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Kaneba™

CASSETTE CLADDING D SERIES INSTALLATION GUIDE

STEP 1: Install vertical corner and end members

CCS4, CCS5, 30 x 50 angle, Edge Grip

STEP 2: Install horizontal members below fascia (CCS10)

STEP 3: Install wall brackets (CCS8 & 12).

STEP 4: Install Horizontal Support Rails (CCS9 & 3).

STEP 5: Measure and order trimmings and panels

STEP 6: Install trimmings (Copings, skirtings, trims).

STEP 7: Install panels

OVERVIEW

There are two main aspects to installing Cassette Cladding namely 'First fix' and 'Second fix'.

First fix commences any time after the building structure is in place and provided with a completed building underlay – before or after window frames are installed. First fix means checking and setting lines and fitting standardized Cassette Cladding componentry on the building.

First fix may take place days or months before the second fix panels are installed on the building[1].

Before second fix commences the first fix components and the building underlay system can be visually inspected, and water and pressure tested.

The First fix measuring guides allows specific lines to measure from to easily establish second fix panel sizes.

Fabrication of all CC second fix items like (trimmings, copings and facing panels) are done by CC fabrication partners and falls outside the scope of this document.

Second fix preferably takes place after first fix is complete, but the two 'fixes' can take place simultaneously on separate parts of the building. Second fix involves installing trimmings taking possession of facing panels, slotting them into the correct position on the first fix support rails and mechanically securing them

RECOMMENDED SEQUENCE OF WORK

Installation Drawings

Designer drawings usually in the form of building consent drawings include many details for the building. Information relevant to CC may be spread over multiple drawings and specifications.

To consolidate relevant information for easy reference the CC installer may consolidate the information for efficient use on the job site and produce Installation Drawings.

Installation Drawings may also show the intersection of other trades with the CC but must not alter the CC details or the project design drawings.

Checking for obvious mistakes that needs to be corrected by the Designer because it will make installation problematic.

Useful information to simplify installation would include but is not necessarily limited to:

1) Co-ordination requirements with other work.
2) Fully dimensioned elevations for First Fix component installation:
   A. Positions of relevant Cassette Cladding details.
   B. CCS4 Internal Corners and their fastener requirements.

[1] Dependent on durability and exposure limitations of other products like the building underlay.

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C. CCS5 External Corners and their fastener requirements.
D. Horizontal panel joint centrelines (including bottom and top of wall)
E. Vertical panel joint centrelines (including vertical terminations)
F. CCS8 Wall Bracket positions and their fastener requirements (where they exist at intersections of Horizontal and Vertical joint centrelines AND if more are required to meet specific loads.)
G. Horizontal joint type
  - CCS3 and their fastener requirements (and relevant surface finish colour/s)
  - CCS9 and their fastener requirements (and relevant surface finish colour/s)
H. Relevant information contained in guidance document.

3) Fully dimensioned elevations for Second Fix component installation:
A. Fully dimensioned elevations showing Second Fix panels and component positions
B. A separate schedule allocating a specific number for each facing panel and component to simplify ordering

Panel Ref	Width (mm)	Height (mm)	Cladding Type	Cladding Finish	Panel Type (P1 / P2)	Panel Edge Type	Frame Finish	Joint Strip Finish

Panel schedule in CC Explainer Docs

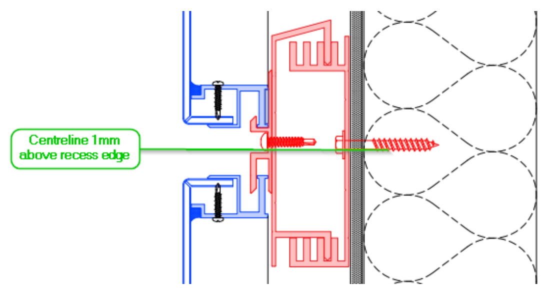
INSTALLATION OF COMPONENTS

1.1 Joint centrelines

For correct positioning of components please note joint centrelines are indicated as follows regardless of varying panel options.

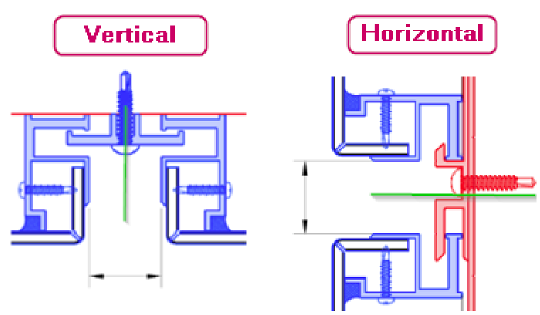
Reference lines for variance with structural tolerances needs to be clarified. For example:

A. Is the correct horizontal joint centrelines obtained from the theoretical reference line for the building or,
Must the horizontal joint centrelines be obtained from the as built FFL levels.
B. Positioning of vertical edges to be determined from edges obtained from theoretical reference lines or
C. Most these edges line up with the actual as built structure.



Panel joint widths are indicated as the distance between the relevant extrusion

24mm P1: EDGE TREATMENT OPTION 3



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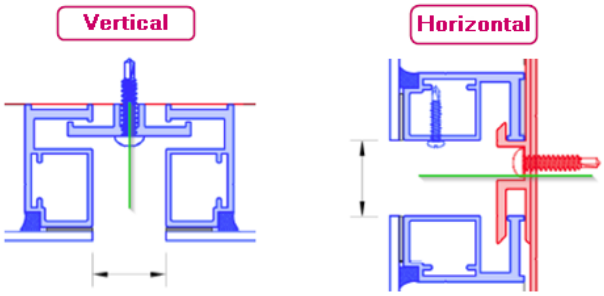
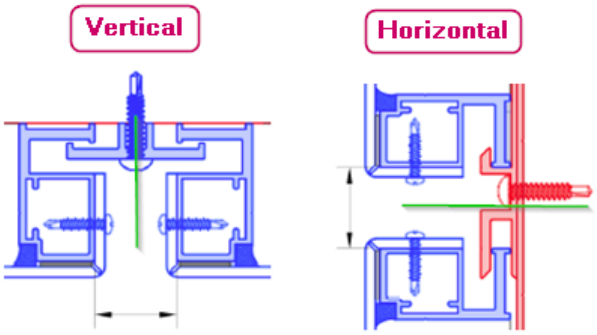
24mm P2: EDGE TREATMENT OPTION 1



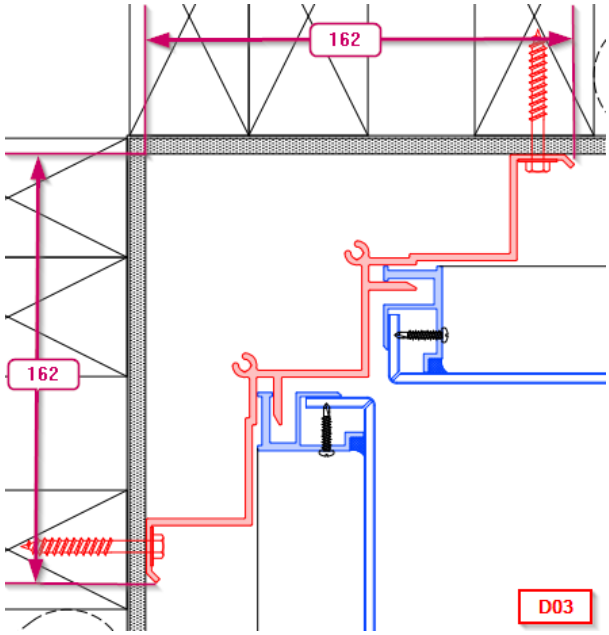
24mm P2: EDGE TREATMENT OPTION 4



1.2 Install CCS4 Internal Corner profiles

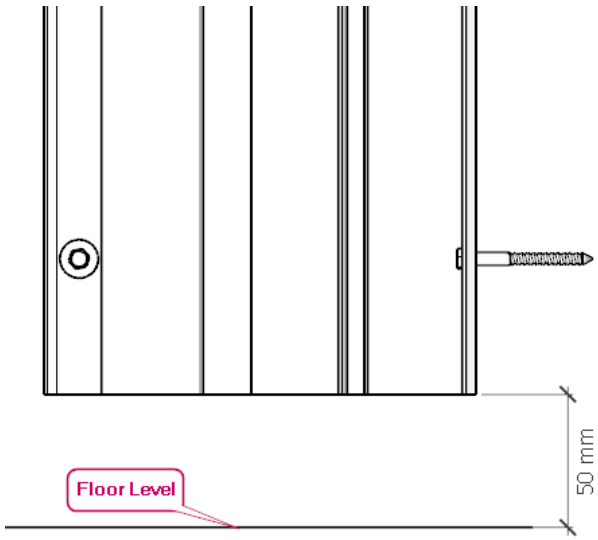
1) It is recommended to install Cassette Cladding corner members (CCS4 Internal Corner / CCS5 External Corner) first.
2) Each corner comprising separate CCS4's can be completed, or work can commence on separate corners simultaneously.
3) Even though it is easier to start at the bottom of each corner it can also be started at the top and separate CCS4 members in a corner can be installed each individually with no specific sequence requirement.
4) CCS4 corners must align perfectly at transitions and must be perfectly plumb in both axes. Therefore, check the accuracy of the structure before installation.
5) Fasten CCS4 with screws (#142) to timber framing at maximum 800mm vertical c/c on each flange.

Square to the elevation



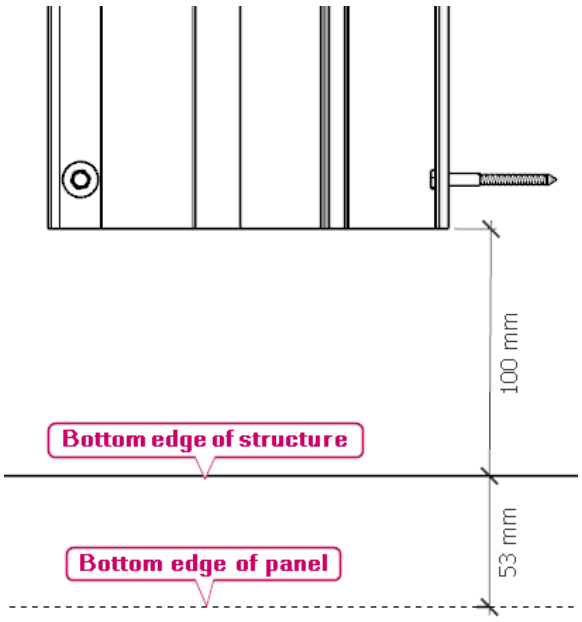
6) Fixing flanges must be equally spaced between the two sides forming the 90 degree internal corner. (The edge of each side would therefore cover 162mm of each side of the building underlay.)

Bottom of wall



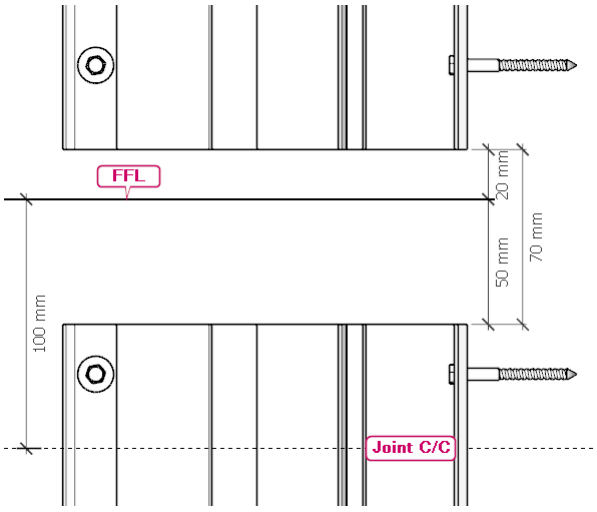
7) Start 50mm above ground floor FFL where D14 skirting detail is applied.

Bottom of fascia



8) Start 100mm above bottom edge of fascia structure where D10 soffit termination is applied.

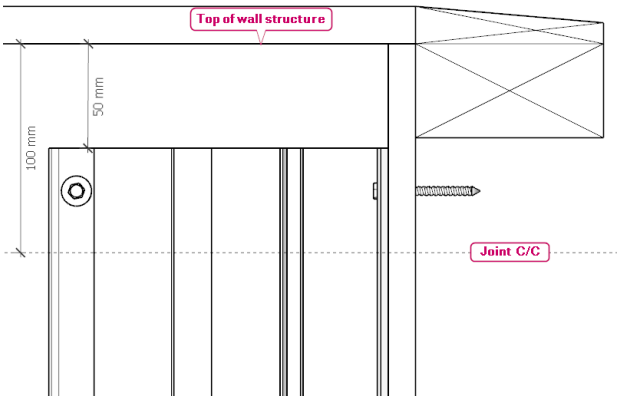
Inter-storey transitions where vertical CCS4 intersects with horizontal CCS9



9) The lower CCS4 must stop at least 50mm below the FFL above[2].

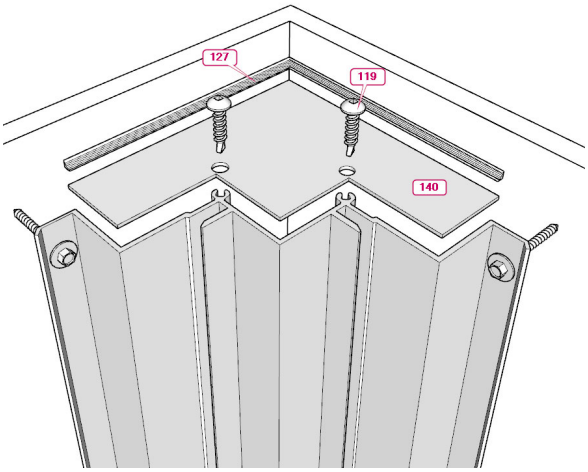
10) The CCS4 above can then continue upwards 20mm above the relevant FFL
11) The gap between separate CCS4 rails will therefore be a minimum of 70mm (not to exceed 90mm) to allow for the necessary inter-storey detailing of detail **D02A.**
12) This positioning will permit the finished panel joint centreline 100mm below floor level.

Terminate at top of wall or fascia



13) The CCS4 must terminate no less than 50mm from the top of the wall structure[3].

Close off top ends of CCS4 and seal against building underlay



14) To protect the corner from excessive airflow and moisture ingress.

[2] Otherwise, the fire stop feature of D02A may be compromised.

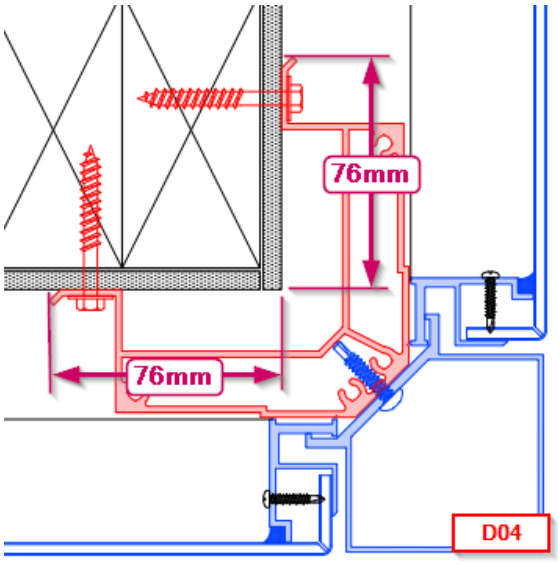
[3] The overall lowest point of the wall structure where Cassette Cladding is installed.

