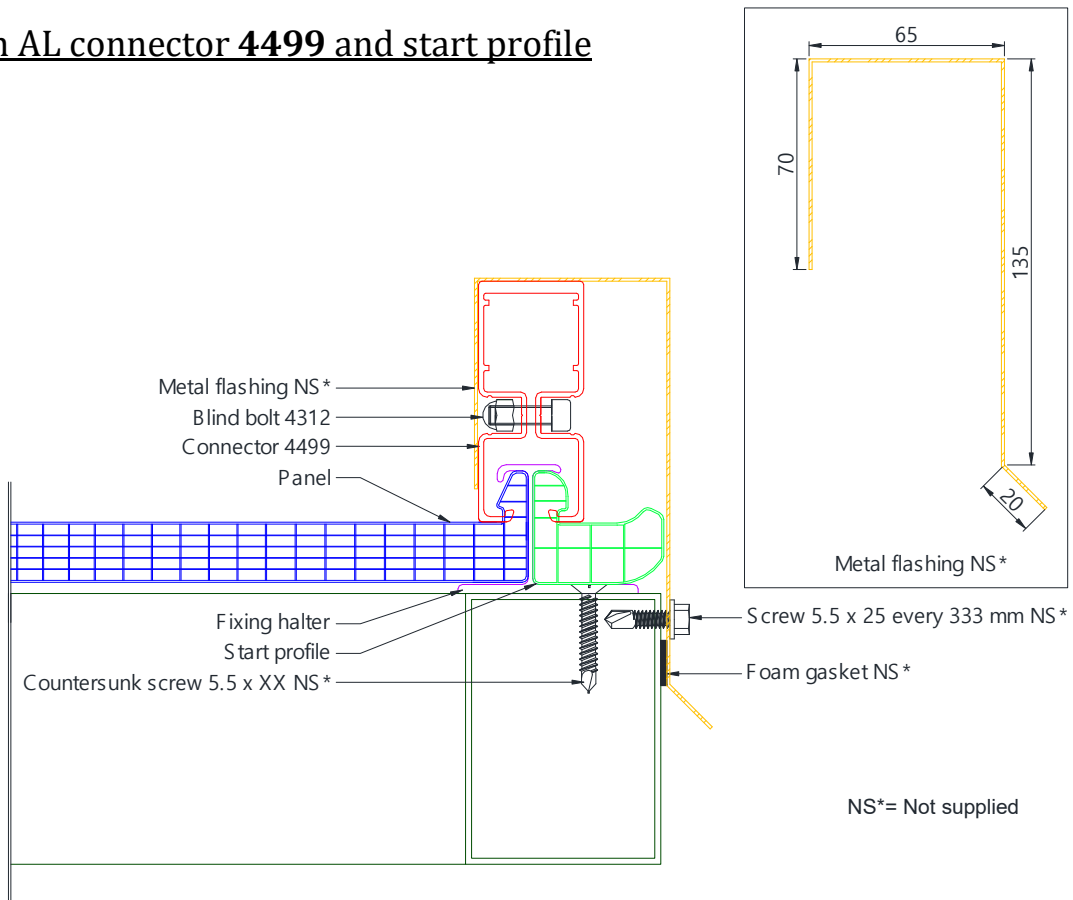
### With PC connector 2146 and start profile



