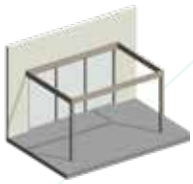
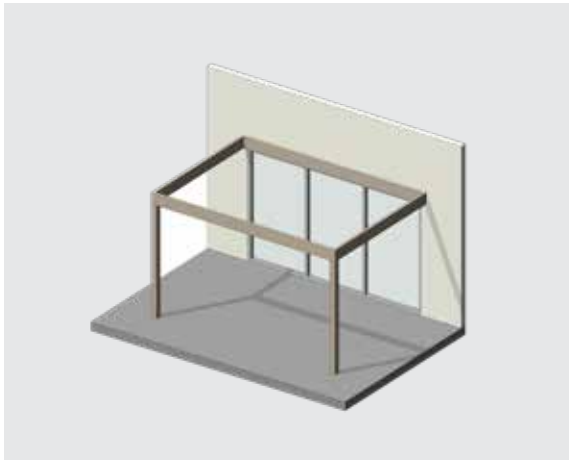
louvretec structural

Frames | Posts | Connections

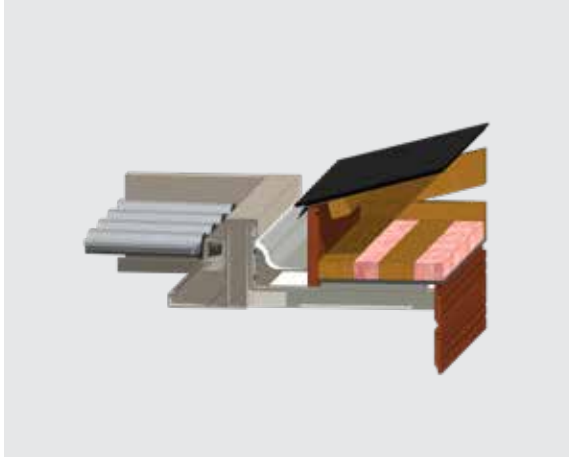


1 - 4: LOUVRETEC OPENING ROOFS IN LOUVRETEC STRUCTURAL FRAMES

CHRISTCHURCH, NZ



SIMPLY SUPPORTED



CONNECTION OPTIONS TO BUILDING

LOUVRETEC STRUCTURAL FRAMES | POSTS | CONNECTIONS

No substitution is permitted

REFER TO RELEVANT DESIGN INFORMATION
Engineering Section 13; ENGINEERING REPORTS

The following structural drawings and fixing details are for use with Louvretec Aluminium Louvre Systems and supporting structures.

No substitution is permitted – please read in conjunction with relevant design tables as applicable in Engineering Reports Section 13.

The Louvretec Structural Frame

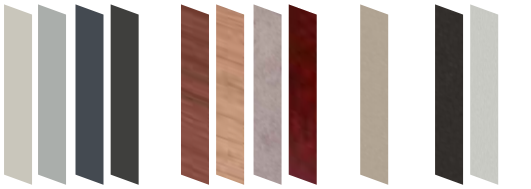
- As part of the Louvretec Opening Roof / Retract Roof package Louvretec offers a fully engineered structural aluminium frame system.
- This frame system has been designed to meet the structural requirements for a Louvretec Outdoor Room.
- Beams & posts are custom designed to be structurally compliant to the specific wind zone.
- Louvretec structural frames provide for clean, aesthetically pleasing lines and with regular cleaning are virtually maintenance free.
- They are also designed to include wall infills such as outdoor blinds, Slidetec Frameless Glass Sliders, Louvre panels - sliding or fixed.

Connections to building

- This section also covers a comprehensive range of options for fixing structural beams to existing buildings.
- Options also include braced free-standing posts where fixing to house is not possible.

SURFACE FINISHING OPTIONS

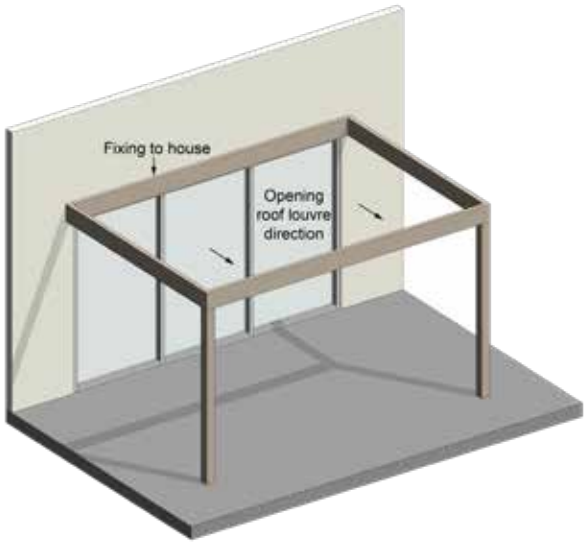
A wide range of options are available.



POWDERCOAT | WOODGRAIN & SPECIAL FINISHES | METALLIC | ANODISED

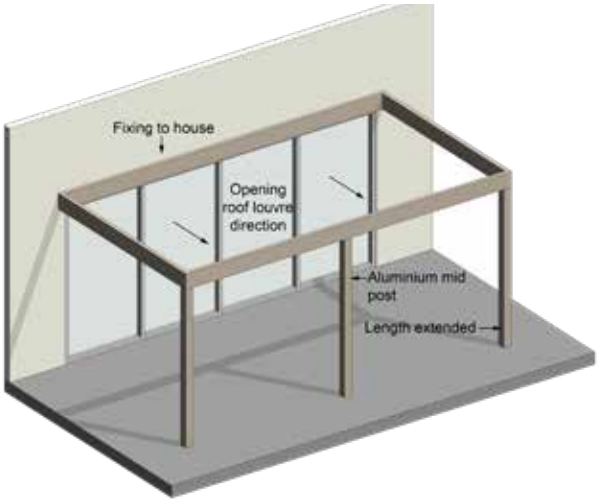
TYPICAL DETAIL **FRAME OPTIONS**

TYPICAL DETAIL **SIMPLY SUPPORTED STRUCTURAL FRAME**



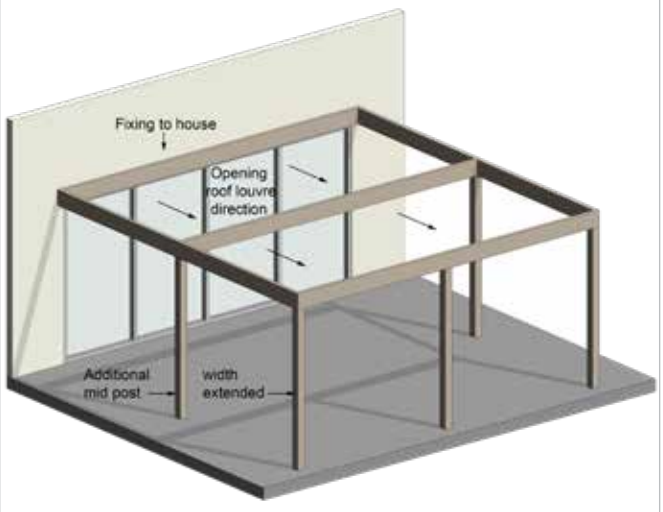
ALUMINIUM BOX SECTION BEAMS AND POSTS. BEAM AND POST SIZES DETERMINED BY SPANS & WIND ZONES.