15) It is recommended to attach the end caps (140) to the CCS4 profiles before attaching the CCS4's to the wall with screws (119).
16) Fillet seal (127) is used to close off minor gaps.

1.3 Install CCS5 External Corner profiles

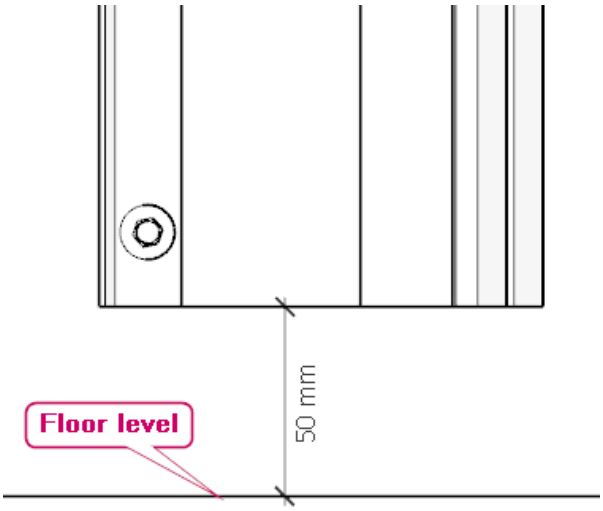
1) It is recommended to install Cassette Cladding corner members (CCS4 Internal Corner / CCS5 External Corner) first.
2) Each corner comprising separate CCS5's can be completed, or work can commence on separate corners simultaneously.
3) Even though it is easier to start at the bottom of the wall for each corner it can also be started at the top and separate CCS5 members in a corner can be installed each individually in no specific sequence.
4) CCS5 corners must align perfectly at transitions and must be perfectly plumb in both axes. Therefore, check the accuracy of the structure before installation.
5) Fasten CCS5 with screws (#142) to timber framing at maximum 800mm vertical c/c on each flange.

Square to the elevation



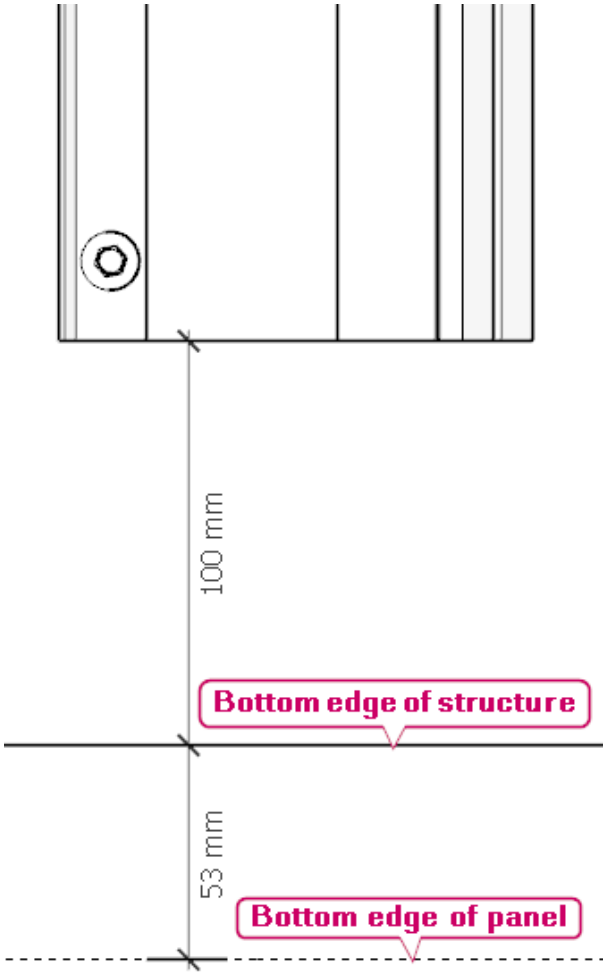
6) Fixing flanges must be equally spaced between the two sides forming the 90 degree external corner. (The edge of each side would therefore cover 76mm of each side of the building underlay.)

Bottom of wall



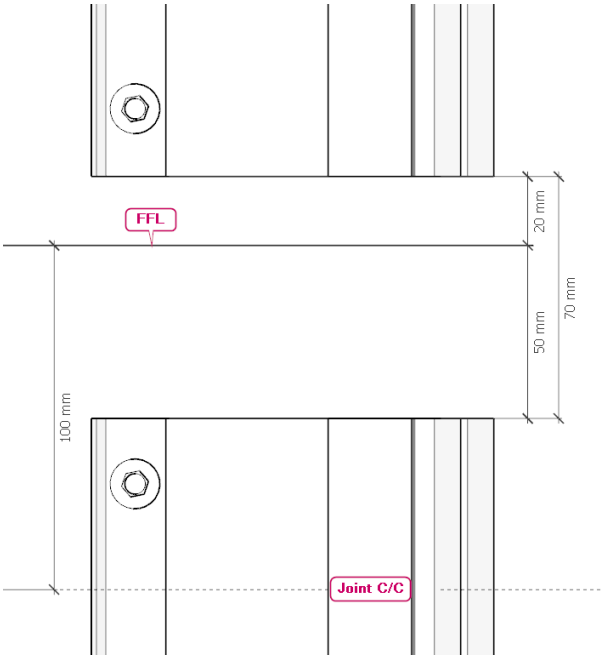
7) Start 50mm above ground floor FFL where D14 skirting detail is applied.

Bottom of fascia



8) Start 100mm above bottom edge of fascia structure where D10 soffit termination is applied.

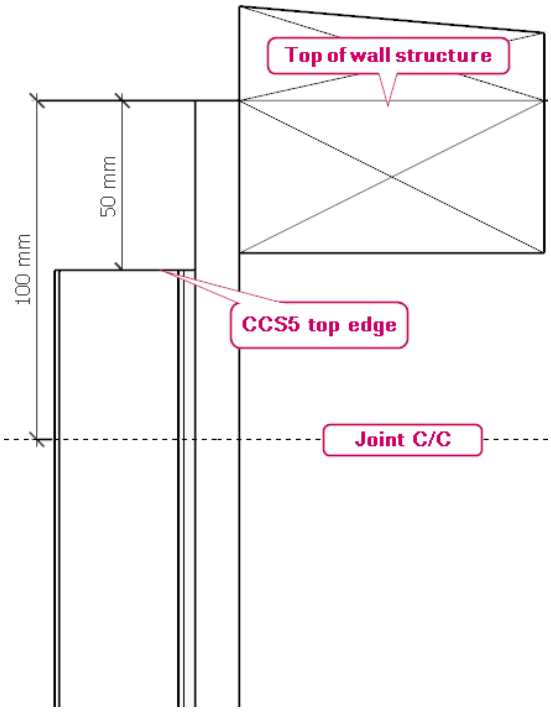
Inter-storey transitions where vertical CCS5 intersects with horizontal CCS9:



9) The lower CCS5 must stop at least 50mm short of the FFL above[4].
10) The CCS5 above can then continue upwards 20mm above the relevant FFL.
11) The gap between separate CCS5 rails will therefore be a minimum of 70mm (not to exceed 90mm) to allow for the necessary inter-storey detailing of detail **D02A.**
12) This positioning will permit the finished panel joint centreline 100mm below floor level.

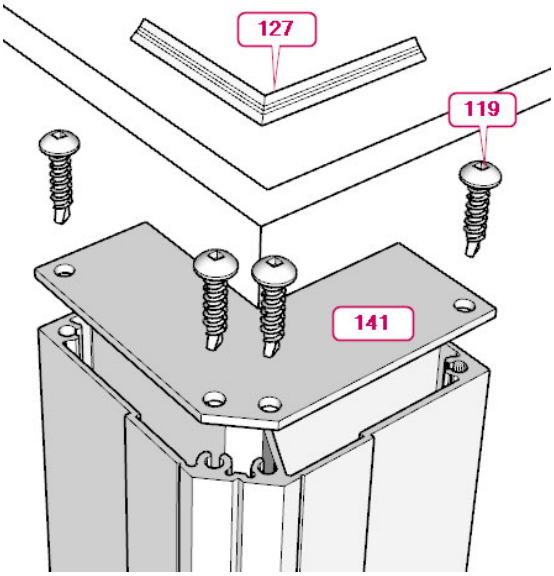
[4] Otherwise, the fire stop feature of D02A may be compromised.

Top of wall



13) The CCS5 must terminate more than 50mm from the top of the wall structure[5].

Close off top ends of CCS5 and seal against building underlay



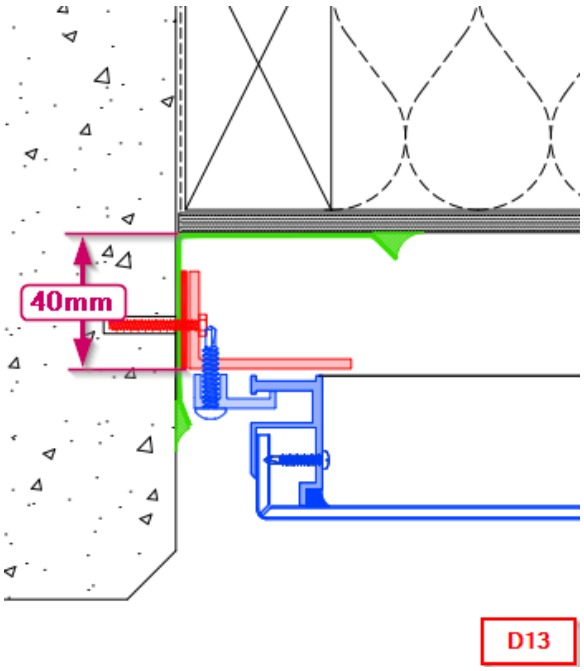
14) To protect the corner from excessive airflow and moisture ingress.
15) It is recommended to attach the end caps (141) to the CCS5 profiles with screws (119) before attaching the CCS5's to the wall
16) Fillet Seal (127)

1.4 Install abutting wall termination angle (138)

1) Even though it is easier to start at the bottom for each wall the termination installation can also be started at the top and separate angle members in a corner can be installed each individually. There is no specific sequencing requirement.
2) Angles (138) must align perfectly at transitions and must be perfectly plumb in both axes. Therefore, check the accuracy of the structure before installation.
3) Fasten angle (138) with screws (#129) to concrete at maximum 800mm vertical c/c.

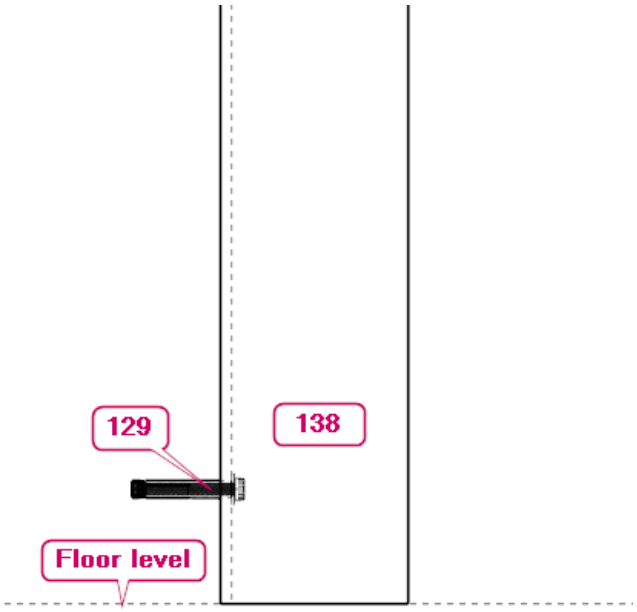
[5] The overall lowest point of the wall structure where Cassette Cladding is installed.

Square to the elevation



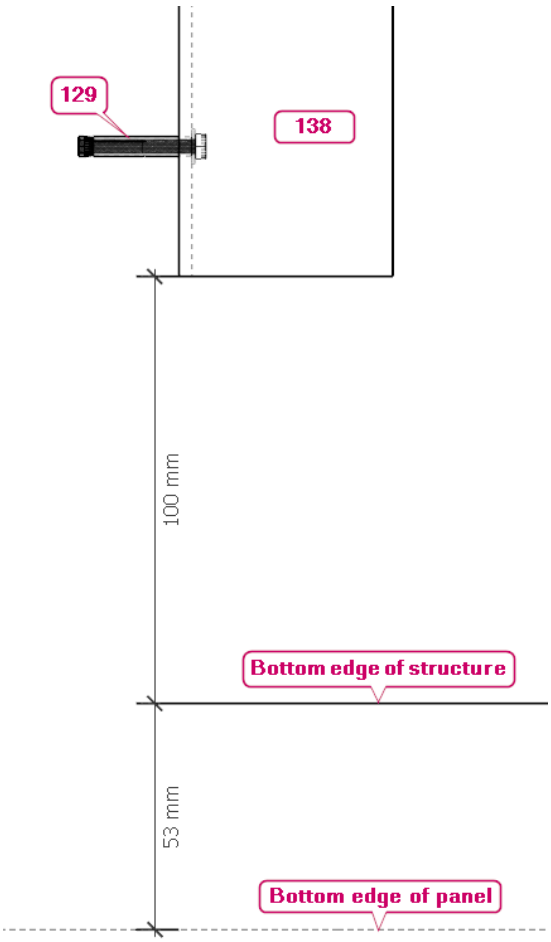
4) Offset to 40mm from internal corner.

Bottom of wall



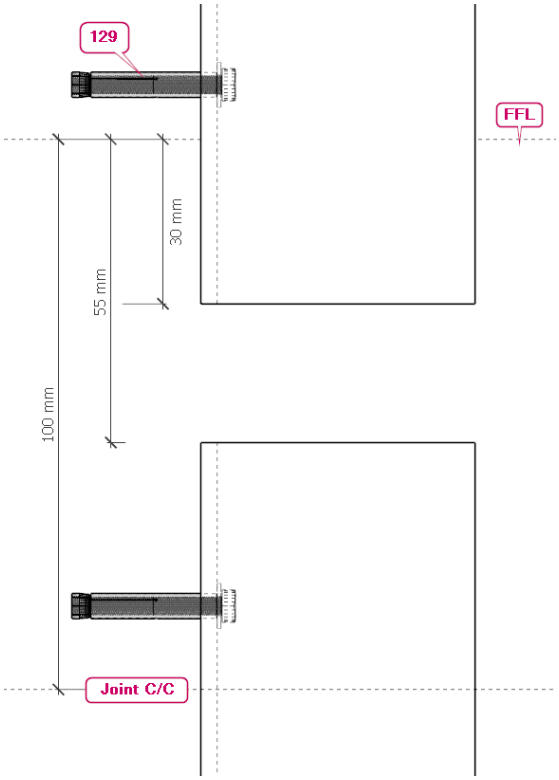
5) Start at ground floor FFL where D14 skirting detail is applied.