**With AL connector 4310 and start profile**

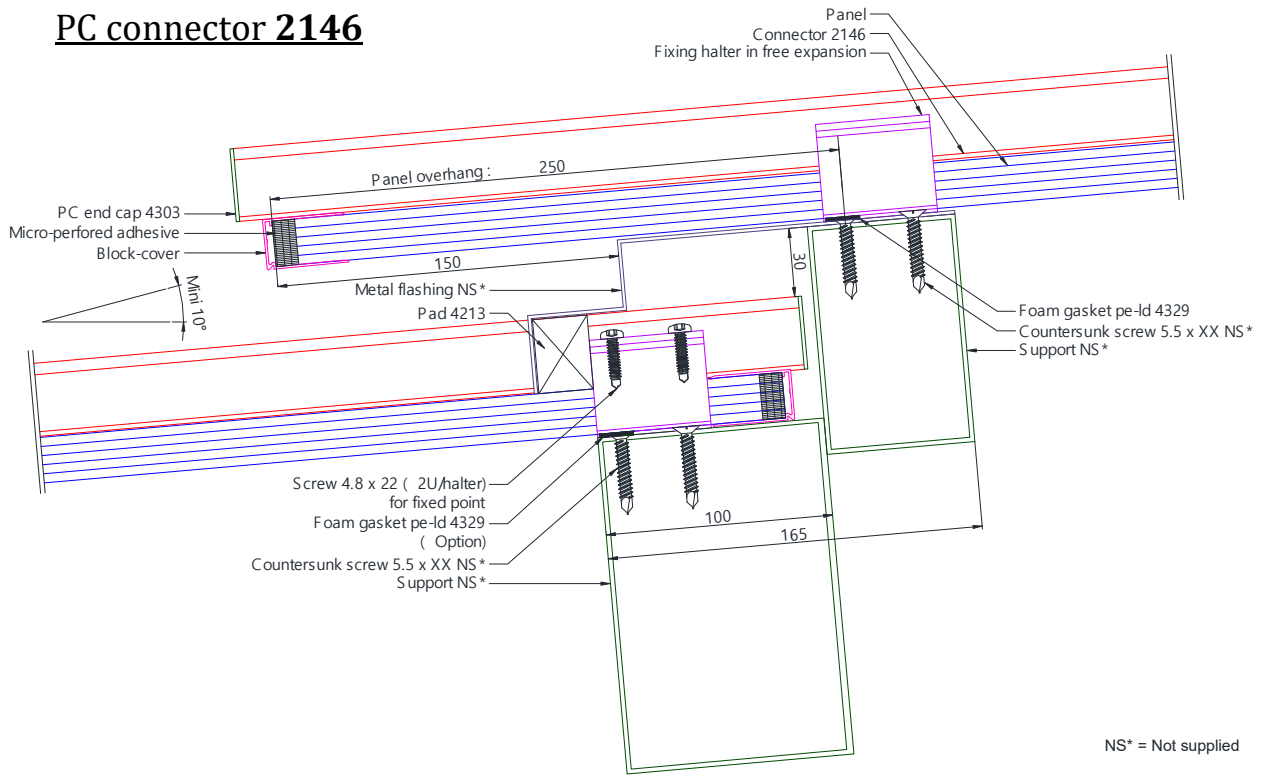


**With AL connector 4499 and start profile**