TYPICAL DETAIL
CONTINUOUS SPAN - LENGTH EXTENDED



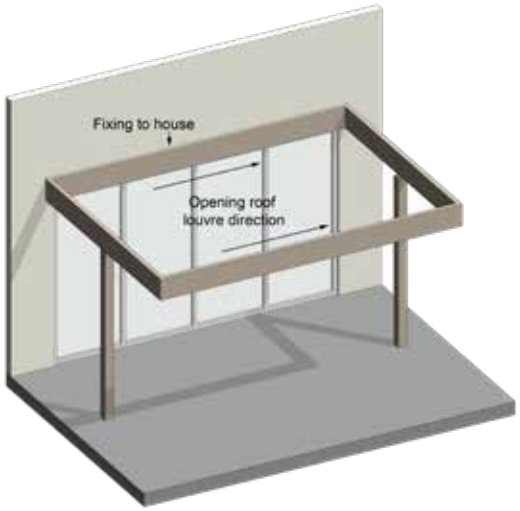
LENGTH OF FRAME IS EXTENDED WITH ADDITIONAL MID-POST.
ALLOWS FOR A LONGER OPENING ROOF.

TYPICAL DETAIL
CONTINUOUS SPAN - WIDTH EXTENDED



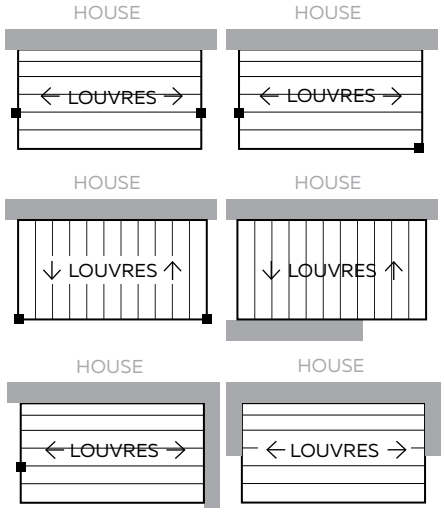
WIDTH OF FRAME IS EXTENDED WITH ADDITIONAL MID-POST.
ALLOWS FOR TWO OPENING ROOFS.

TYPICAL DETAIL **CANTILEVERED STRUCTURAL FRAME**



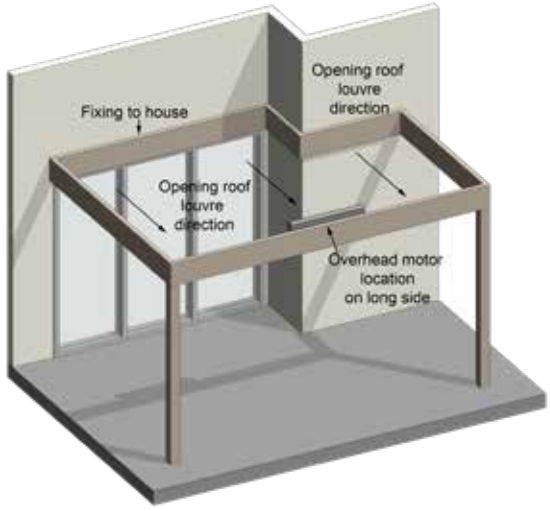
THERE ARE A NUMBER OF CANTILEVER CONFIGURATIONS AVAILABLE.
CONTACT LOUVRETEC FOR ENGINEERING ADVICE.

CANTILEVER CONFIGURATIONS



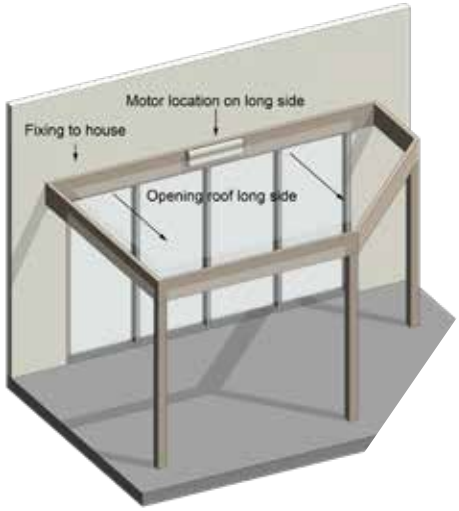
CONTACT LOUVRETEC RE LOUVRES RUNNING PARALLEL TO CANTILEVER.

TYPICAL DETAIL **STEPPED FRAME**



FRAME DESIGNED TO STEP AROUND THE BUILDING OR FIREPLACE.
MOTOR MUST BE LOCATED ON LONG SIDE.

TYPICAL DETAIL **RAKING FRAME**



FRAME CAN FOLLOW THE SHAPE OF THE DECK.
MOTOR MUST BE LOCATED ON LONG SIDE.

THE LOUVRETEC STRUCTURAL FRAME

Post and Beam sizes determined by wind and loading

REFER TO RELEVANT DESIGN INFORMATION
Engineering Section 13/ENGINEERING REPORTS

- The post and beam sizes are calculated and determined by wind speeds with loading factors applied to allow for uplift, down pressure and deflection.
- Please refer Section 13 - Engineering for full engineering and design data.
- For any queries please contact your nearest Louvretec Dealer.