Bottom of fascia



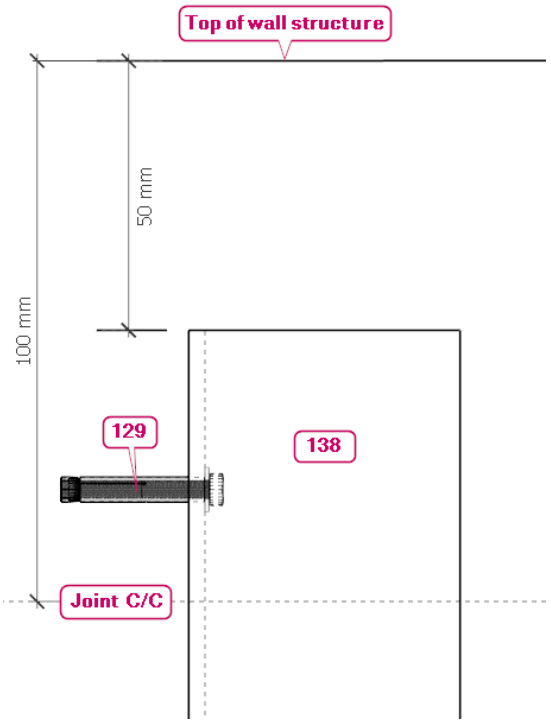
6) Start 100mm above bottom edge of fascia structure where D10 soffit termination is applied.

Inter-storey transitions where vertical angle intersects with horizontal CCS9:



7) The lower angle must stop at least 55mm short of the FFL above.
8) The angle above can then continue upwards 30mm below the relevant FFL.
9) The gap between separate angles will therefore be a minimum of 25mm (not to exceed 33mm) to allow for the necessary inter-storey detailing of detail **D02A.**
10) This positioning will permit the finished panel joint centreline 100mm below floor level.

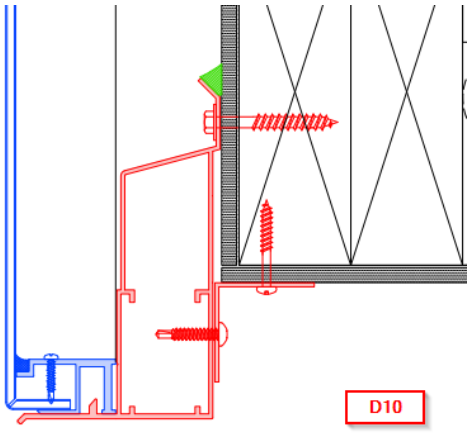
Top of wall



11) Angle 138 must terminate no closer than 50mm from the top of the wall structure.

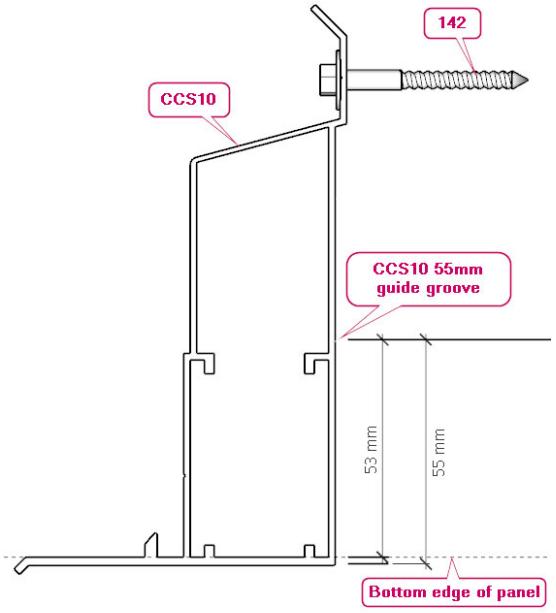
1.5 Bottom edge of fascia (CCS10)

1) CCS10 must be installed so that its flat surfaces are plumb, and they must be installed in a straight and level line from end to end.

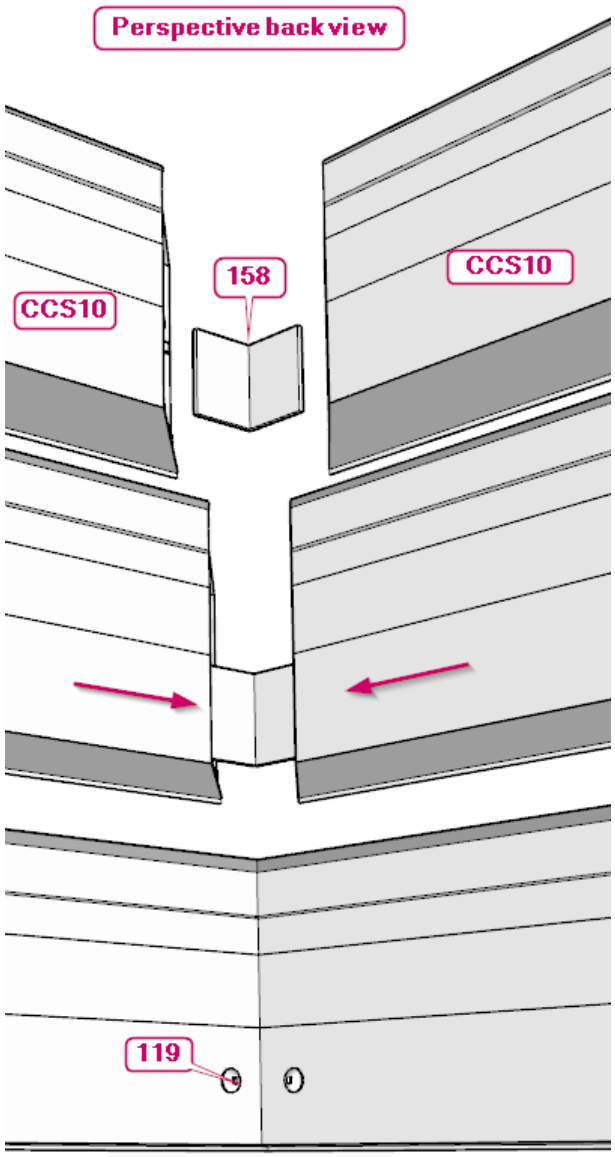


2) Fasten CCS10 at 600mm c/c with screws (#142) to timber framing

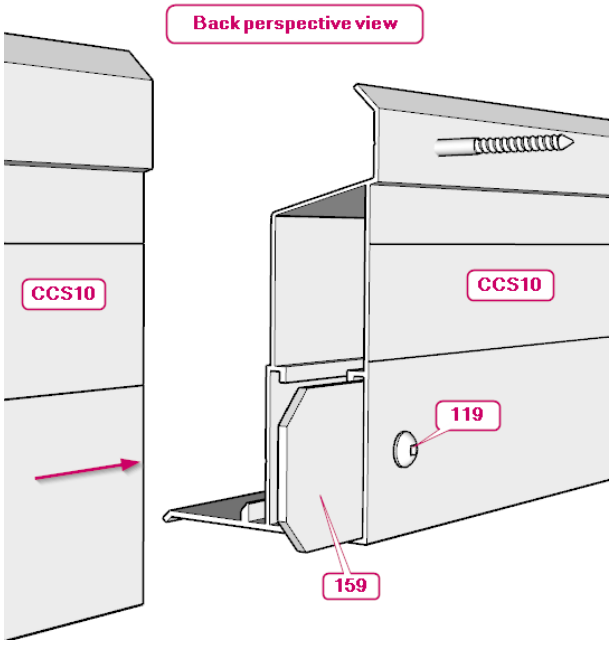
3) It is easier to install CCS10 in sequence from one end to another.
4) A guideline groove is provided in the back of the CCS10 to permit visual positioning of the component with the structure.



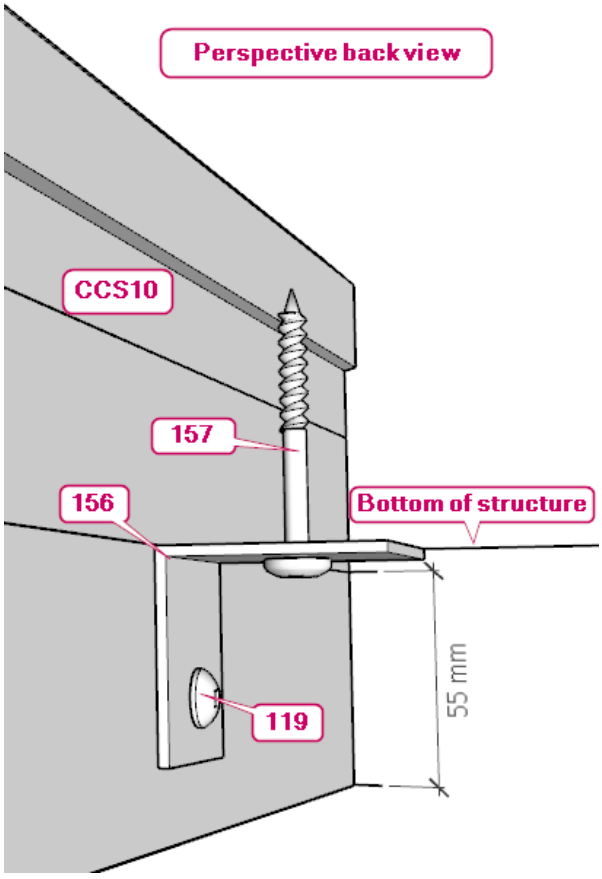
5) Joining CCS10 rails at external (or internal) corners are simplified by using cleats (item 158).



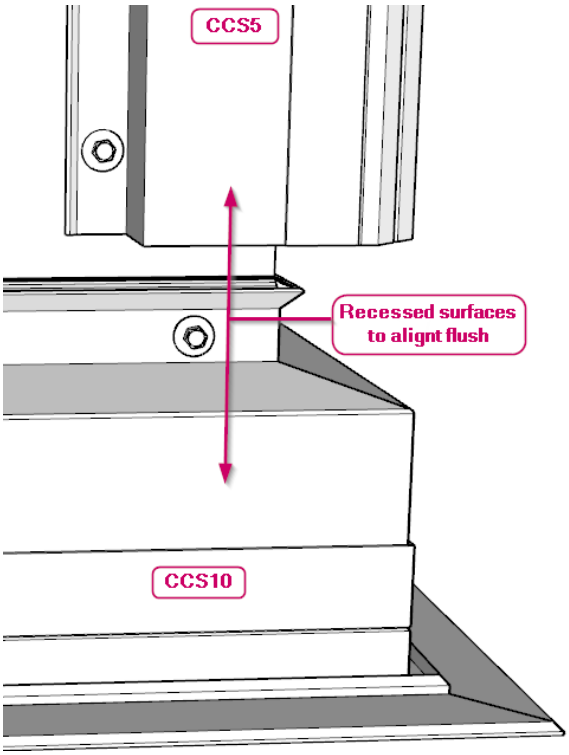
6) Joining CCS10 rails in sequence are simplified by using cleats (item 159).



7) Adjusting the plumb of CCS10 rails can be done with adjustment cleats item 156. Cleats needs to be provided at maximum 1000mm c/c.

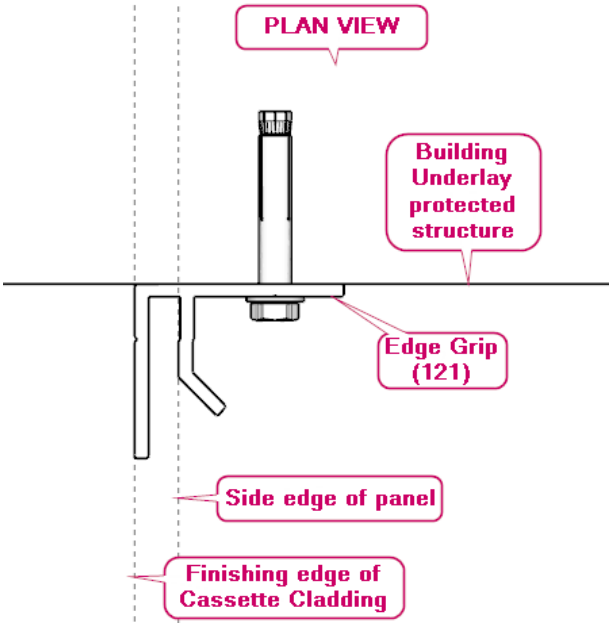


8) Ensure flush alignment of surfaces of CCS10 and the relevant CCS4 and CCS5 above – so that panels won't be obstructed from fitting.



1.6 Wall termination Edge Grip (121)

1) Fasten to timber framing with screw 157 or to concrete with wall anchor 129

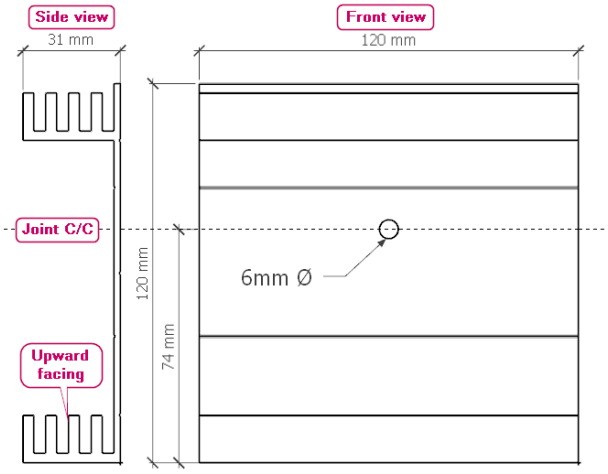


1.7 Install CCS8 Wall Bracket (Part 1of 2)

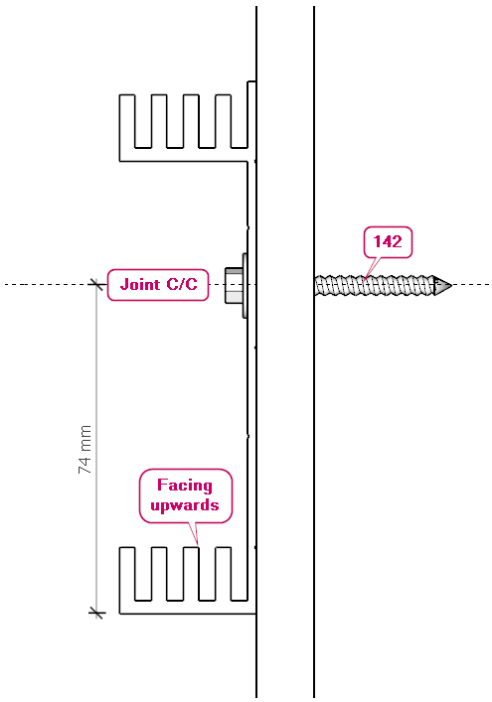
1) Wall Brackets (consisting of CCS8 & CCS12) are used to connect horizontal support rails (CCS3 & CCS10) to the structure.
2) Wall Brackets also interconnect CCS11 vertical panel joint strips to the structure to hold panel edges secure and avoid excessive deflection.
3) Wall Brackets are required at every panel corner, and between panel corners where the distance exceeds xx mm[6].
4) Wall brackets are not required:
    a. where CCS4 and CCS5 rails already fall on the vertical panel edges.
    b. horizontal CCS10 rails take their place at bottoms of fascia and at window heads.

CCS8 (Part attaching to structure)

5) It is important to install CCS8 brackets in a sequence in a straight line between ends[7].