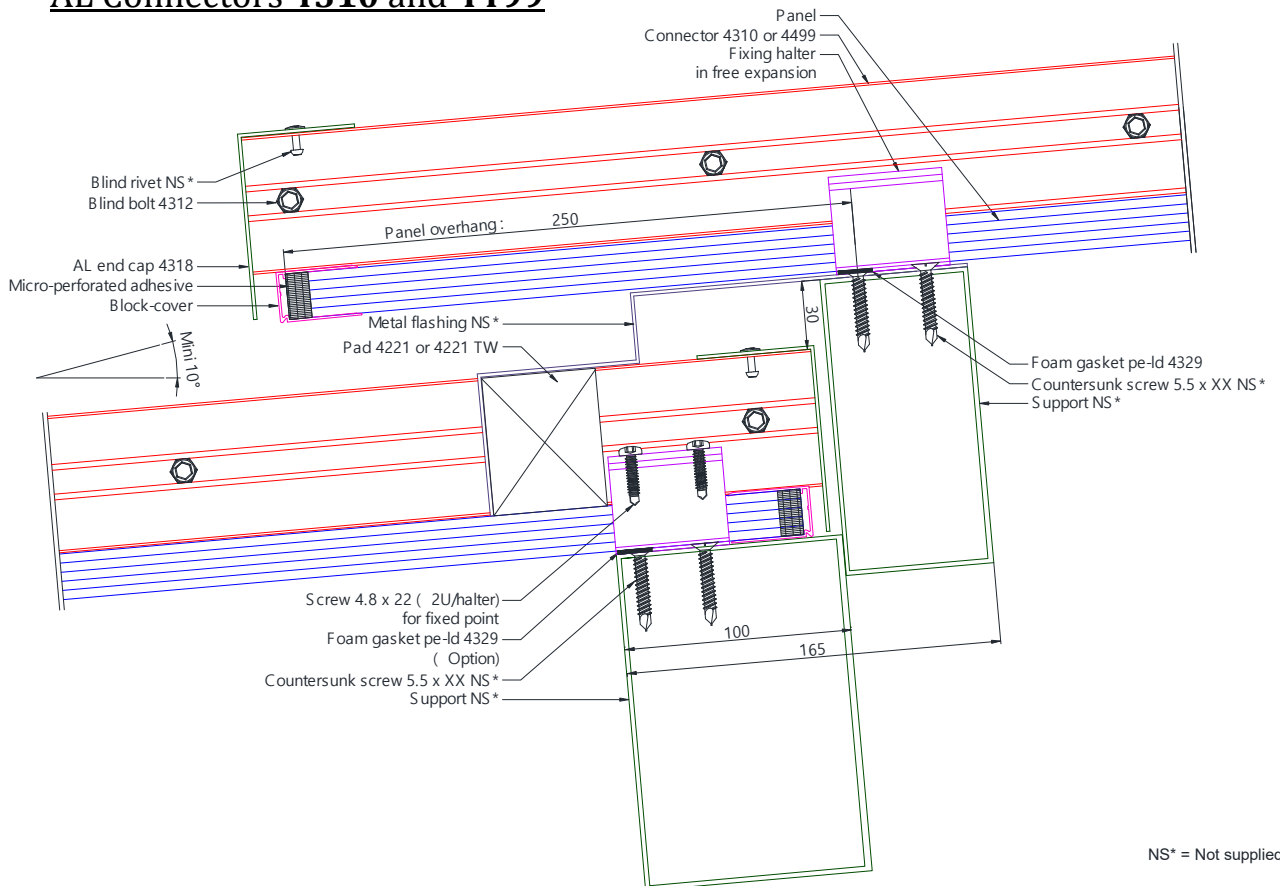


## Overlap principle

### PC connector 2146

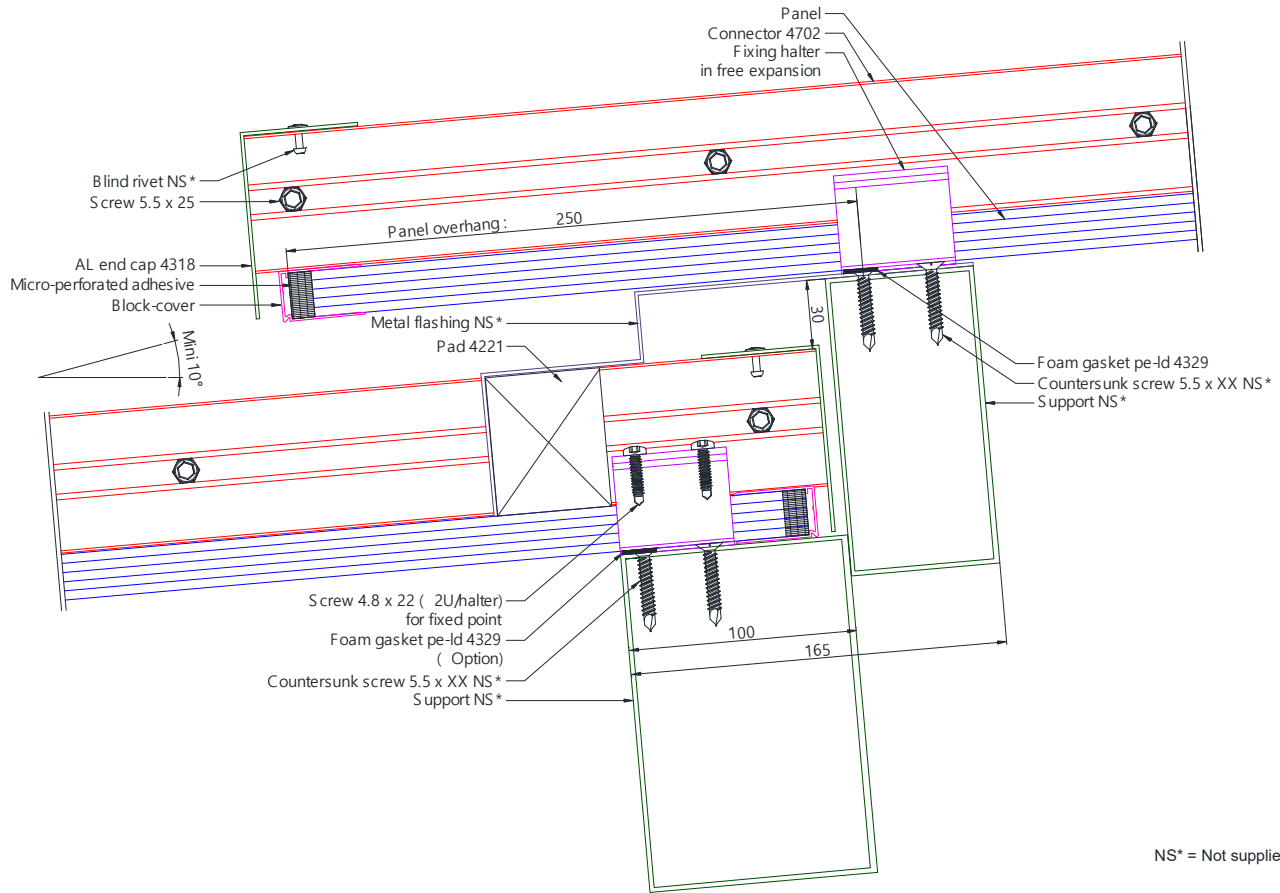


### AL Connectors 4310 and 4499