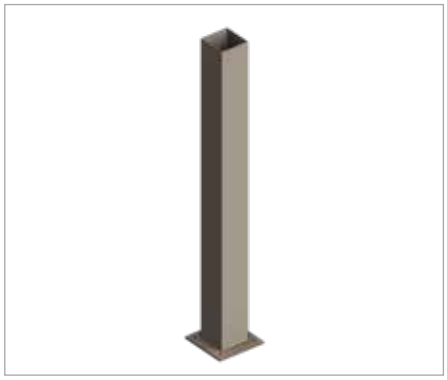
SINGLE BEAM

TWO SINGLE BEAMS, MITRED CORNER

DOUBLE BEAM

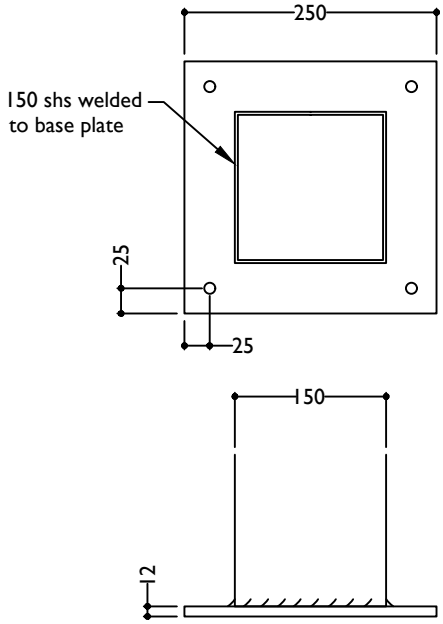
DOUBLE BEAM WITH SINGLE BEAM

TWO DOUBLE BEAMS, MITRED CORNER

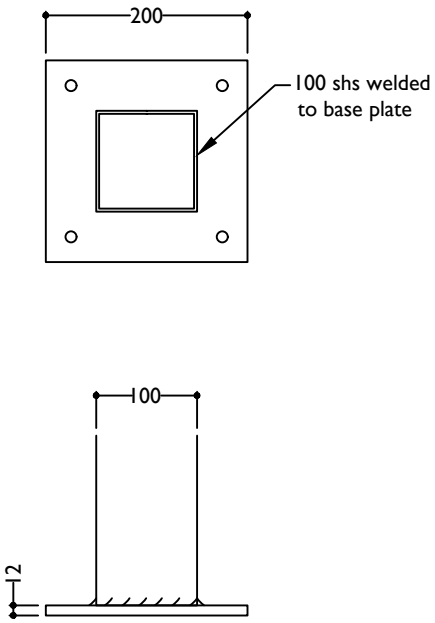


POST WITH BASE PLATE

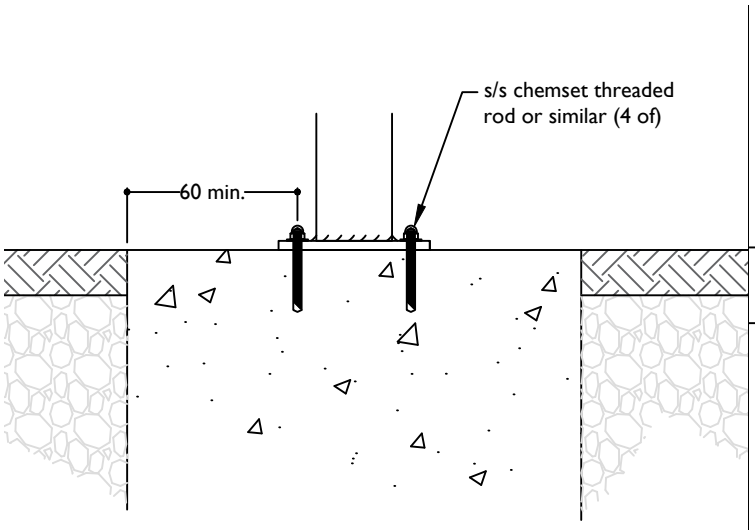
150X50X3 2/150X50X3 200X50X3 2/200X50X3 225X50X3 2/225X50X3 250X50X3 2/250X50X3 300X50X3 2/300X50X3.5



ALUMINIUM POST BASE PLATE - DIMENSIONS

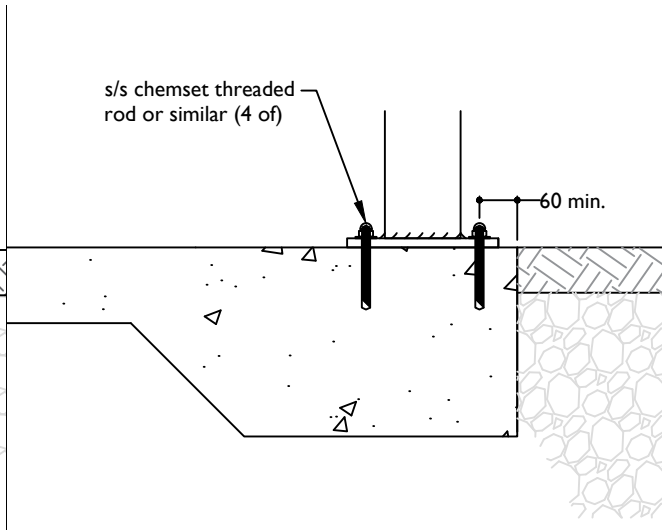


NB: REFER TO ENGINEERING Section 13
FOR CORRECT POST SIZE



NB: REFER TO ENGINEERING Section 13
FOR CORRECT FOOTING SIZE

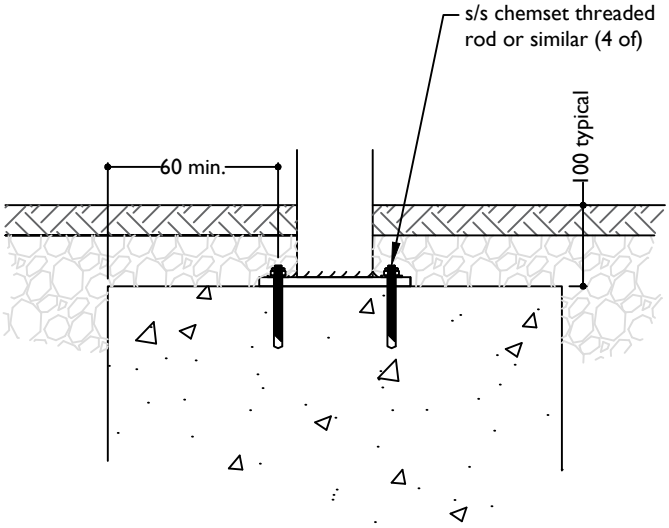
SECTION POST TO CONCRETE FOOTING



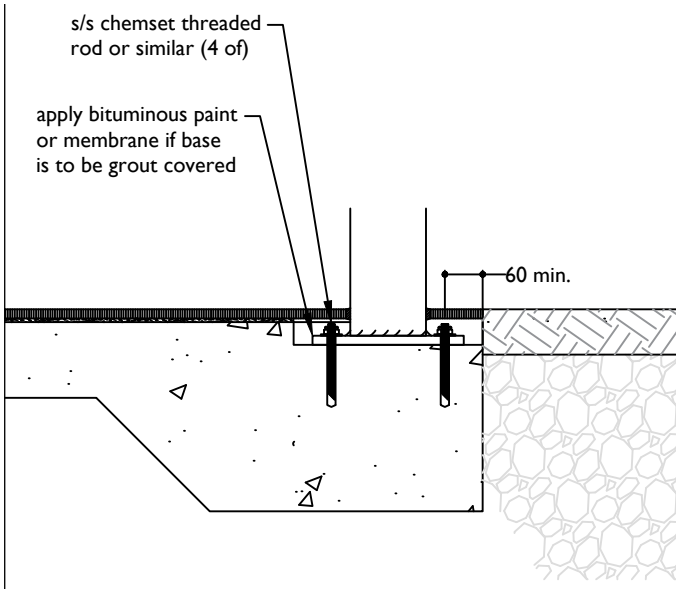
NB: REFER TO ENGINEERING Section 13
FOR CORRECT FOOTING SIZE

SECTION POST TO CONCRETE PAD

TYPICAL DETAIL : OPENING ROOFS STRUCTURAL FRAME POST FIXING DETAILS

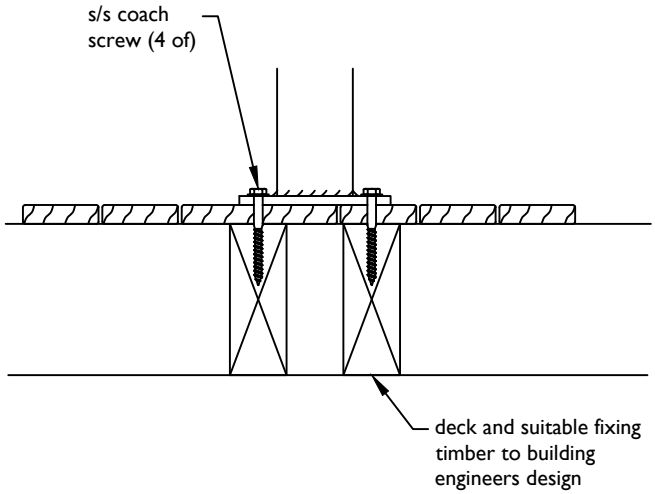


SECTION POST TO CONCRETE FOOTING - RECESSED



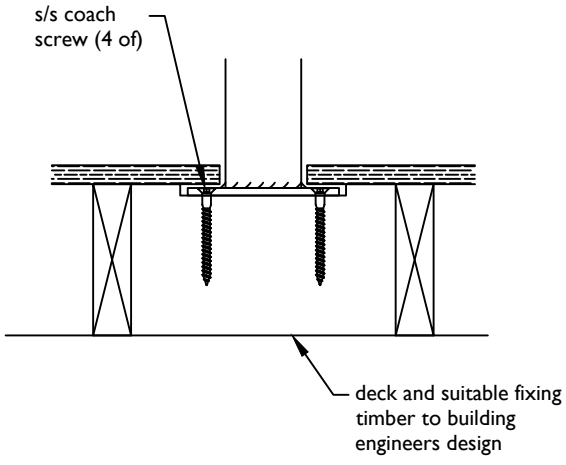
SECTION POST TO CONCRETE PAD - RECESSED

SCALE 1:10



SECTION POST TO TIMBER DECK

SCALE 1:10



SECTION POST TO TIMBER DECK - RECESSED

FILE: STRUCTURAL 4.10 DATE MODIFIED: 01/10/2024 SCALE:

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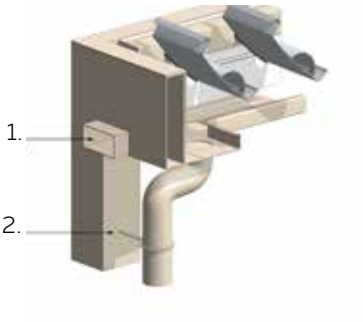
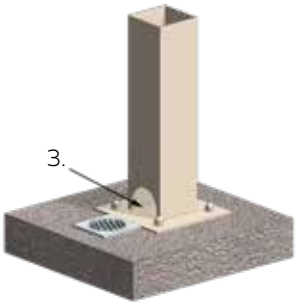
TYPICAL DETAIL **GUTTER OUTLETS**

1.
REAR OUTLET THROUGH ALUMINIUM BEAM

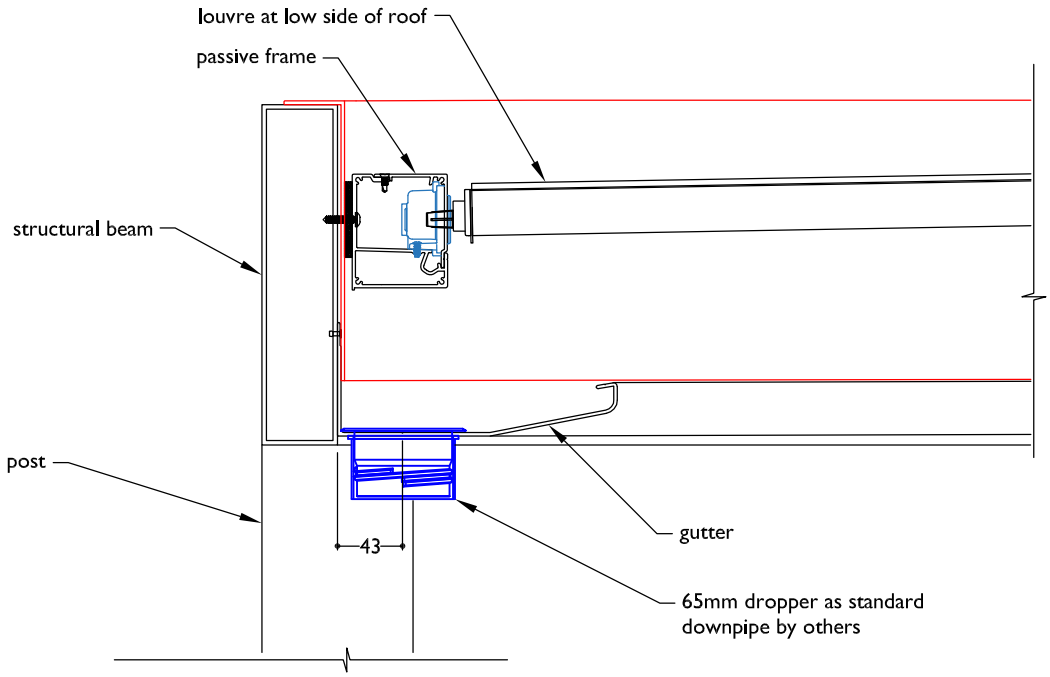
2.
CONVENTIONAL OUTLET AND DOWNPIPE DROPPER