Attach wall bracket part 1 (CCS8)

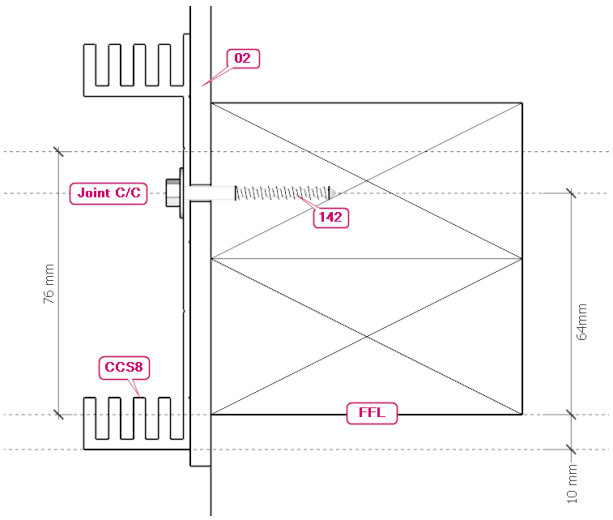


6) Align centre of screw hole in bracket provided with centre of panel joint line.
7) Use screw 142 for timer framing.
8) Brackets are positioned in the horizontal plain so that the centre of the bracket aligns with the centre of the intended joint position except along vertical edges where CC will terminate like :
    - Window Jamb (Detail D06)
    - Wall transition (Detail D13C)
9) Here they will be offset 35mm from the termination edge to provide space for the Edge Grip profile.

[6] This is dependent on wind load on the building. (Refer to a table of bracket centers in the design document.)

[7] Otherwise the brackets will stress the support rails (CCS3 & CCS9) fixed to it late.

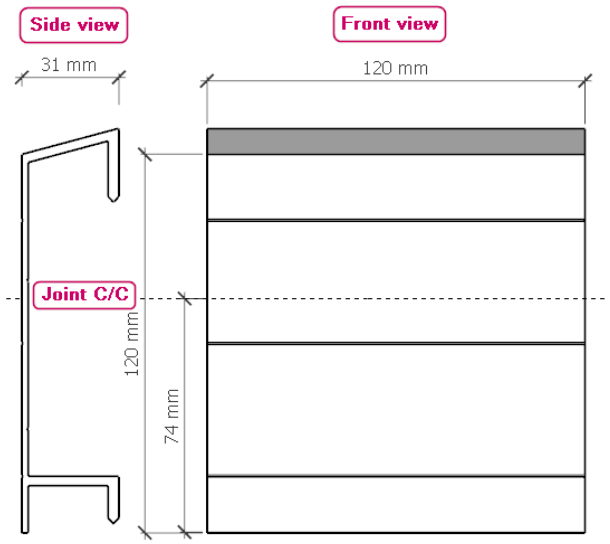
Positioning of CCS8 at bottom of wall

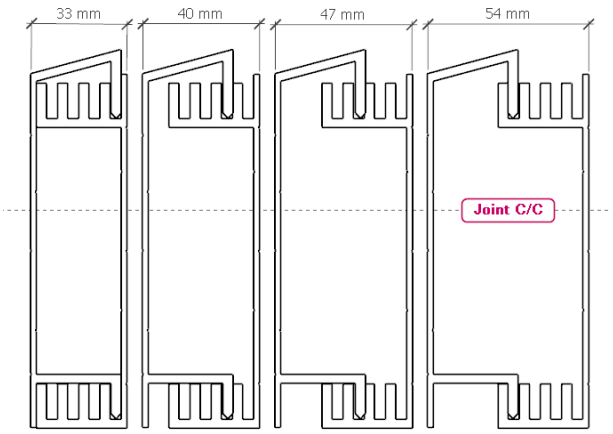


10) CCS8 bottom is installed to project 10mm past FFL to achieve joint C/C 64mm above FFL.

1.8 Install CCS12 Wall Bracket (Part 2of2)

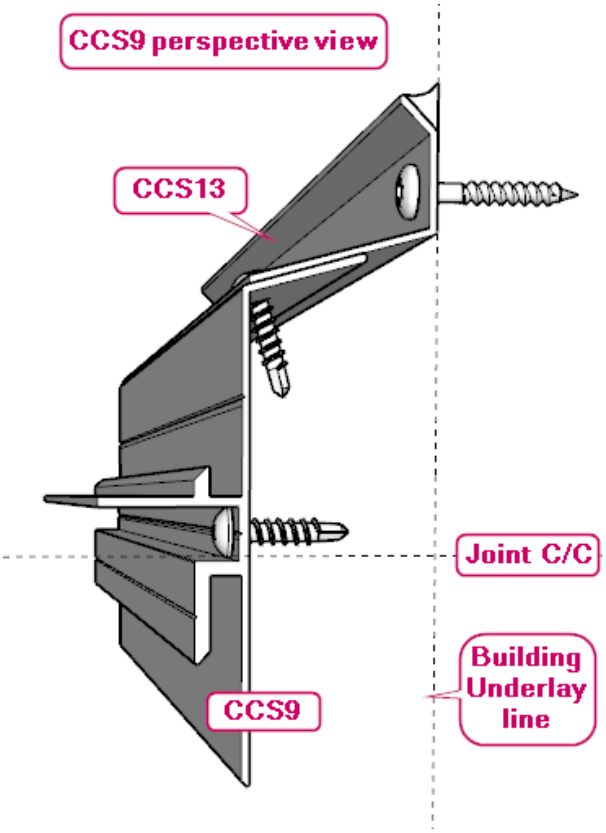
1) Part two of the wall brackets are slid into position into CCS8 to provide an accurate line between corner members CCS4 / CCS5. In combination the brackets provide adjustment from 33mm to 54mm – with 40mm being the target setting





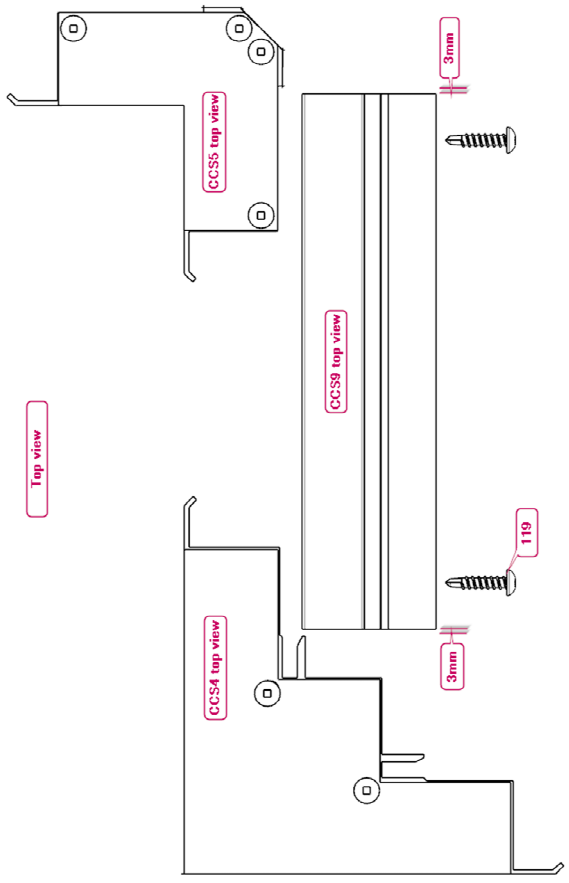
2) It is important that the bracket faces form a flat surface from end to end between corners. Where the bracket adjustment cannot accommodate excessive tolerances of the underlying structure SED may have to be performed. Minor tolerances may be shimmed.

1.9 Install CCS9 support rails



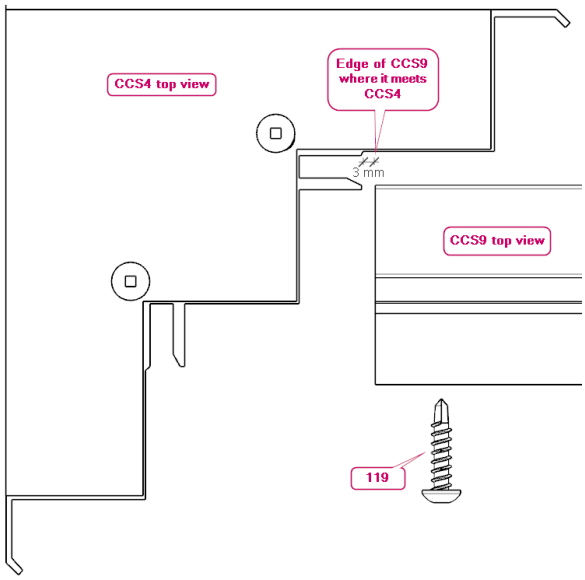
1) CCS9 is specifically designed to engage top edges and bottom edges of panels.
2) Placement of CCS9 is best to close off wall cavities located at inter-storey and at top of walls.
3) CCS9 is connected to wall structures by means of corner profiles (CCS4, CCS5) angle number 138 or wall brackets CCS8/CCS12.
4) CCS9 must be installed straight and level.
5) The joint centreline position is 1mm above the bottom ledge of the rail.

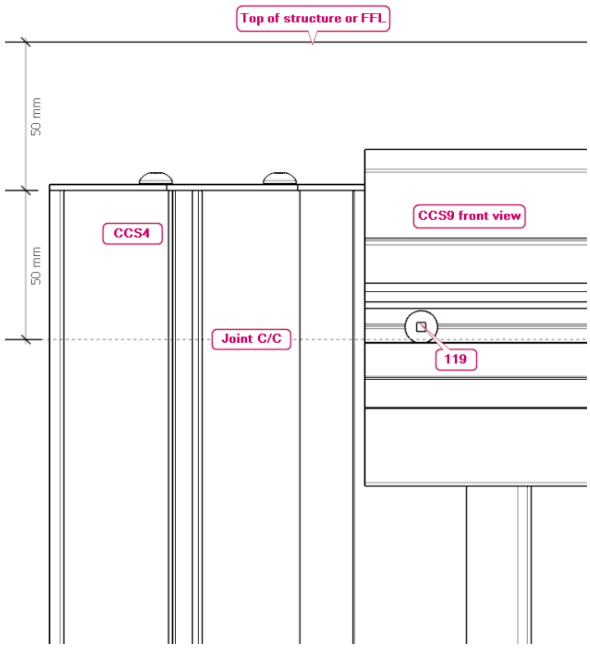
CCS9 positioning in relation to CCS4 & CCS5



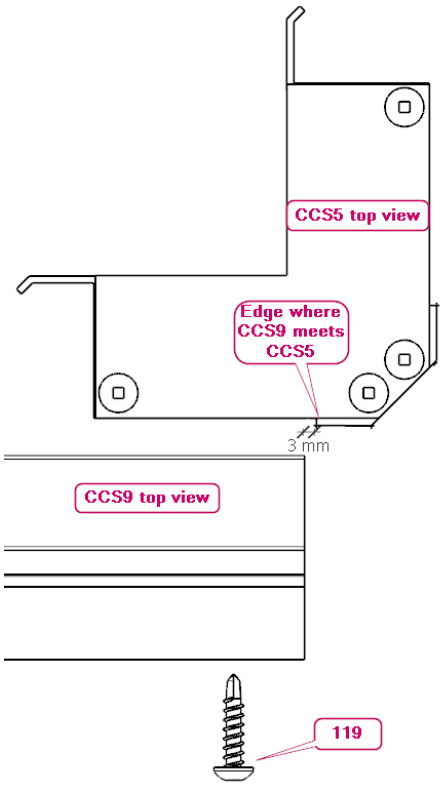
6) CCS9 is cut 3mm short of terminations to ensure space for thermal movement and is attached with screw 119

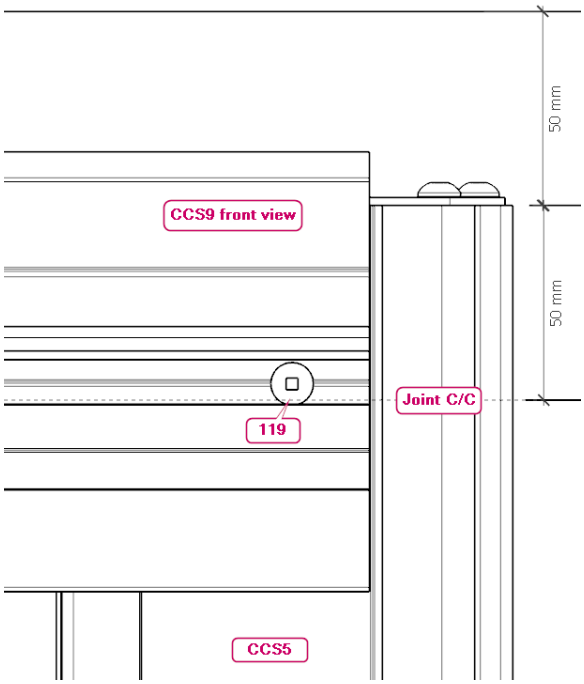
CCS9 positioning in relation to CCS4





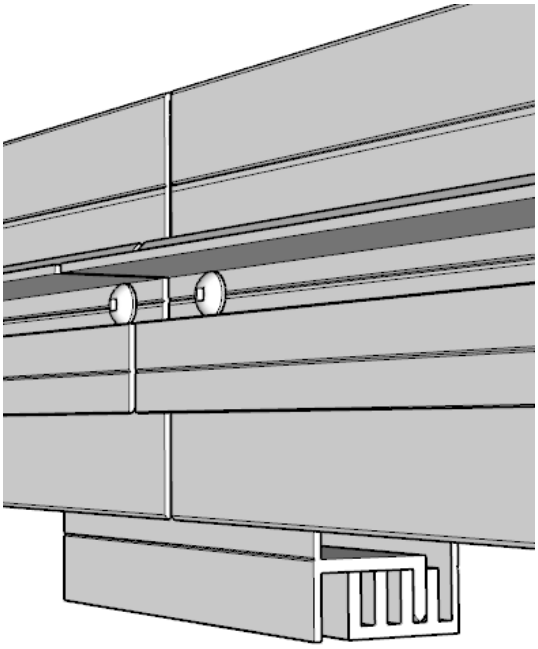
CCS9 positioning against CCS5





CCS9 Joins

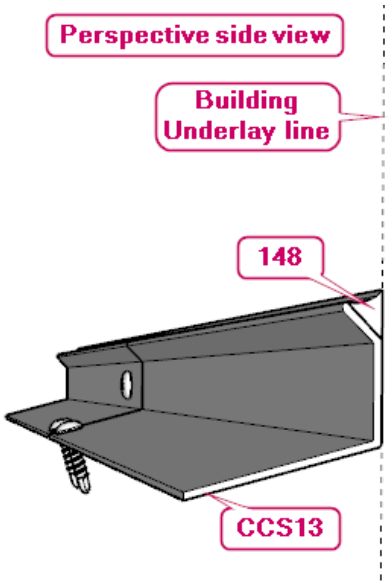
7) CCS9 support rails may only be joined where the join falls on a Wall Bracket.