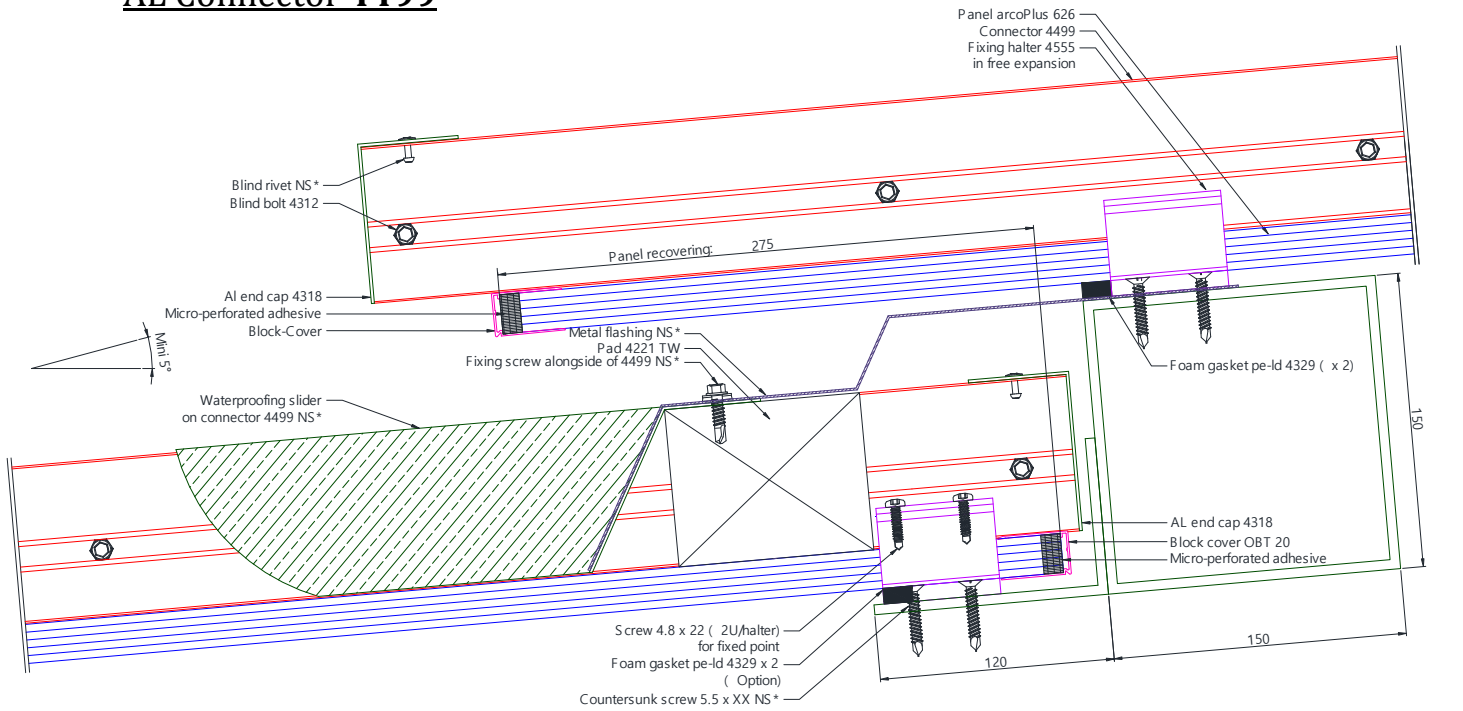


## AL Connector 4702

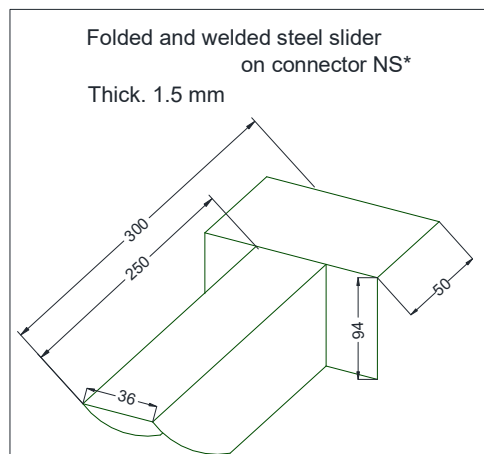
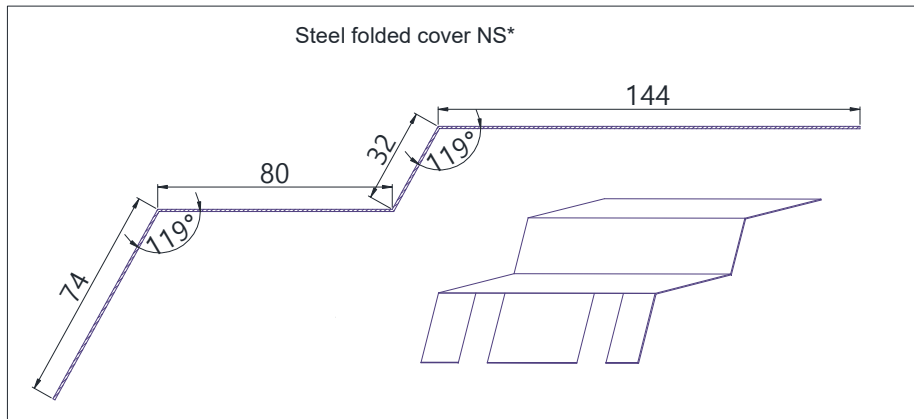