3.
OUTLET USING POST AS DROPPER

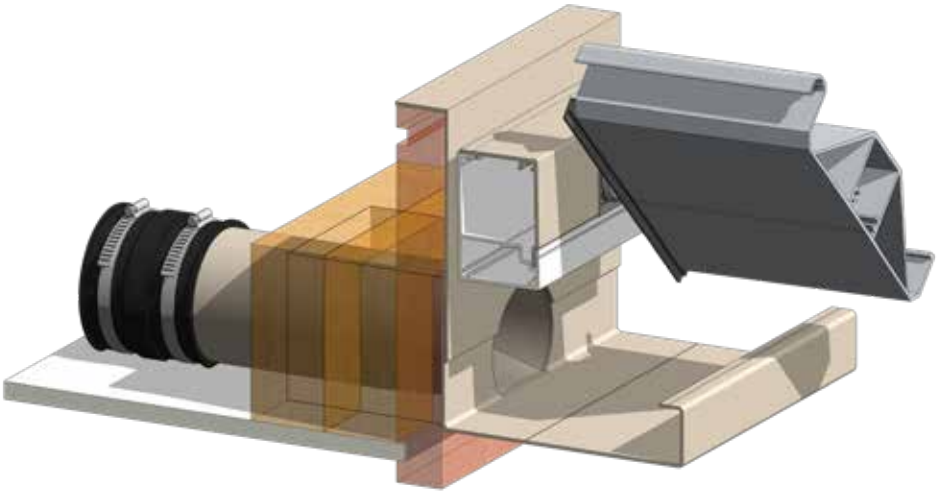


SECTION **STANDARD 65MM DROPPER IN GUTTER**

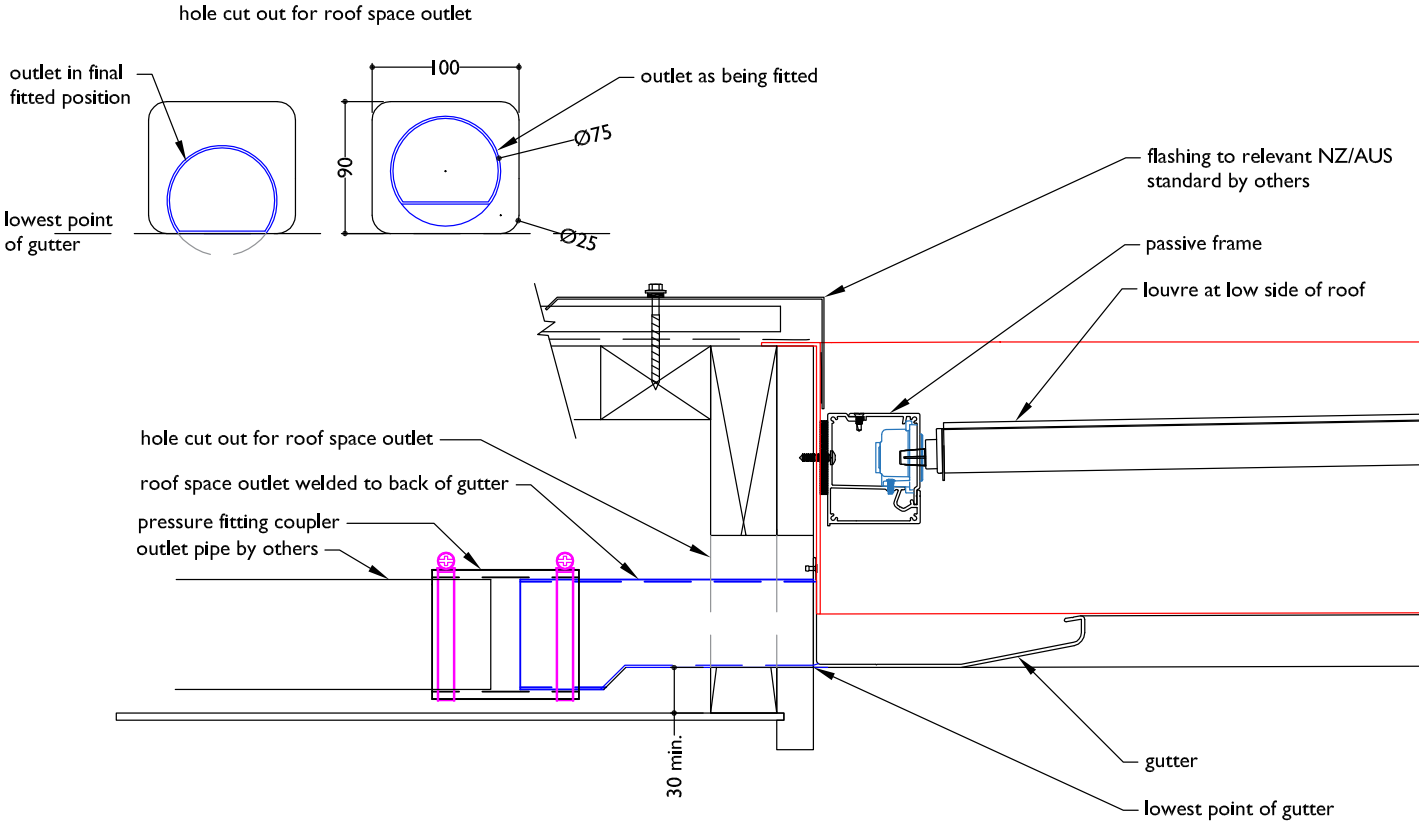


TYPICAL DETAIL : REAR OUTLET GUTTER IN SOFFIT

OUTLET THROUGH FASCIA ROOF SPACE



SECTION **OUTLET THROUGH FASCIA ROOF SPACE**



FILE: STRUCTURAL 4.12 DATE MODIFIED: 01/10/2024 SCALE:

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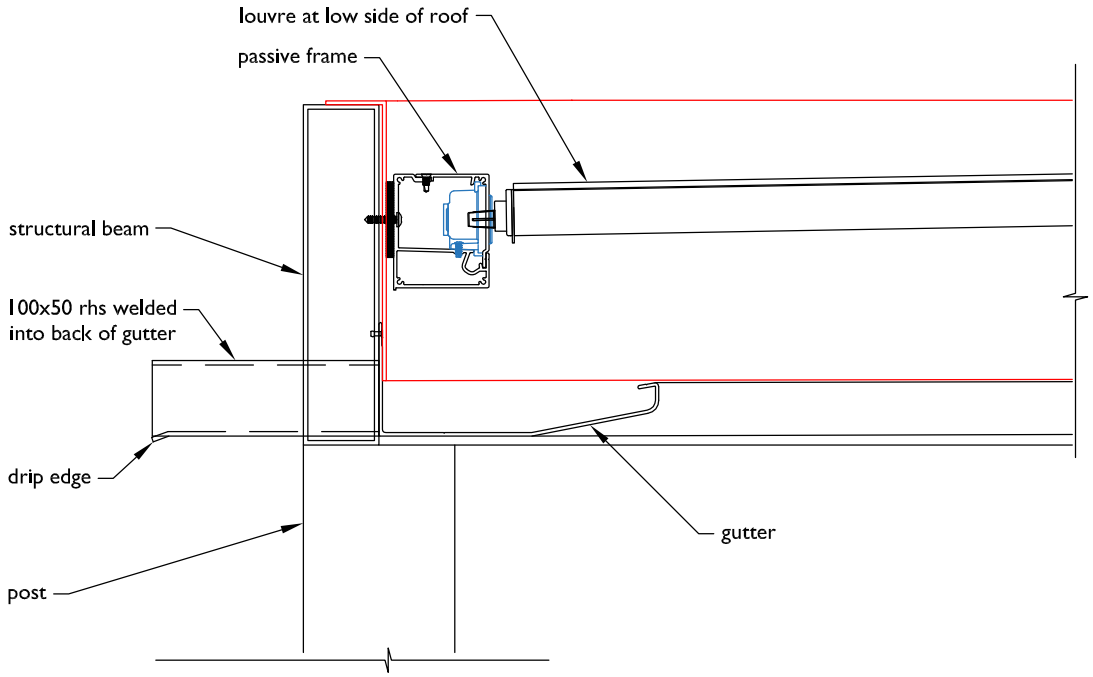
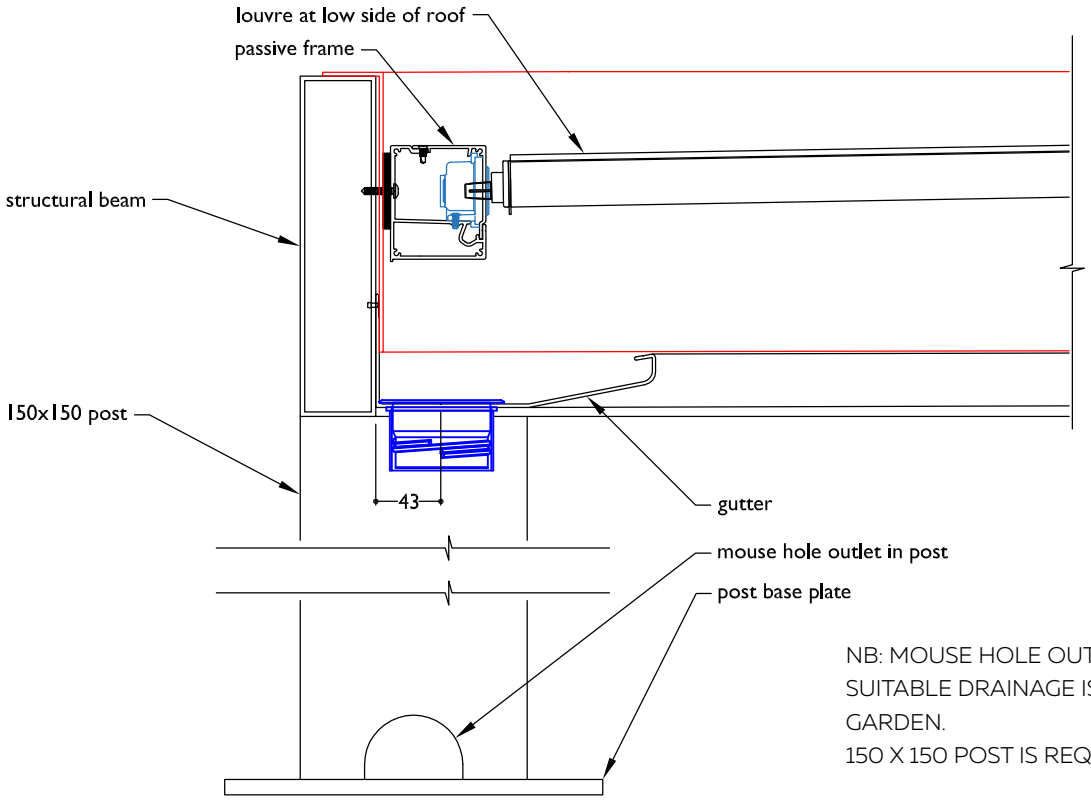
SECTION BACK OUTLET IN GUTTER



SECTION THROUGH LOUVRES



NB: MOUSE HOLE OUTLET USED WHEN SUITABLE DRAINAGE IS AVAILABLE IN DECK/ GARDEN.
150 X 150 POST IS REQUIRED IN MOST CASES.