1.10 Install CCS13 Cover Flashings rails

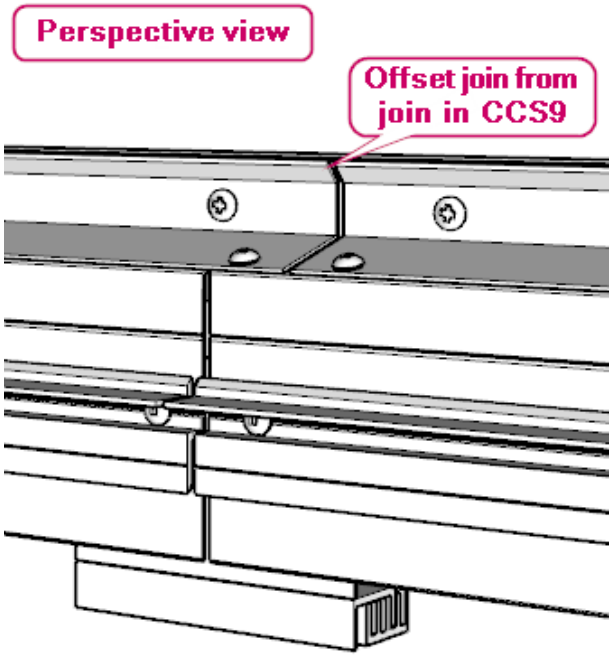
CCS13 Cover flashings

1) CCS13 Cover Flashings form a two-part flashing when combined with CCS9 to close the cavity from excessive airflow and moisture from above.

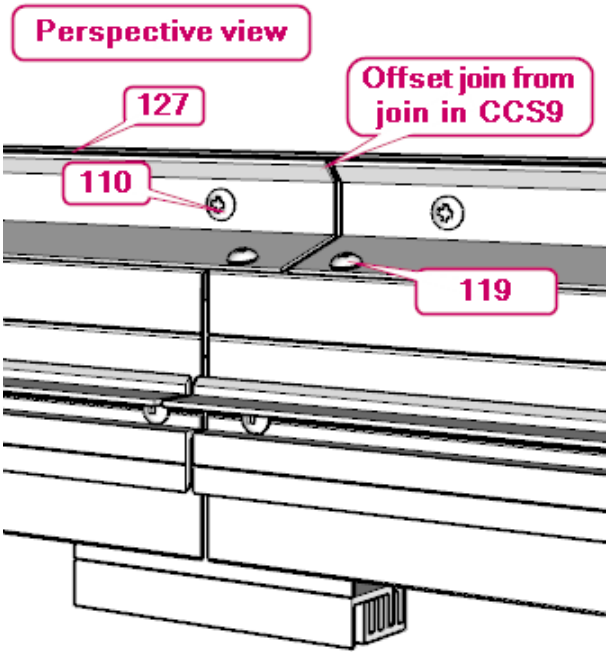


2) CCS13 is attached to CCS9 with screw 119 and to the air barrier / structure with screw 110.

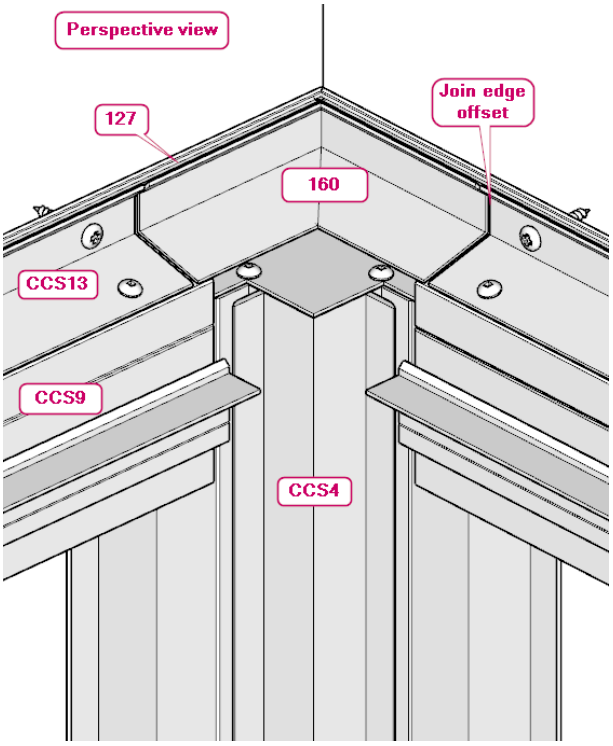
CCS13 Straight joins



3) Joins in CCS13 needs to be offset from joins in CCS9, but still fall all on Wall Brackets.

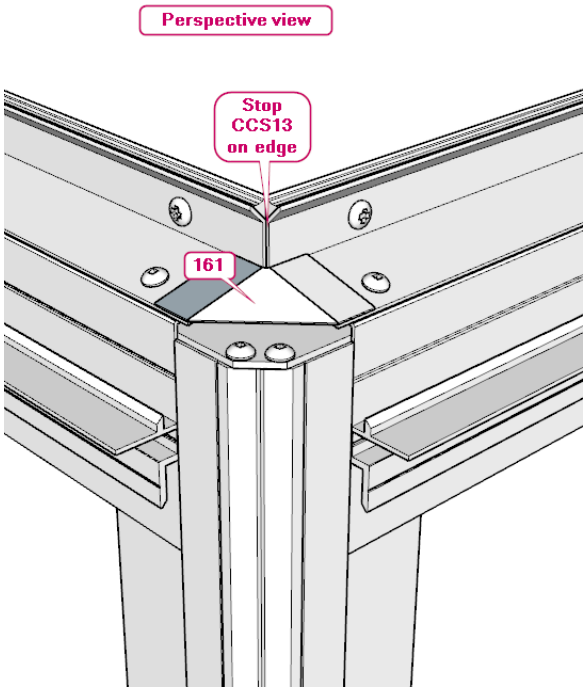


CCS13 Internal corner joins



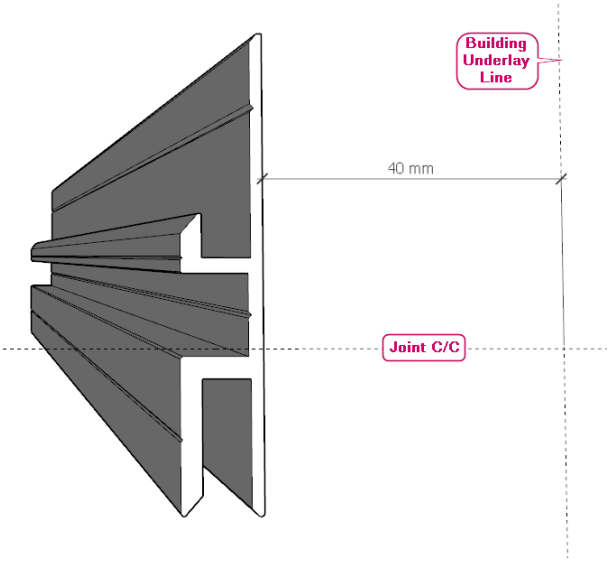
4) Use component 160 where joins occur at internal corners.

CCS13 External corner joins



5) Use component 161 where joins occur at external corners.

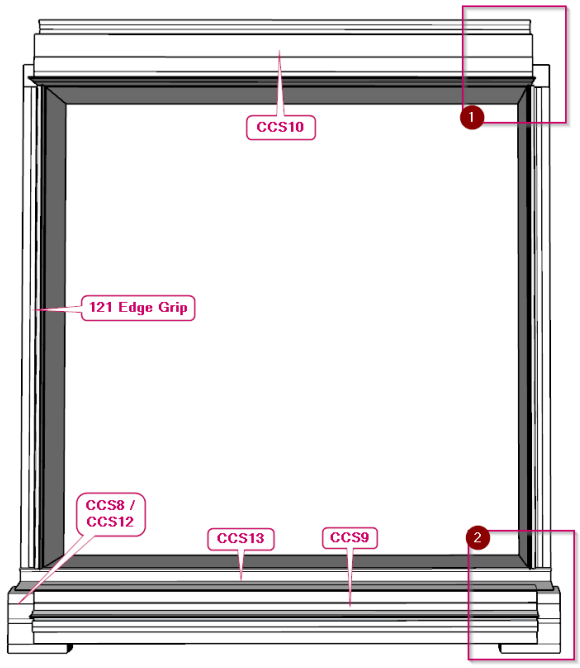
1.11 Install CCS3 support rails



1) CCS3 is designed to engage top edges and bottom edges of panels.
2) Placement of CCS3 is best applied where cavities in walls don't need to be closed off.
3) CCS3 is connected to wall structures by means of corner profiles (CCS4, CCS5) angle number 138 or wall brackets CCS8/CCS12.
4) CCS3 must be installed straight and level.
5) The joint centreline position is 1mm above the bottom ledge of the rail.
6) Positioning, and lengths are the same as for CCS9 – so refer that section of this document for guidance.

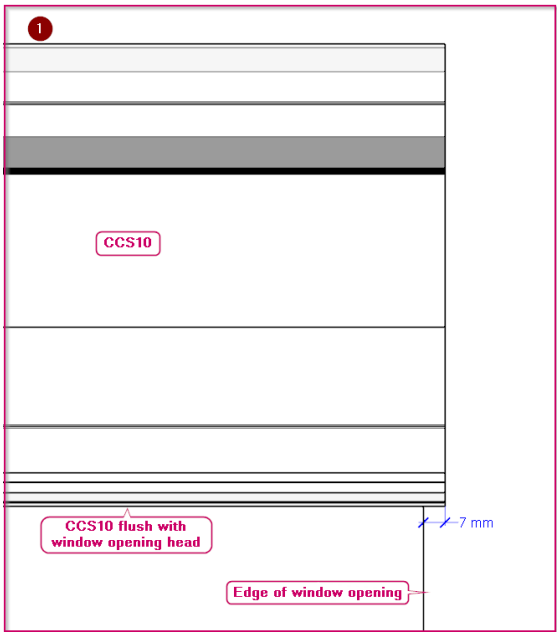
1.12 Window Openings

Elevation



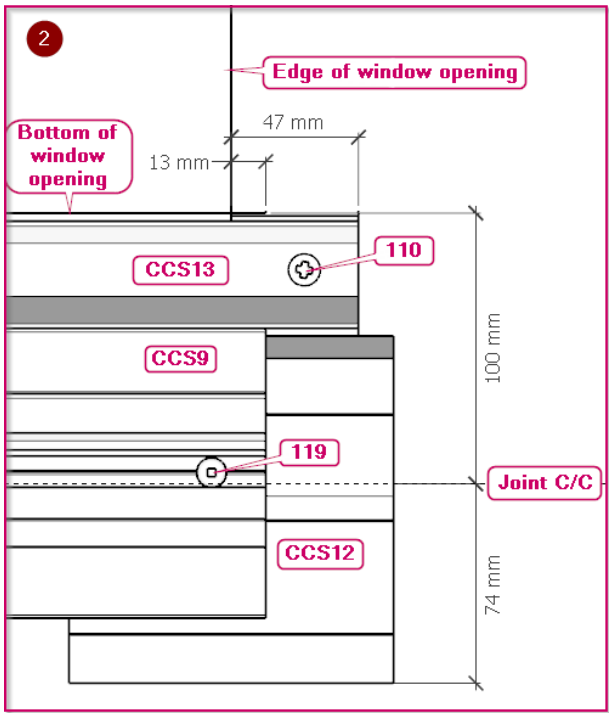
1) Where horizontal CCS9 or CCS3 rails intersect with windows it is recommended to install the following sequence of components first.

CCS10 Window head



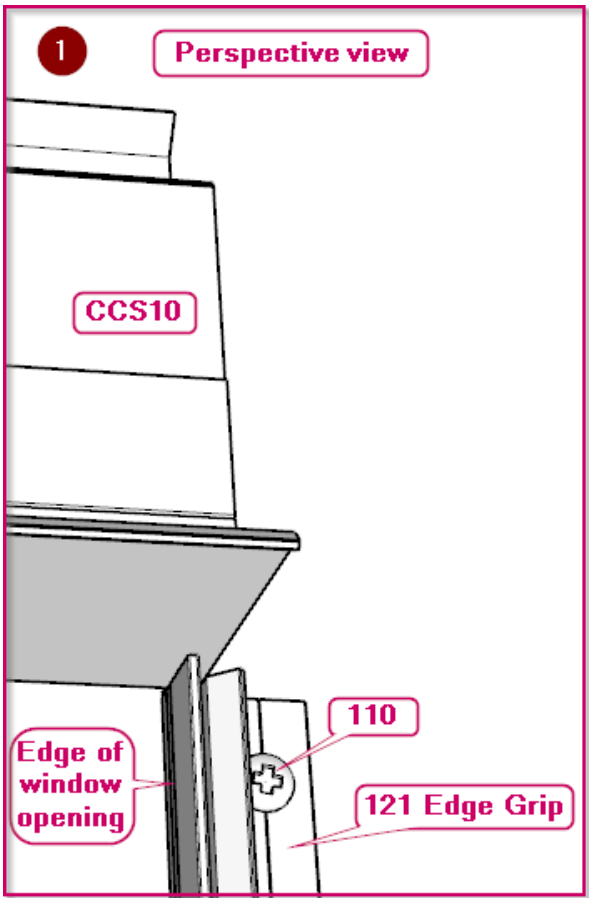
2) Install CCS10 to project 7mm past the edge of the opening on both sides.
3) It is important to install CCS10 level.

Window sill

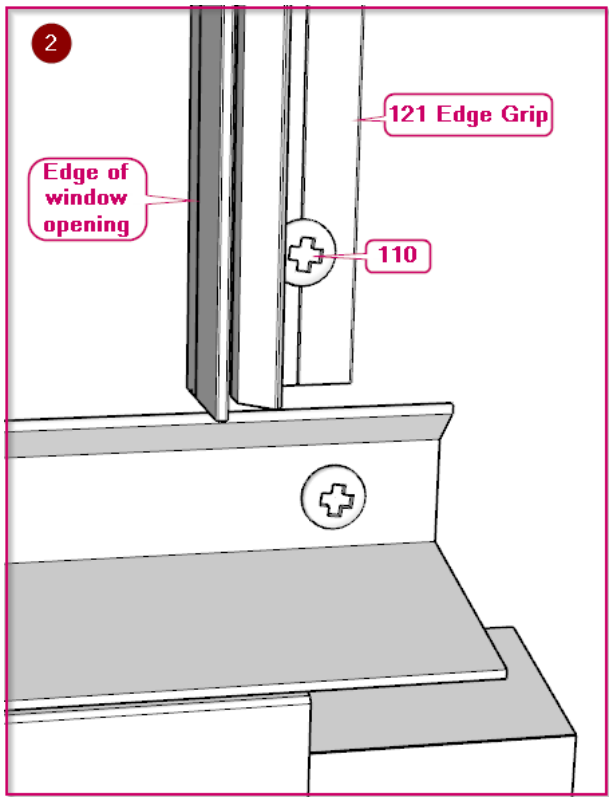


4) Wall brackets installed centrally in line with window opening at same height as for top of wall.
5) CCS9 installed 13mm past window opening edge.
6) CCS13 installed 47mm past window opening edge.