## Overlap reinforced principle

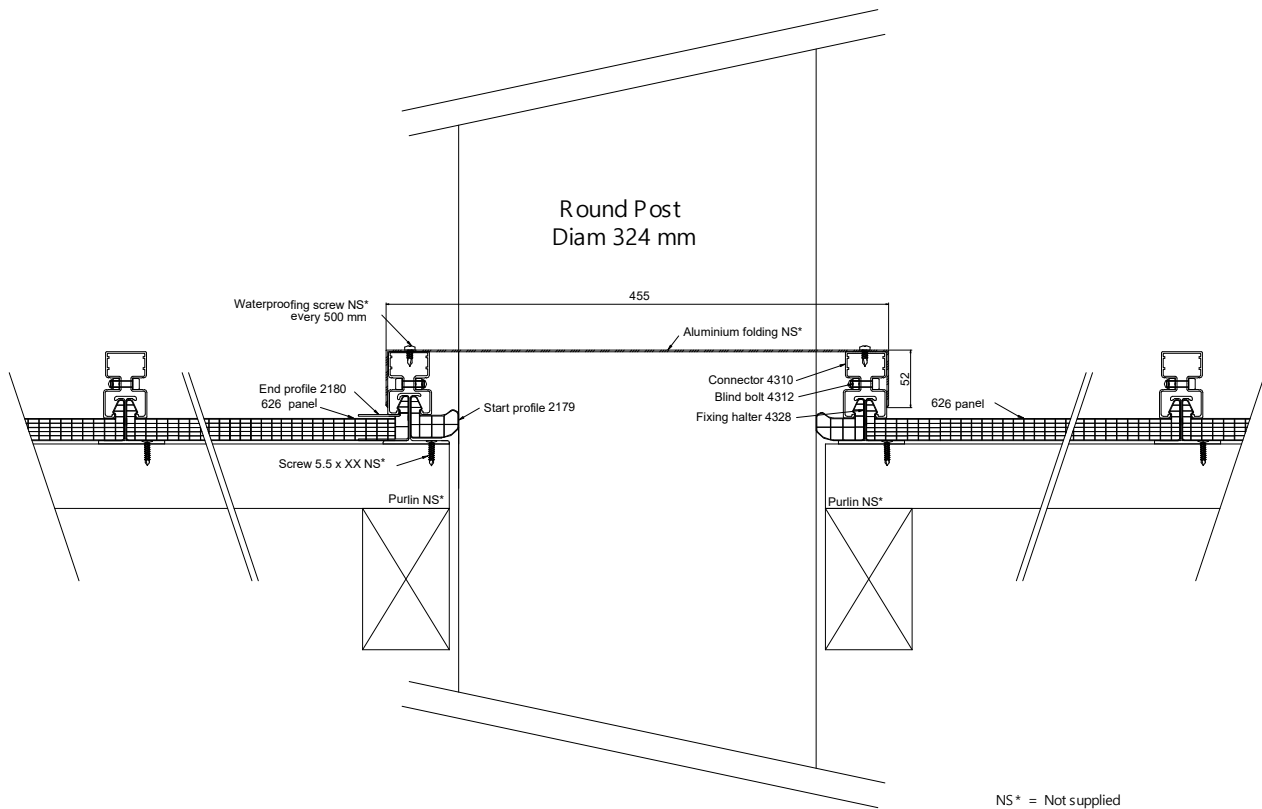
### AL Connector 4499



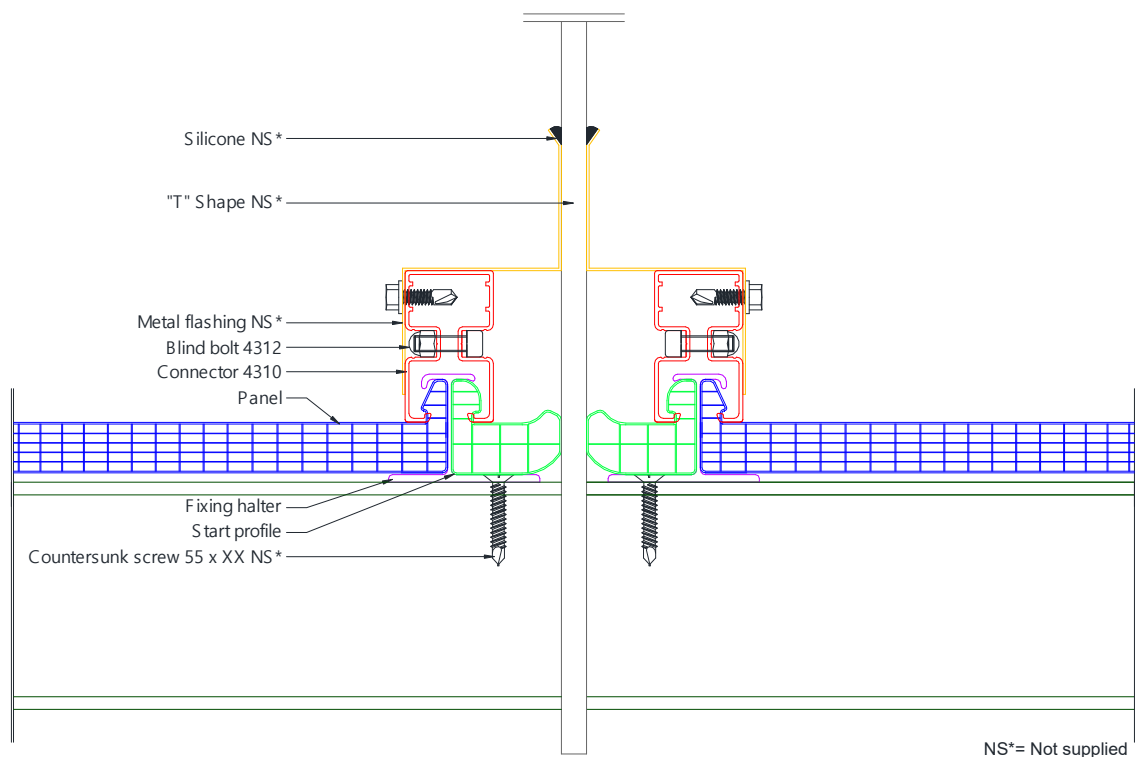
NS\* = Not supplied



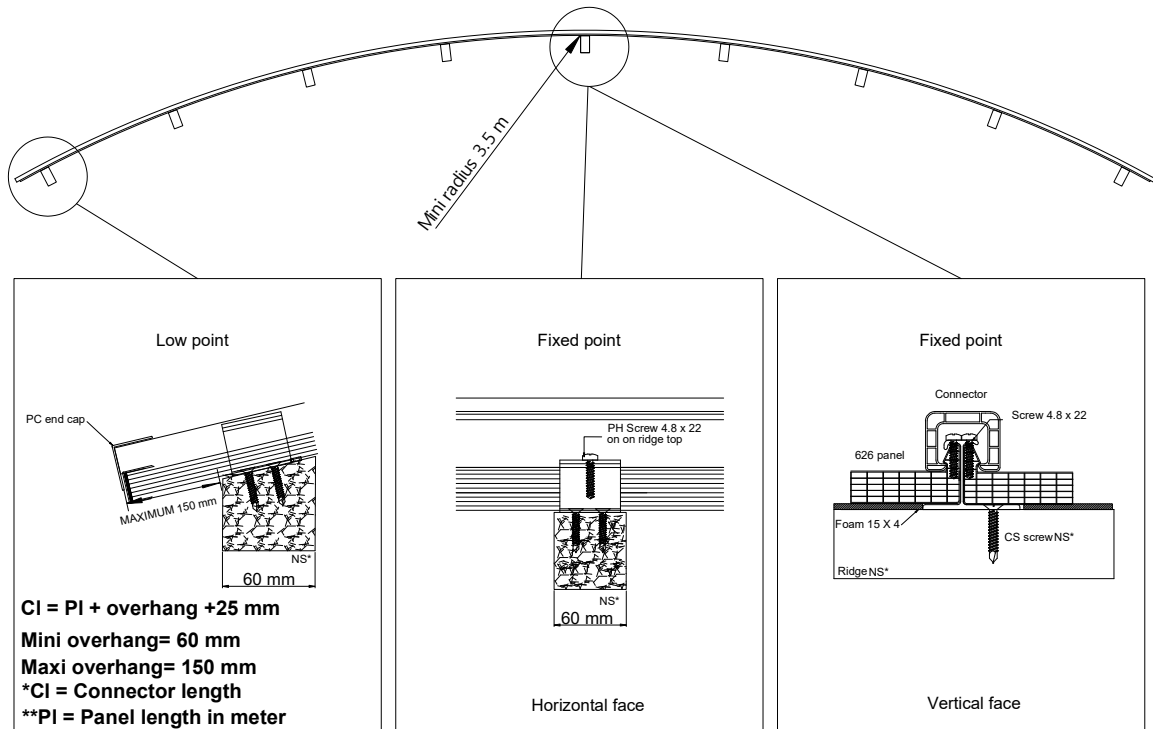
## Principle of Cross-Through Round Post