CONNECTING TO THE BUILDING

Three typical fixing locations

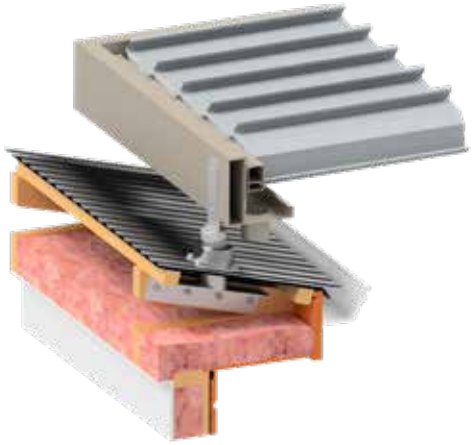
In most instances, the aluminium structural frame connects either directly to or directly alongside the existing building.

There are three typical fixing locations:

1. Fixing above the existing roof
2. Fixing flush with the existing gutter
3. Fixing directly to - or free standing next to the building

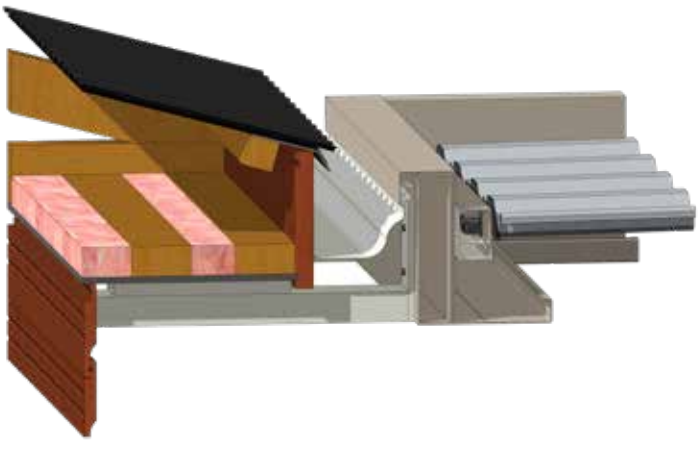
MT EDEN, NZ

1A. OVER ROOF - BRACED OR FREE STANDING POST
Page 4.16



1B. OVER ROOF - RAFTER FIXING BRACKET
Page 4.17

2A. FLUSH TO GUTTER. BRACKET FIXED TO FASCIA
Page 4.18



2B. FLUSH TO GUTTER. BRACKET FIXED TO SOFFIT
Page 4.19

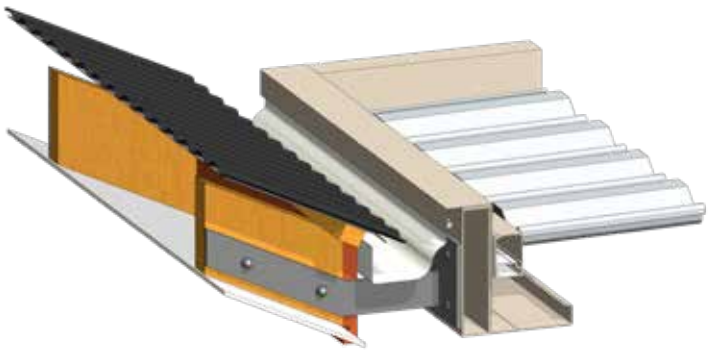
AUCKLAND, NZ

CONNECTING TO THE BUILDING

Fixing options

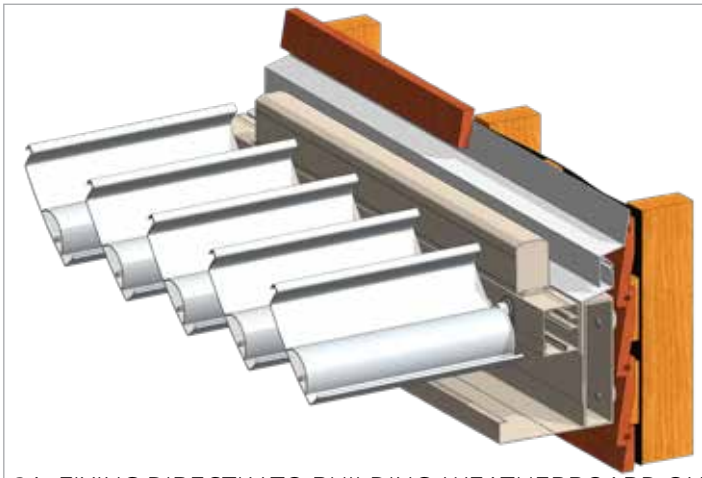
Location determines which suitable fixing options are available and are permissible.

Fixing options must take into consideration the structural integrity of the building - i.e, is there solid fixing available? Also ensuring the watertight integrity of the building is not compromised. .