Window jambs Edge Grips

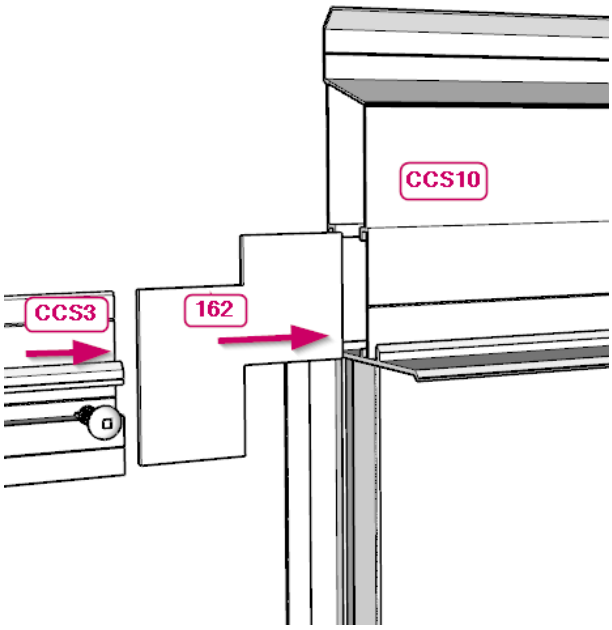


7) Install Edge Grip flush and plumb with edge of window opening.



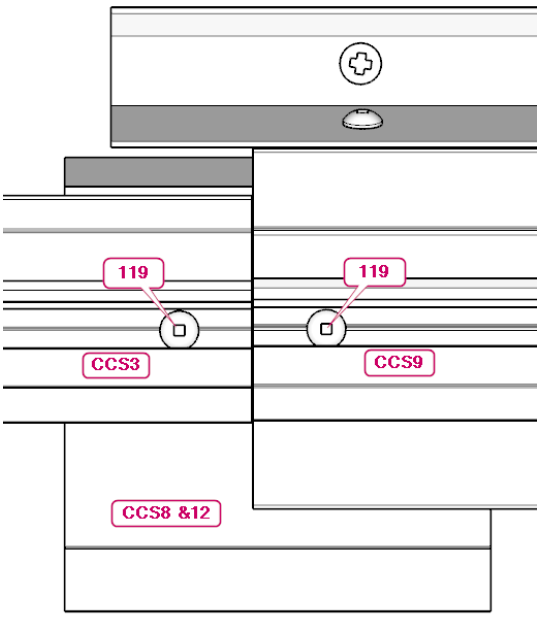
Window head joint continues

Perspective view



8) Where the horizontal panel joint continues from the window head component 162 are used to connect CCS3 or CCS9 to CCS10.
9) The bottom of panel 'hook' on CCS3 must be installed to form a continuation of that on CCS10.

Window sill joint continues

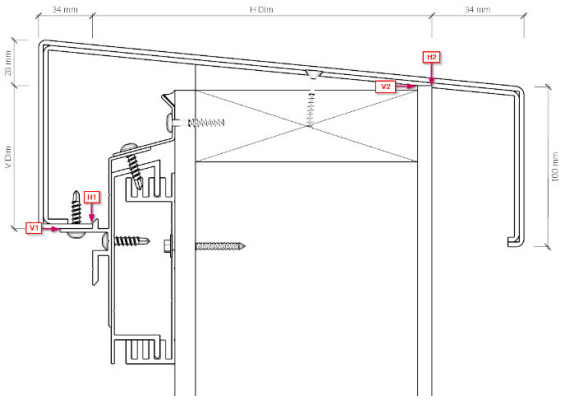


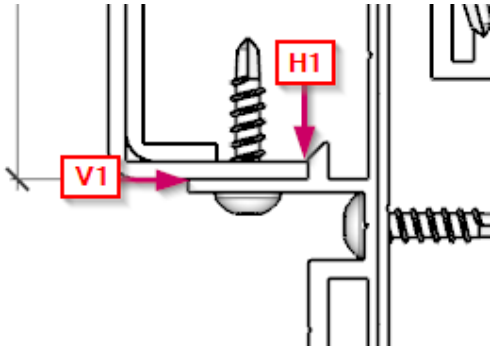
10) Where the horizontal panel joint continues at the window sill CCS3 is attached on the wall bracket or CCS9 continues on.
11) Where CCS3 joins CCS9 in this location the bottom of panel 'hook' on CCS3 must be installed to form a continuation of that on CCS9

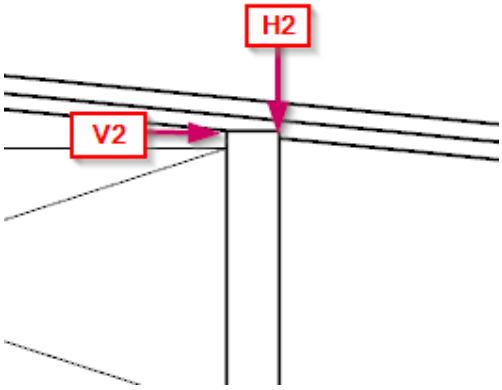
1.13 Taking finishing trim dimensions for fabrication

1) Once first fix components discussed before in this guide is installed finishing trims can be measured and ordered..

Coping

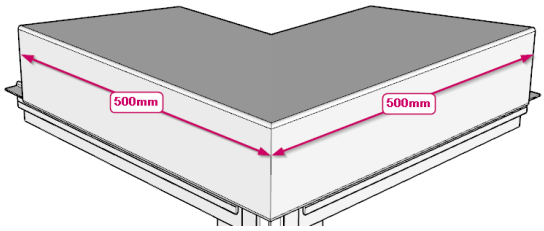






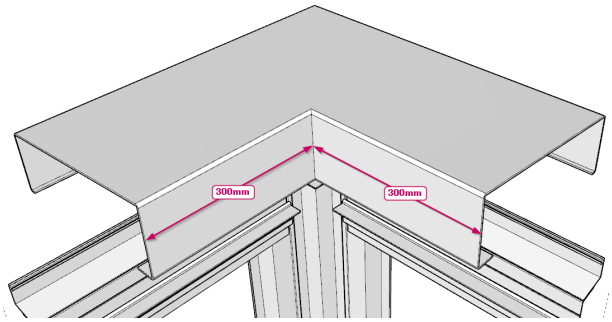
2) Vertical coping dimension taken from V1 to V2 = V Dim. (This will result in an overall height to the front of the coping of V Dim + 28mm) which will be approximately 140mm above joint centre.
3) Horizontal coping dimension taken from H1 to H2 = H Dim. (This will result in an overall width of the coping of H Dim + 68mm.)
4) Coping sections are fabricated in 2400mm lengths as standard and ordered as a total.

Coping External Corner



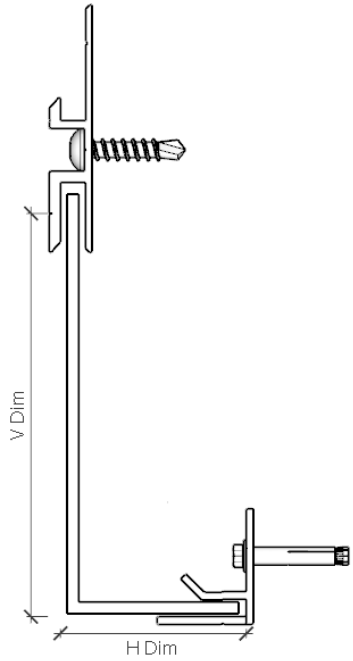
5) External corner coping units are fabricated as standard so that edge offset distances are 500mm.

Coping internal corner



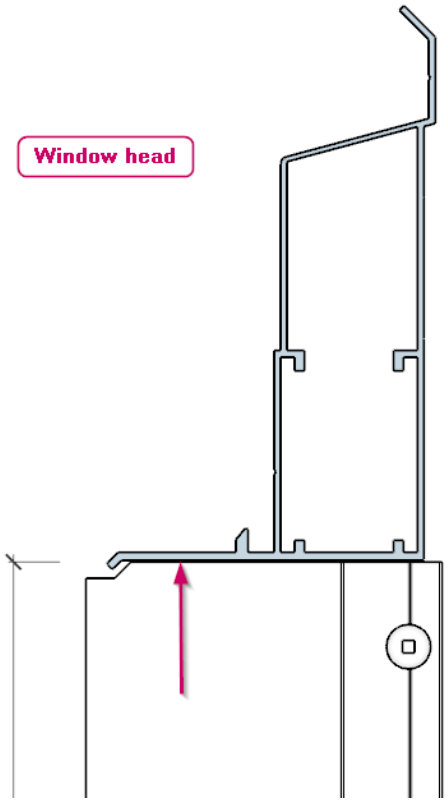
6) Internal corner coping units are fabricated as standard so that the edge offset distance is 300mm in each direction.

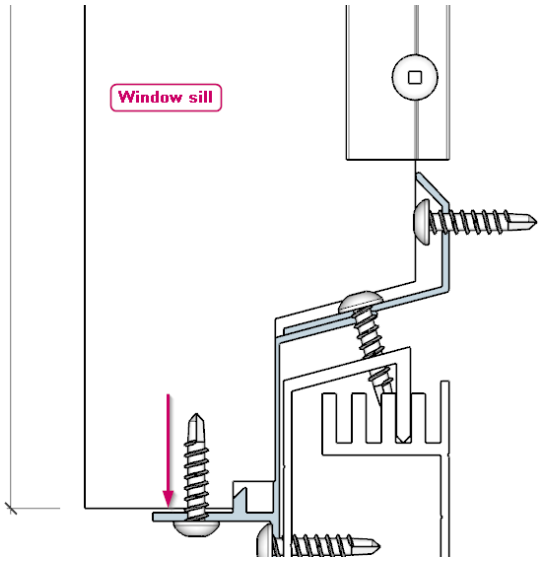
Skirting



7) Skirting fabricated dimensions are V Dim + 5mm and H Dim – 2mm.
8) Skirting pieces are fabricated in 2400mm lengths.

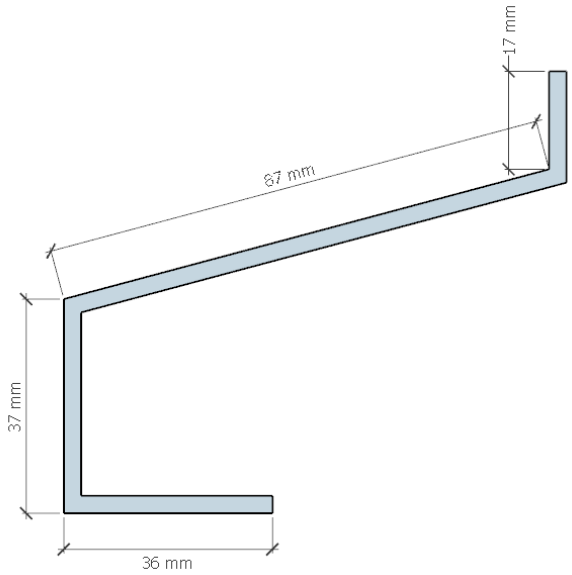
Window Jambs





9) Window Jamb covers are fabricated in opposing pairs and is measured from bottom of CCS10 to top of CCS9 projection.

Window Sills

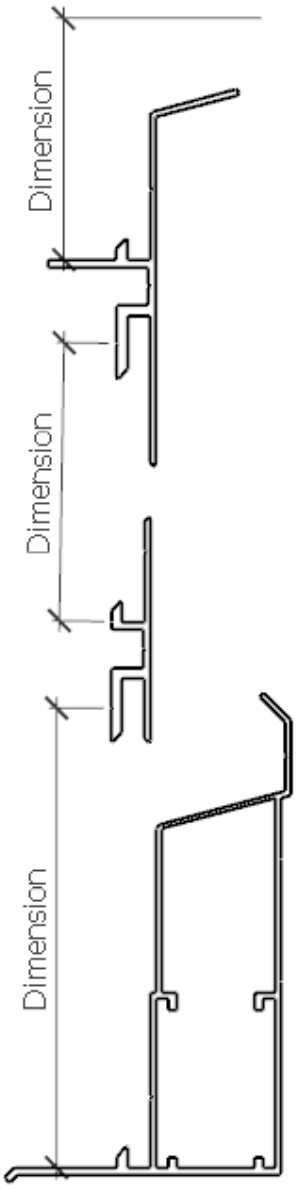


10) Window sill trims are fabricated in a standard size and lengths of 2400mm.

1.14 Taking panel dimensions and panel clamp dimensions for fabrication

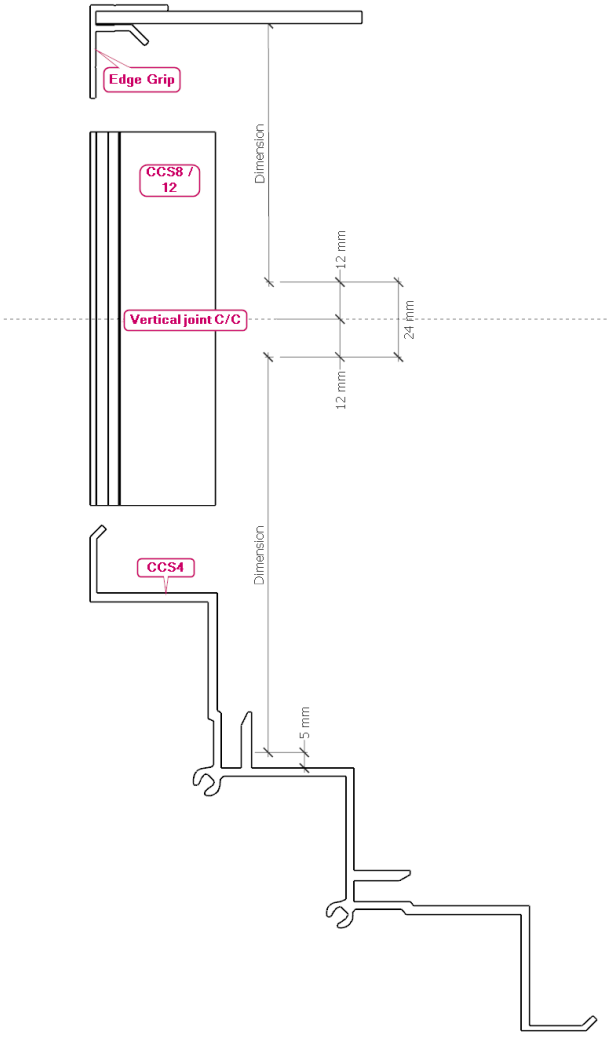
1) Dimensions between ‘first fix’ Cassette Cladding members are needed to fabricate panels from.