## Principle of "T" shape

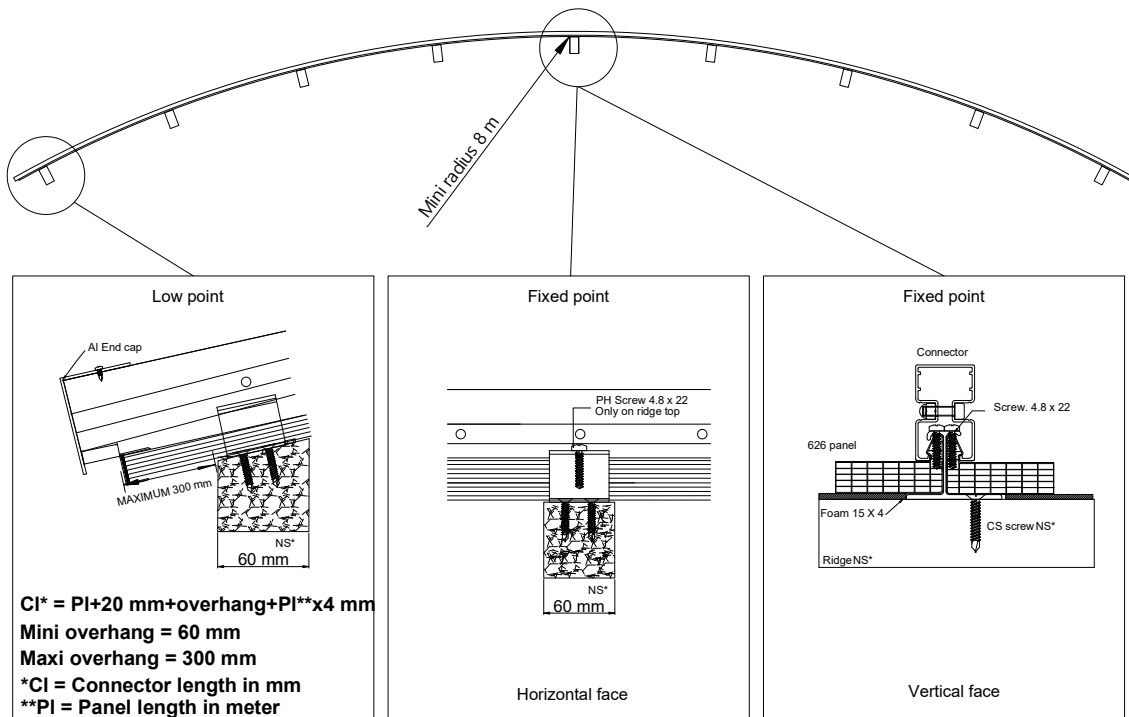


## Installation of a Curved Roof with PC Connectors 2146



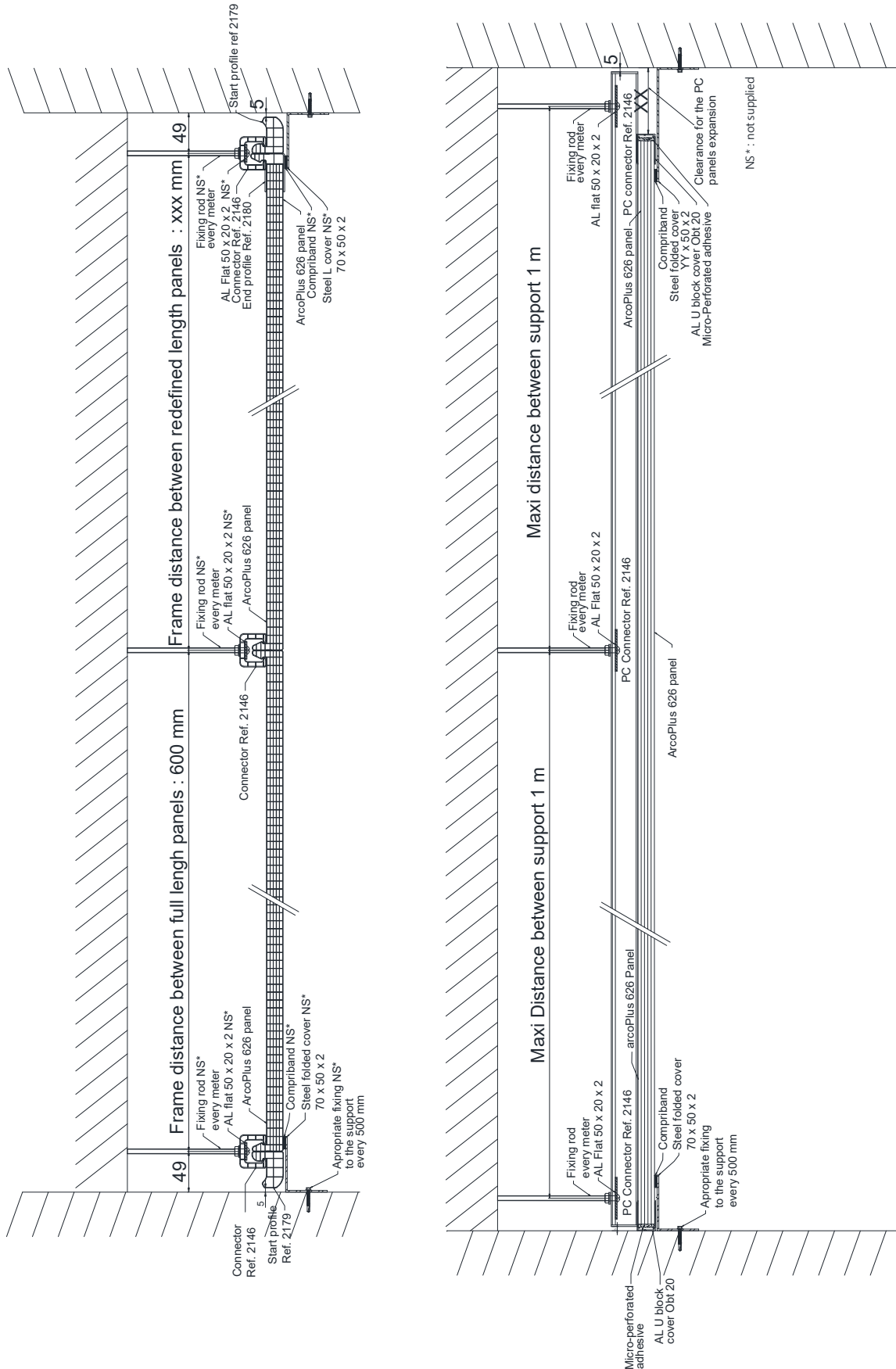
NS\* : Not supplied