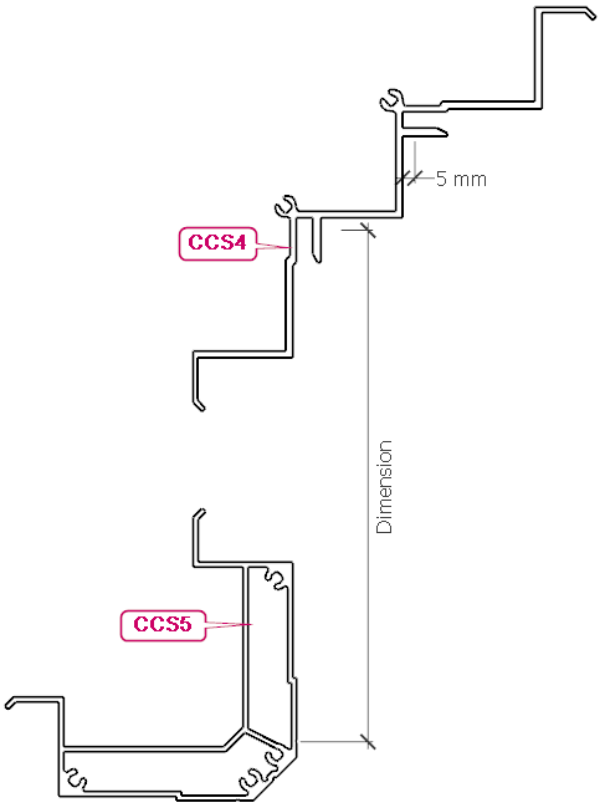
Height dimensions

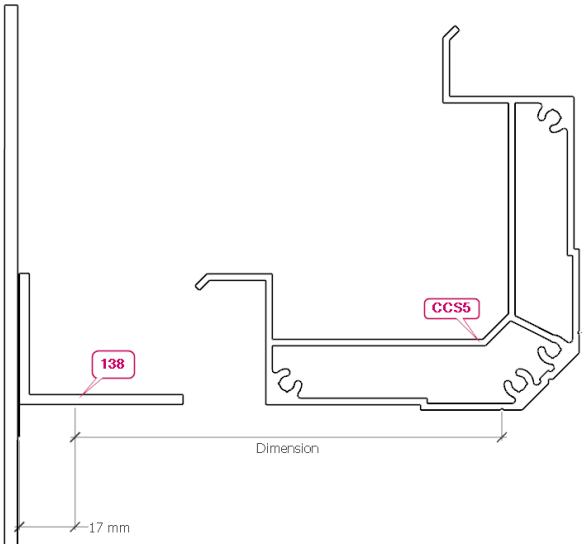


2) Dimensions are taken between the surfaces and ‘V’ groove lines in the support rails.

Width dimensions







3) Dimension distances shown are where panel frame edges finish.
4) Use the spreadsheet order sheet for recording relevant dimensions.

CCS6 external corner

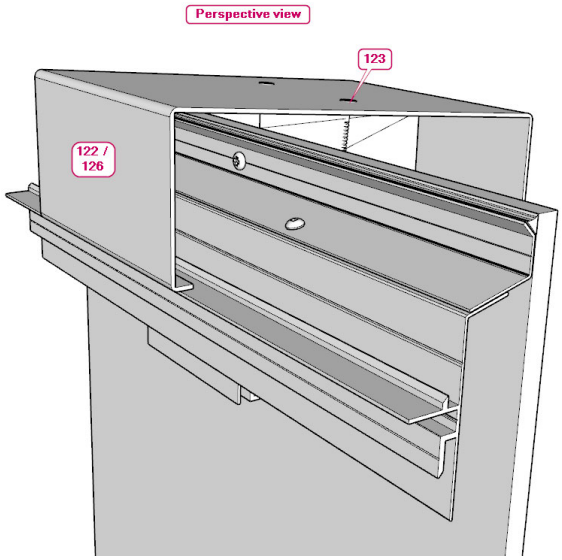
5) CCS6 external corner dimensions are the same as the vertical panel edges alongside it.
6) Use the spreadsheet ordering sheet to record the correct type of external corner.

CCS6 external corner joining CCS10

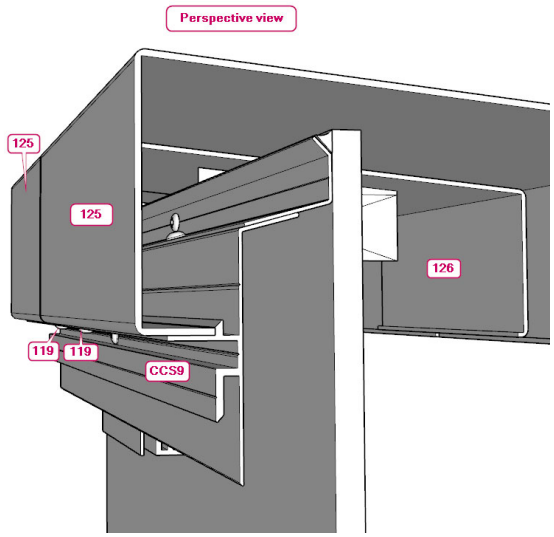
7) CCS6 external corner dimensions are the same as the vertical panel edges alongside it.
8) Use the spreadsheet ordering sheet to record the correct type of external corner.

1.15 Install Finishing trims

Coping

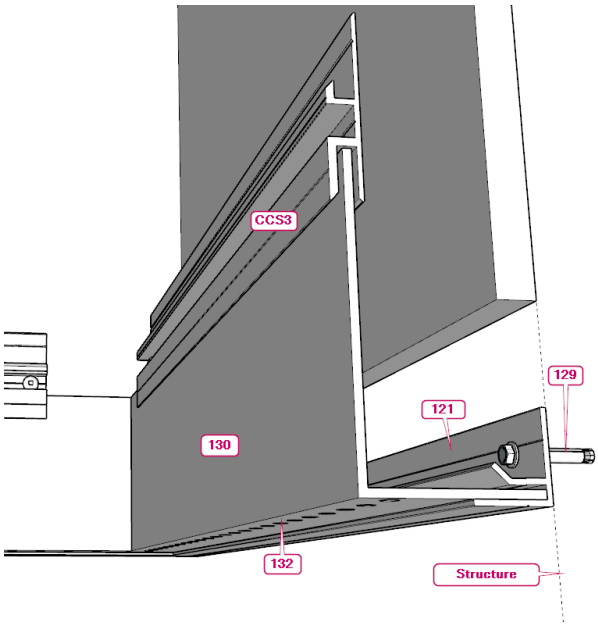


1) Fix coping jointers (item 126) with two screws (123) to top of wall as follows:
    a. 300mm expansion joint brackets maximum 8000mm apart.
    b. 200mm jointer brackets between expansion joint brackets at coping joints.
2) Fix 100mm coping support brackets (item 122) with two screws (123) to top of wall between coping jointers so that no ‘bracket’ is spaced further than 1200mm apart.



3) Clip coping onto matching Coping Jointers & Support Brackets and then secure the coping with screws (119) to the CCS9 rail within 50mm from joins and also at centre not exceeding 600mm.

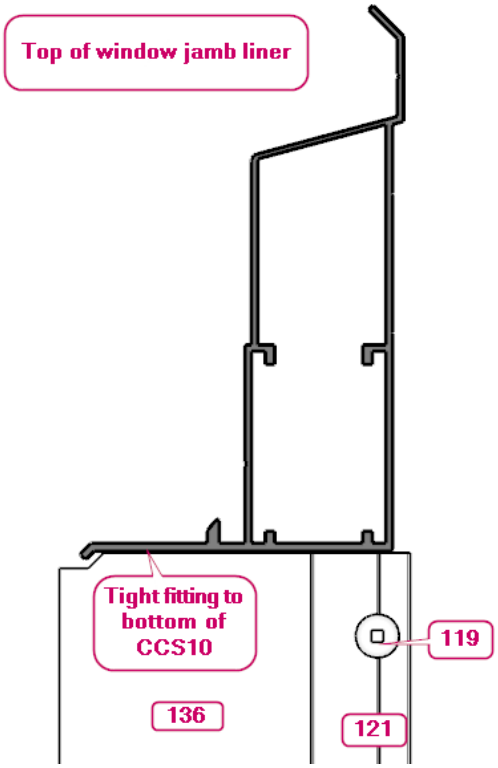
Skirting



4) Close the bottom end of Cassette Cladding to ground level off with skirting (130).

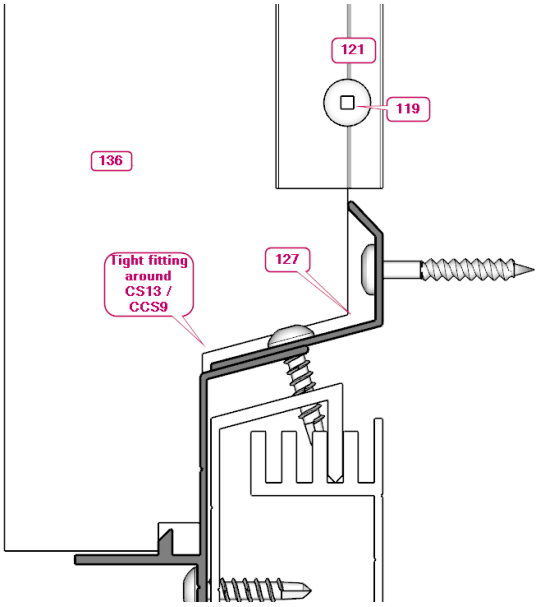
5) Skirting is held in place with Edge Grip 121 and CCS3.
6) Ensure Skirtings are equipped with ventilation holes.
7) Ensure Skirting pieces fit together to avoid vermin from entering the wall.
8) The Edge Grip (121) profile must be installed to overlap the FFL by minimum 50mm and clear:
    a. Exterior paving 100mm
    b. Unpaved ground 175mm
    c. 35mm minimum at highest point of deck or roof[8].

Window Jambs then Sill

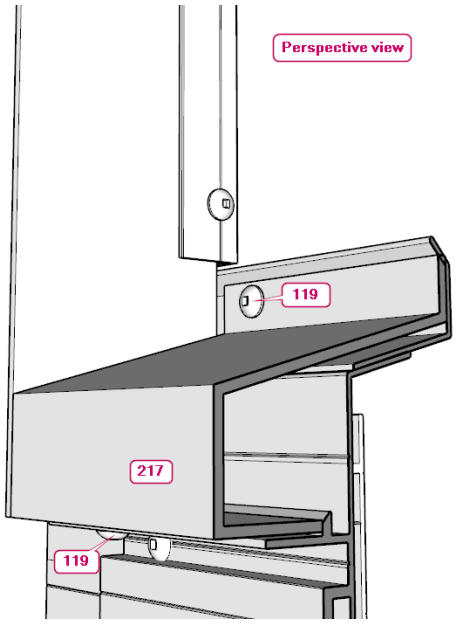


[8] E2/AS1 Figure 18

9) Install the jamb cover plates into position and secure with screw 119.



10) Fillet seal 127 to fill gap and avoid water penetrating the wall cavity.

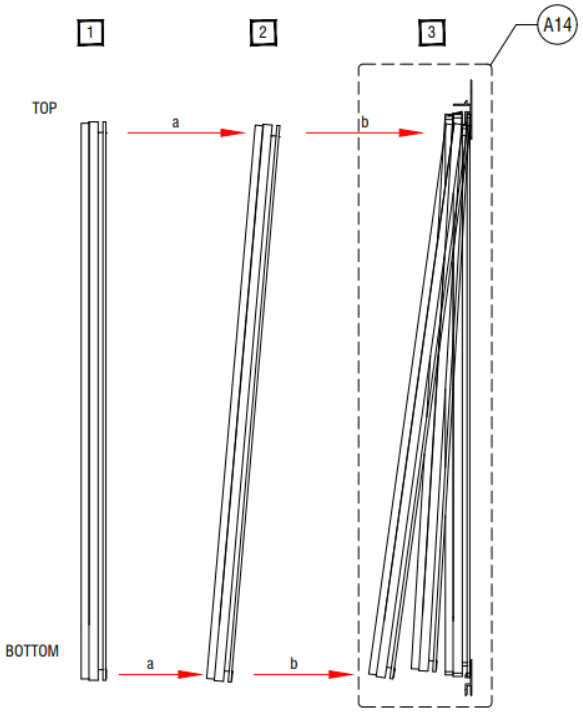


11) Trim sill 217 to fit snug between opposing jamb trims 136 and secure with 119 screws to CCS9 below and to CCS13 above.

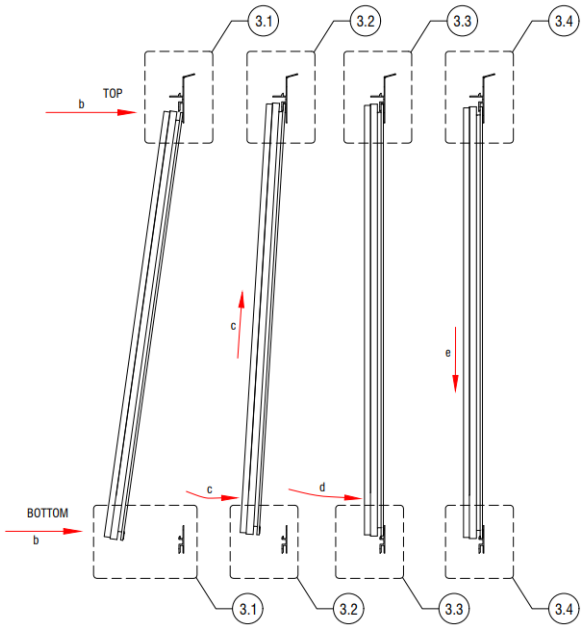
1.16 Install panels

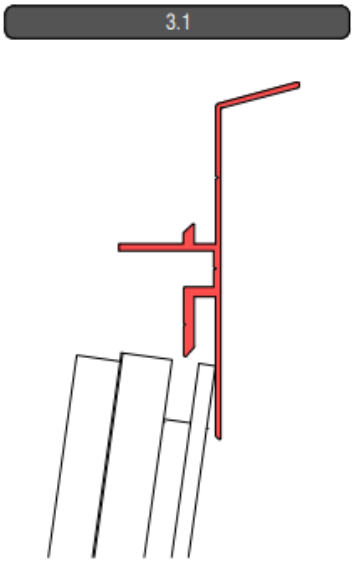
1) Handle and move panels carefully to avoid damage to the surfaces.

Installation motion



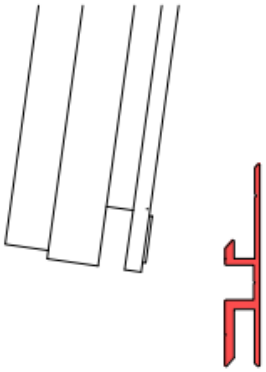
2) Ensure the top and bottom channels are clean and free of construction dirt.
3) Orientate the panel correctly and make sure it is in the correct location.
4) Tilt the top of the panel towards the support rail where the top of the panel will be supported.
5) Slide the top edge of the panel into the downwardly facing cavity of the Support Rail.
6) Push the panels upwards and the base towards the bottom support rail.
7) Ensure the bottom edge of the panel perimeter frame clears the top edge of the bottom rail ‘hook’ and lower the panel into its engaged position.





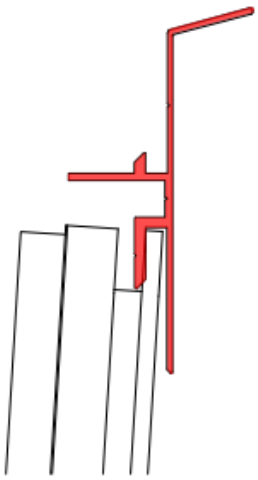
TOP

8) One the panel is engaged minor sideways adjustments may be required to correctly place the panel.
9) Take care not to tilt the panel so that it disengages from the bottom hook.

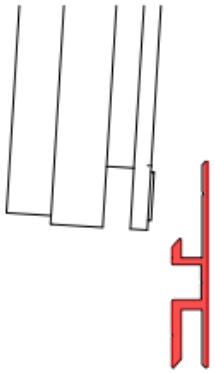


BOTTOM

3.2

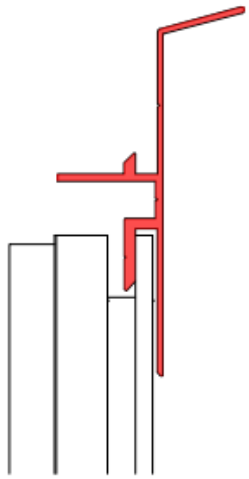


TOP

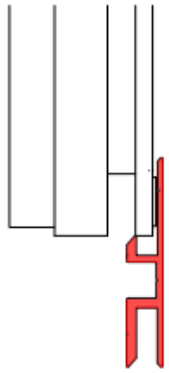


BOTTOM

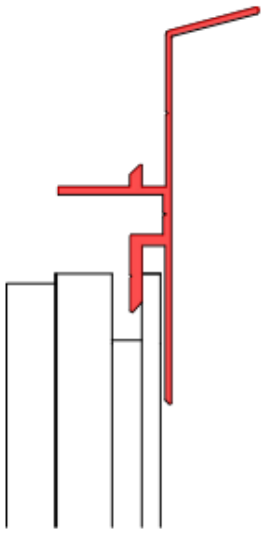
3.3



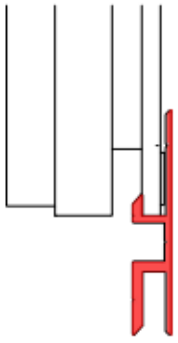
TOP



BOTTOM

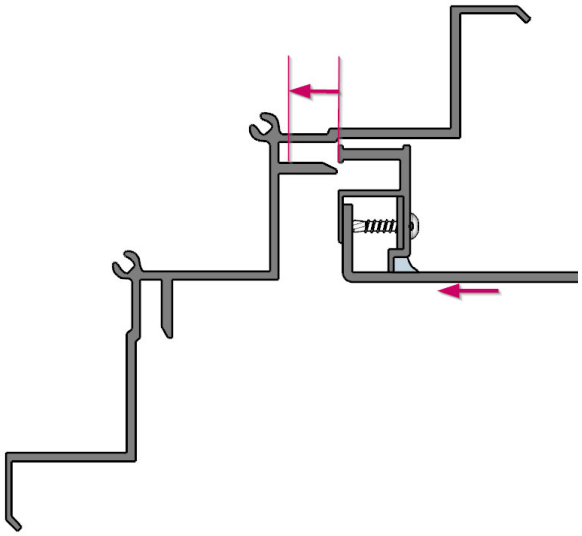


TOP

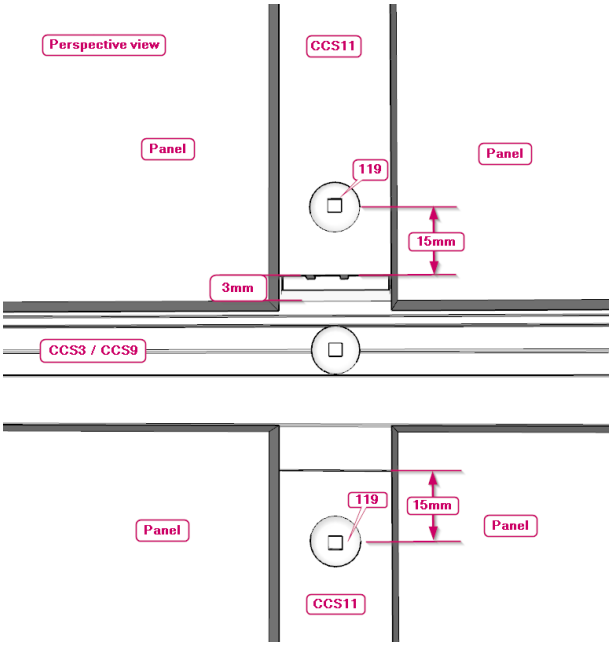


BOTTOM

10) Once the panel is in its location the top edge and bottom edge of the panel frame should align visually with the groove lines in the support rails the panel vertical height was measured from.
11) Panels that engage on the vertical edge with CCS4 needs to be pushed sideways after the rocking engagement motion to engage the vertical edge.

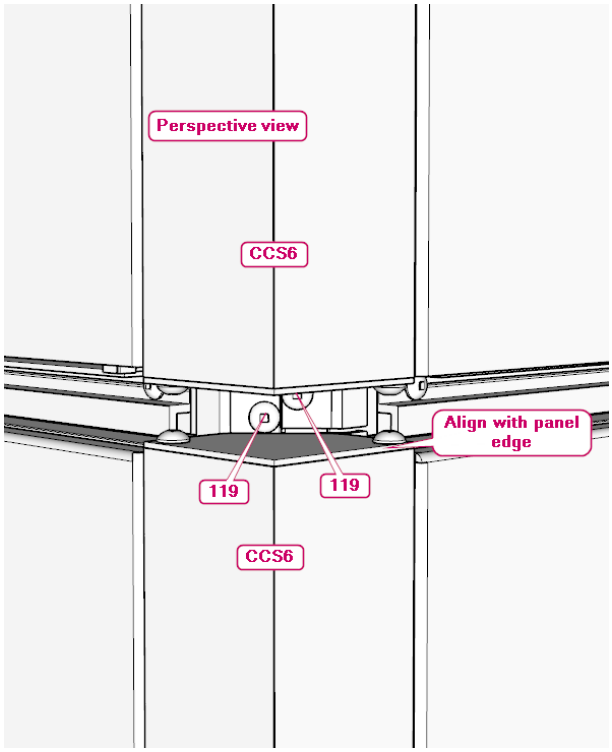


CCS11 Vertical joint strips

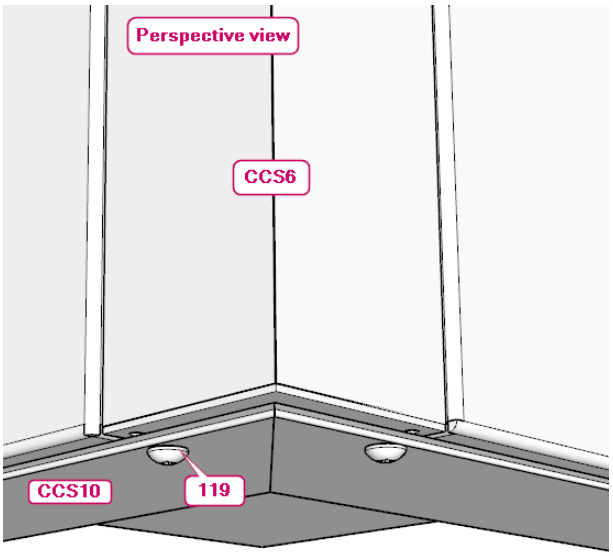


12) CCS 11 vertical panel edge clamp are inserted after placement of panels and secured with screws (119) at each panel corner and where the strips extend over wall brackets.
13) The bottom is stopping 3mm short of the support rail at its bottom it and screws (119) are not positioned further than 15mm away from the ends to ensure it obtains a structural fixing into either wall brackets, or CCS10 support rail.

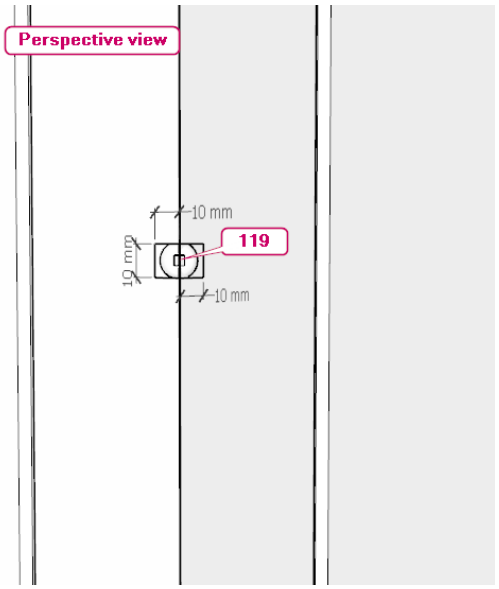
CCS6 Corner Clamp



14) CCS6 corners are screwed to CCS5 internal corners with screw 119 top and bottom.
15) Fasteners are positioned in the tabs provided.
16) Ensure the vertical V projection on the CCS6 engages with the vertical V groove on the CCS5.

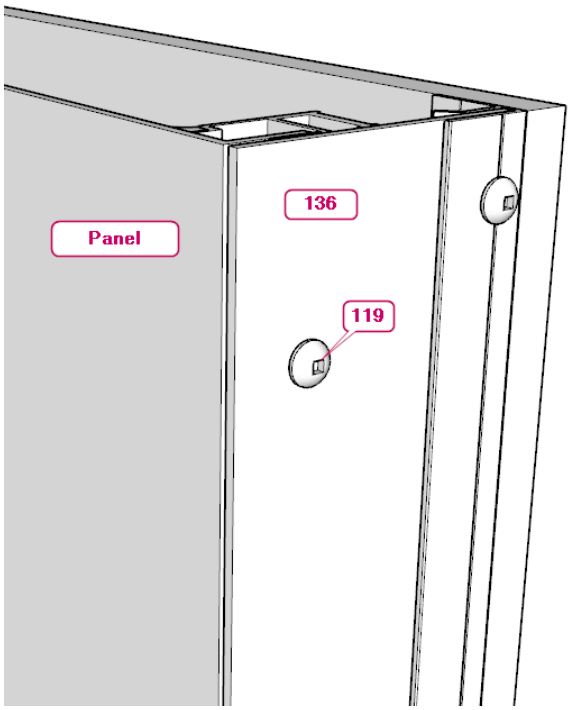


17) Where CCS6 terminates at the bottom of the fascia screw through the flange of CCS10 into the bottom plate of CCS6 with two 119 screws.



18) Where CCS6 exceed a length of 1200mm screw it to CCS5 with screw 119 through the holes provided on the leading edges.

Finishing plates



19) Screw finishing plate to panel edge with screws 119.

1.17 Panel details

- Panels fitting in the CCS First Fix frame vary significantly in detail and specification. For the drawings attached one option were used – CCS1-3; however, there are numerous. It is important to ensure the specification is followed so that the correct panel option is selected.

2 INSTALLING CASSETTE CLADDING

2.1 Overview

2.2 Storage and CC First Fix guidance

1) It is recommended to work from Installation Drawings. Evaluate them before work commence on a job site to ensure you have enough materials of the correct specification and the correct equipment available.
2) When you are instructed to commence installation.
    a. Perform a site installation readiness assessment to ensure the preceding trades are complete and obtain written confirmation from the manager that they are suitable for you to proceed.
    b. Familiarize yourself with safety hazards on site and only proceed if safe.
3) Store components in a location so that it will avoid tripping hazards and not be subject to damage from other construction activity.
4) Install internal corner CCS4 and external corner CCS5 profiles.
5) Install wall brackets. (CCS8 + CCS12)
    a. . Start at base of individual walls setting out a level line and setting a line from end to end all in accordance with the Shop Drawing Setout Plan
    b. Mark bracket positions projecting plumb opening jamb lines from higher window levels. Compare the results with the First Fix setout plan and only proceed if the results are within acceptable tolerances.
    c. Fix Brackets in required positions with the 40mm setout brackets as the base. (Adjustment may be required to achieve the best straight line for the CCS by combining bracketry protocol 25mm to 55mm)
    d. Set plumb lines from base brackets and mark positions for vertical brackets in horizontal and vertical grid.
    e. Fix Brackets.
6) Install carrier rails CCS3 & CCS9.
7) Treat CC terminations with trims and flashings.
    a. Copings
    b. Soffit terminations.
    c. Vertical terminations
    d. Window openings

8) Site survey and order CC second fix components and facing panels

2.3 CC Second Fix guidance

1) It is recommended to wear protective gloves to avoid injury on sharp edges of components.
2) Where no mechanical handling equipment is available use more than one person to carry a panel, especially on windy days.
3) Care must be taken when handling CC panels. The protective peel off foil does not provide significant impact and scratch resistance and the finished panel edges are easily damaged.
4) Do not carry CC panels on the flat, carry on edge to avoid excessive bending that may result in permanent deformation of panels and / or stress marks.
5) Store CC panels on site in a manner that will avoid damage and secure panels in a manner that will protect it from movement or being blown over by wind. Movement may be caused by wind, vibration, people, etc.
6) No cutting, trimming, or welding of CC panels are permitted outside the CC Fabrication facility. It may damage the finish, decrease the strength, or result in visual imperfections or failure in performance of the CC design. Return any component parts that require alteration to the factory for correction or replacement with new parts

2.4 Install CCS panels

1) All components and panels must be installed in accordance with the guidance provided by this document.
2) Do not install panels if any visual defect in the building underlay is visible.
3) Visually verify First Fix for compliance.
4) Co-ordinate with other trades impacting on the CC installation, including window, door and building underlay installations.
5) With reference to the correct location for the panels slide them into position as follows:
   a. First ensure the bottom receiving track of the carrier rail is free of debris.
   b. Offer the panel up slightly tilting forward at the top to slot it into the top receiving slot of the carrier rail. With a flowing movement push the panel up into the slot, then push the bottom forward so that it is positioned above the bottom carrier rail receiving slot and release the panel.
   c. Ensure the panel is fully hooked by visually checking the line of the extrusion below lining up with the panel edge. The same should apply to the top of the panels where the groove line in the carrier rail should be visible

3 ACCEPTABLE VISUAL FINISHING LEVELS

When inspecting the CC installation for an acceptable level of visual finish the following criteria applies.

Panel surfaces

1) Surfaces are acceptable where the normal person cannot identify features that may appear as defects at a normal viewing distance.
2) Normal viewing distance may vary:
3) For a building fascia 20m from ground level normal viewing will be from standing beside the building approximately 30m away
4) For a ground level wall panel viewing distance will be not necessarily be right by the panel but where people will normally stand viewing the panels.
5) At a building entry normal viewing distance may therefore be as close as 1m.

Flatness of walls

6) CC will generally follow the line of walls even though its attachment brackets can accommodate a level of structural tolerances.
7) For the 3AL 85 defects in substructure line can be corrected by a maximum of plus 15 or

minus 15mm, everything in excess of this will show in the finished surfaces of the CC

8) Where substructures are flat the maximum acceptable deviation
9) for vertical members are 3mm from line in a 5.2m run and 5mm from line in an 11m run.
    - for horizontal members to be 3mm from line on an 8.5m run.

Joint widths

10) Joint widths vary constantly due to thermal expansion / contraction. Movement is temperature / colour dependant and joint widths between larger panels will tend to fluctuate more.
11) Permissible vertical and horizontal misalignment of abutting ends of CCS panels maximum 3mm

4 MAINTENANCE

1) It is the responsibility of the Designer to determine normal maintenance requirements to comply with NZBC Acceptable Solution B2/AS1. The extent and nature of maintenance will depend on the geographical location and exposure of the building. As a guide, it is recommended that basic normal maintenance tasks shall include but not be limited to:
2) Washing down exterior surfaces every 6 – 12 months. (Do not use a high-pressure water blaster to wash down the cladding.)
3) Maintaining the exterior envelope and connections including joints, penetrations, flashings and sealant that may provide a means of moisture entry beyond the exterior cladding.
4) Pruning back vegetation that is close to or touching the building.
5) Ensure finished ground levels maintain the required clearances from the building.