## Installation of a Curved Roof with AL Connectors 4310

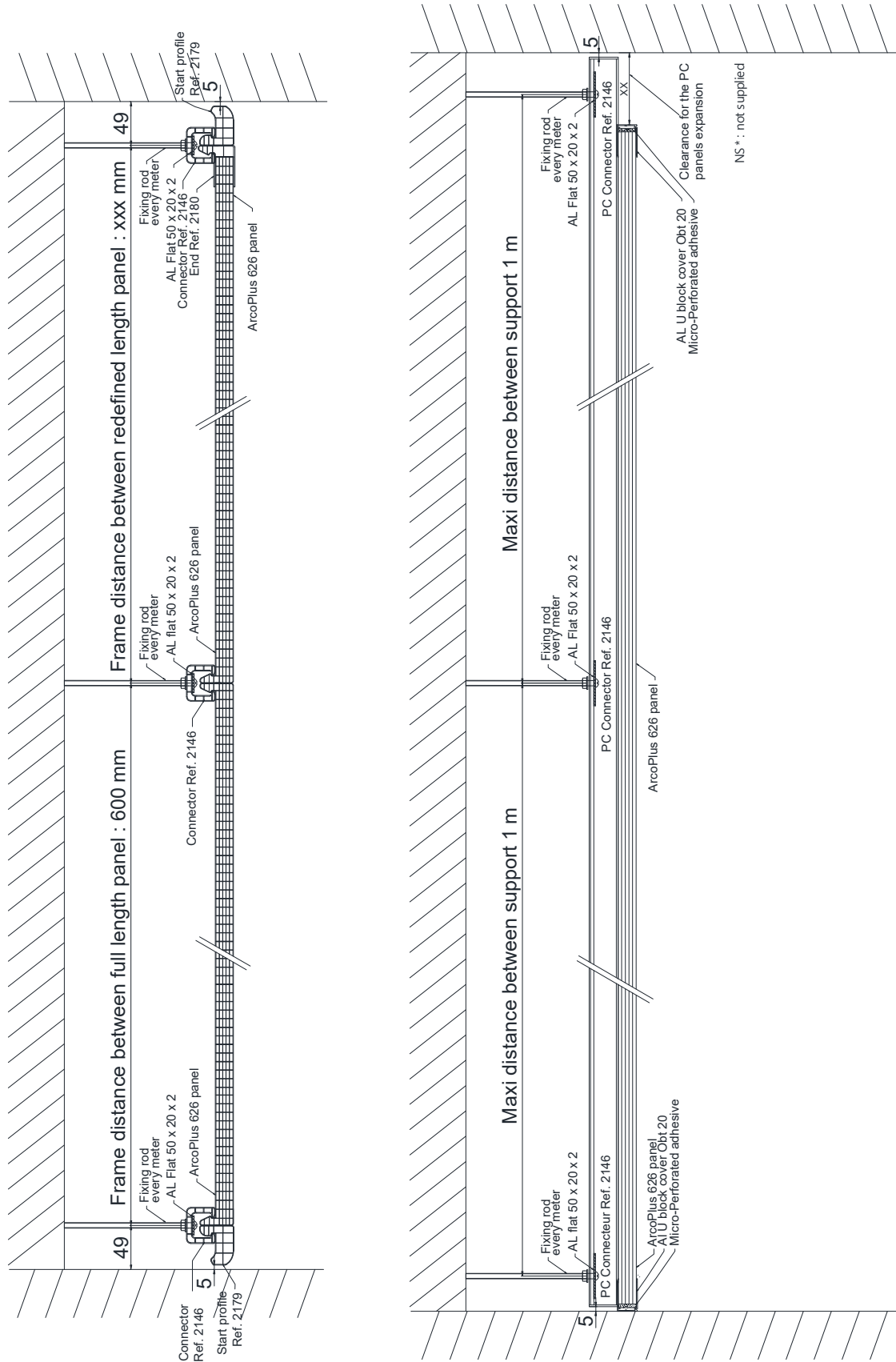


NS\* : Not supplied

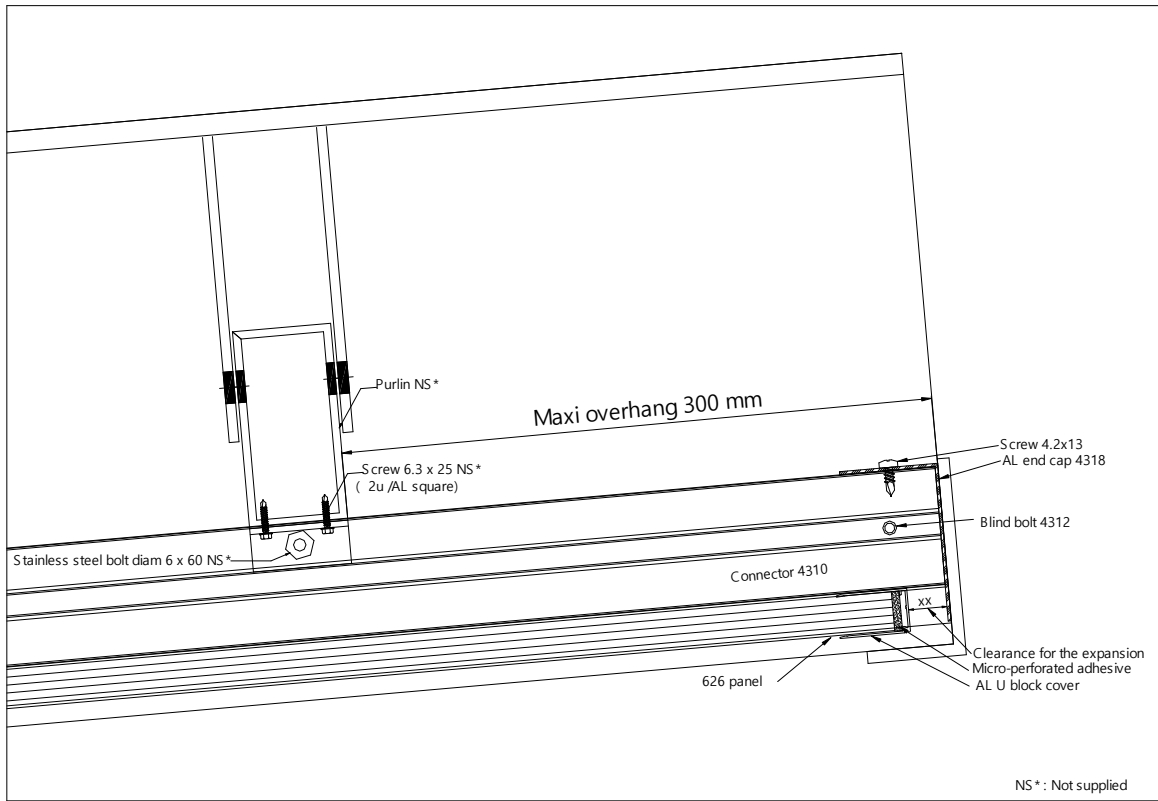
## Principle of Installation of Removable False Ceiling with Peripheral Angles



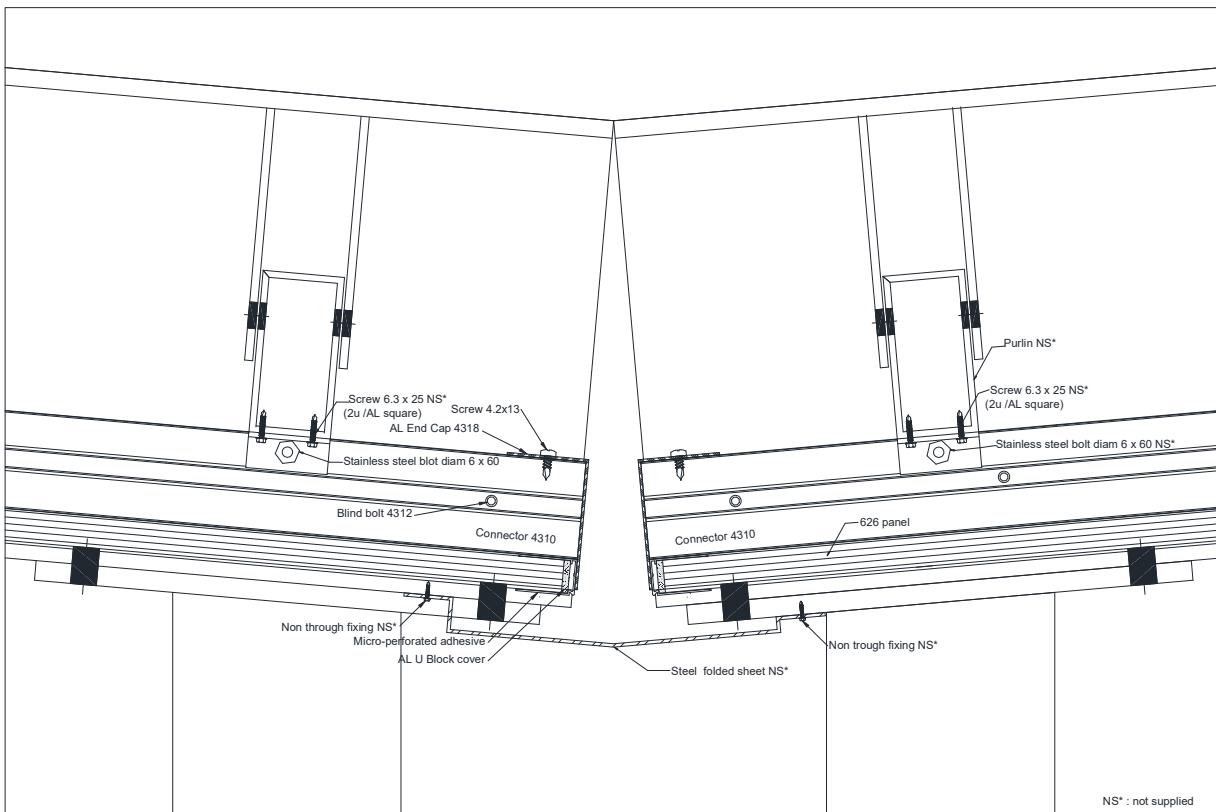
## Principle of Installation of Removable False Ceiling without Peripheral Angles



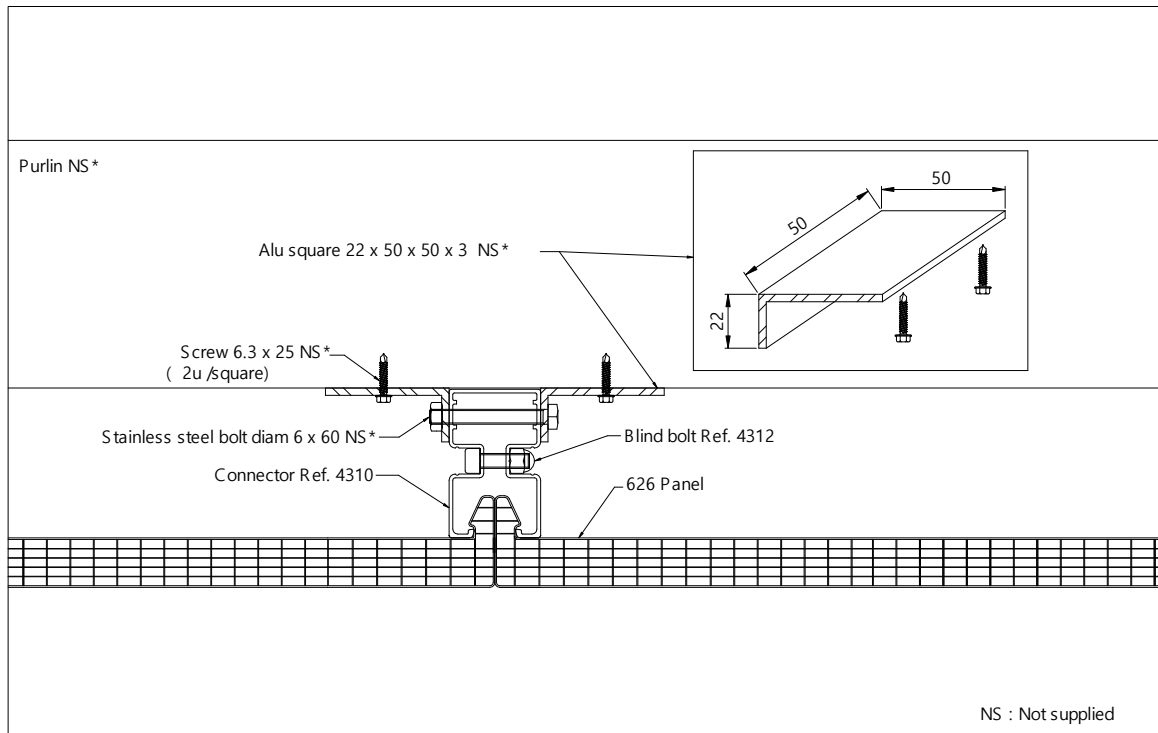
### Suspended Installation: Top Detail



### Suspended Installation: Bottom Detail



## Suspended Installation: AL Connectors 4310 mounting



## Suspended Installation: Principle of Joint Bar