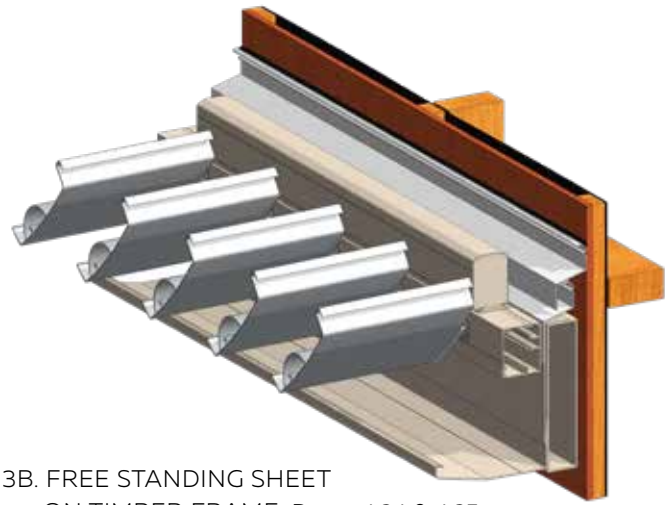


2C. FLUSH TO GUTTER. BRACKET FIXED TO RAFTER.
Page 4.20

2D. FLUSH TO GUTTER. FREE STANDING BRACED POST
Page 4.21



3A. FIXING DIRECTLY TO BUILDING. WEATHERBOARD ON TIMBER FRAME WITH CAVITY. Page 4.22

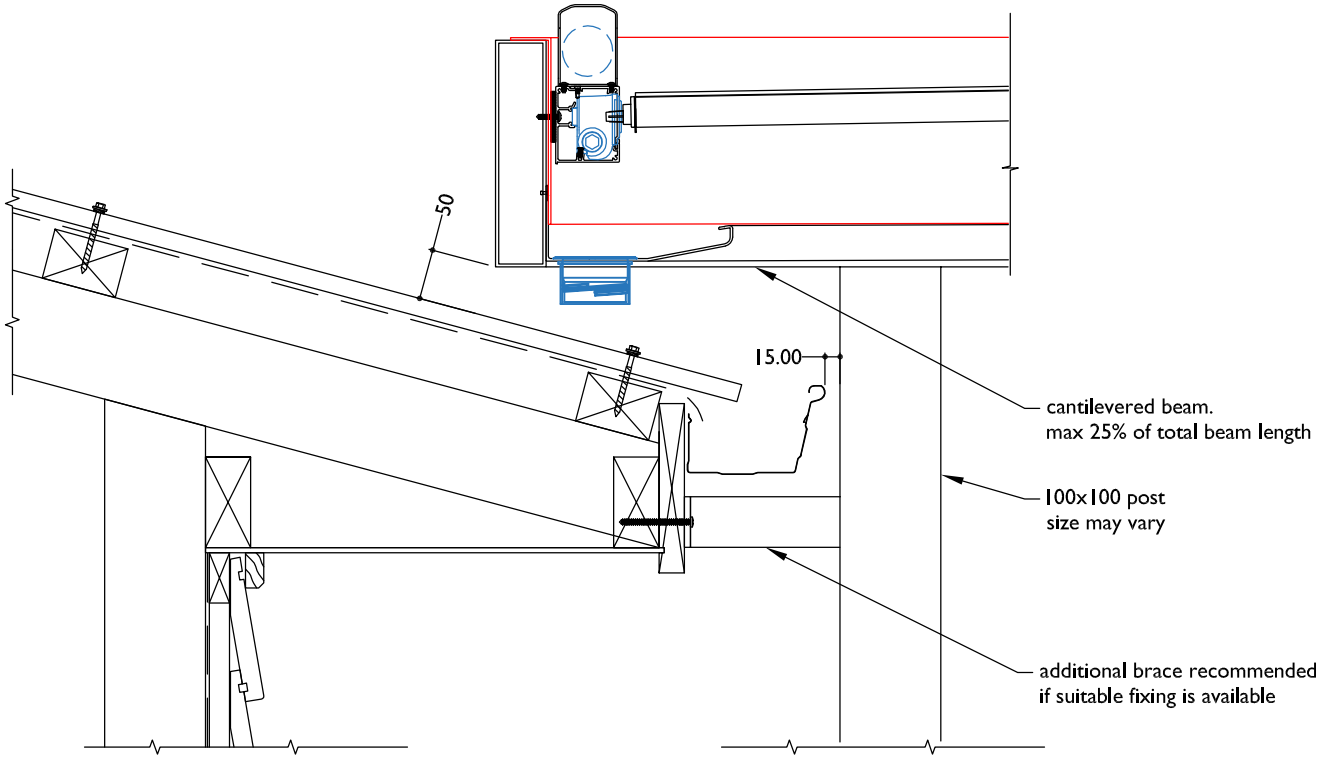


3B. FREE STANDING SHEET ON TIMBER FRAME. Pages 4.24 & 4.25

TYPICAL DETAIL : OPTION 1A. OPENING FRAME OVER EXISTING OPENING ROOF

BRACED OR FREE STANDING POST PROJECTS OPENING ROOF OVER HOUSE ROOF.
ALLOWS STORM-WATER DISPOSAL ONTO EXISTING ROOF. IT IS NOT FLASHED BETWEEN OPENING ROOF AND HOUSE ROOF.

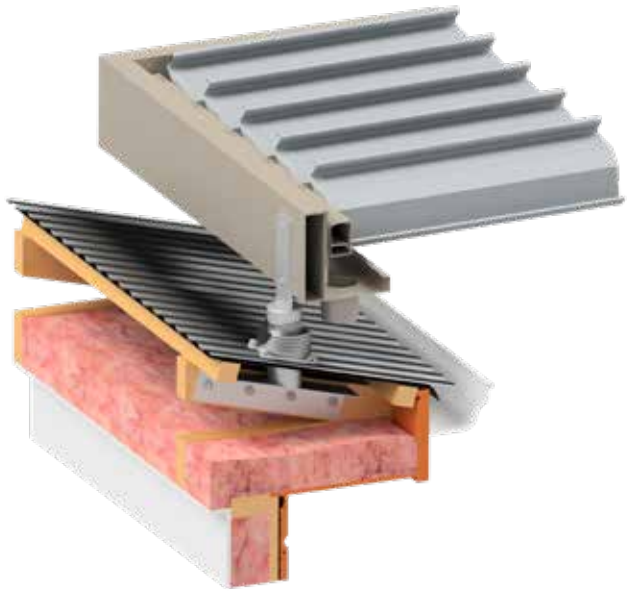
SECTION **OPTION 1A - BRACED OR FREE STANDING POST - OPENING ROOF FRAME IS OVER ROOF.**



REFER RENDER ABOVE

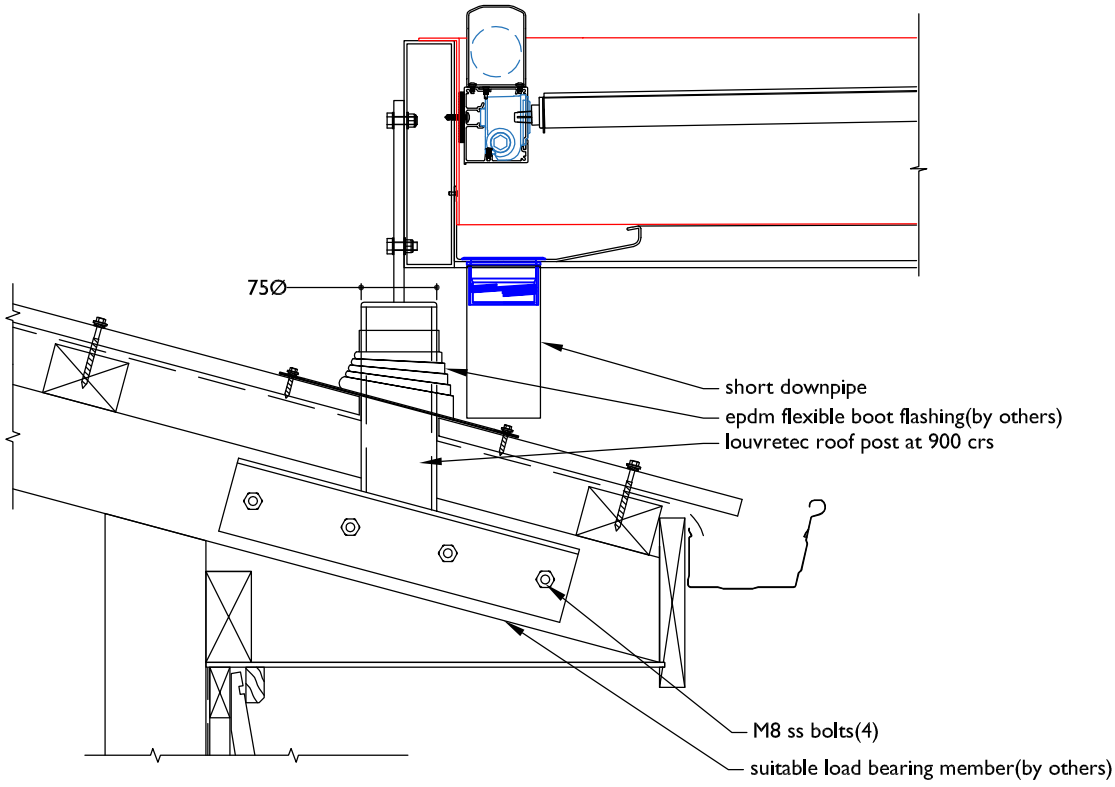
FILE: STRUCTURAL 4.16 DATE MODIFIED: 01/10/2024 SCALE:

TYPICAL DETAIL: OPTION 1B. OPENING ROOF FRAME OVER EXISTING ROOF



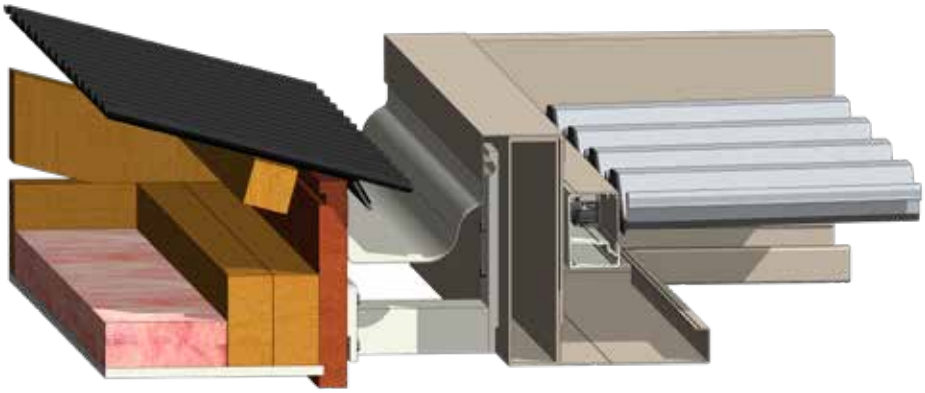
FIXING BRACKET CONNECTED TO RAFTERS AND FLASHED ACCORDINGLY.
ROOF IRON OR TILES NEED TO BE LIFTED FOR BRACKET INSTALLATION.

SECTION **OPTION 1B - ROOF BRACKET - OPENING ROOF FRAME FIXED OVER ROOF**



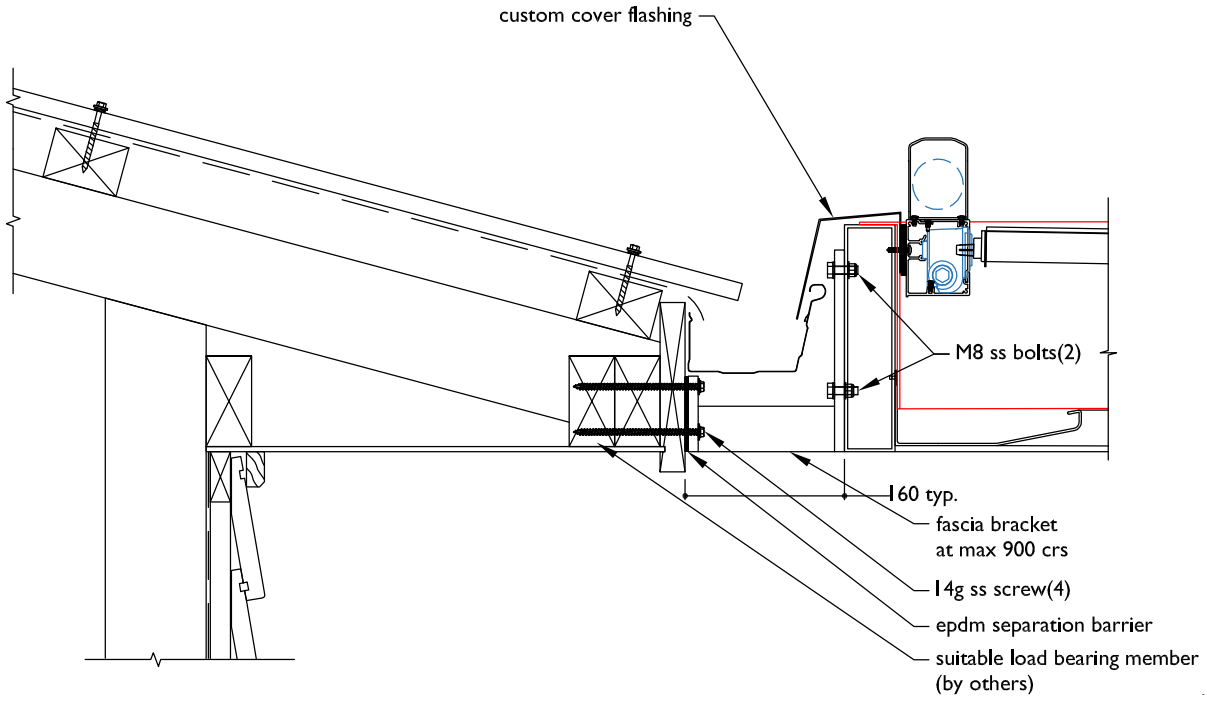
REFER RENDER ABOVE

TYPICAL DETAIL : OPTION 2A. FLUSH TO GUTTER - FASCIA FIXED



BRACKET FIXED TO FASCIA. BOX SECTION SITS ABOVE GUTTER WITH CAP FLASHING INTO GUTTER.

SECTION **OPTION 2A - FRAME TO FASCIA - FASCIA BRACKET**



REFER RENDER ABOVE

FILE: STRUCTURAL 4.18 DATE MODIFIED: 01/10/2024 SCALE:

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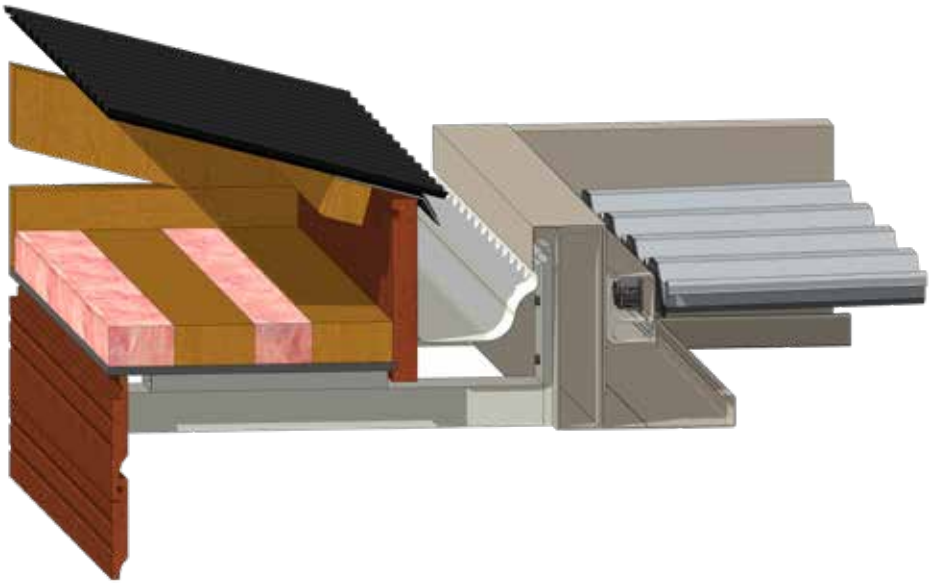
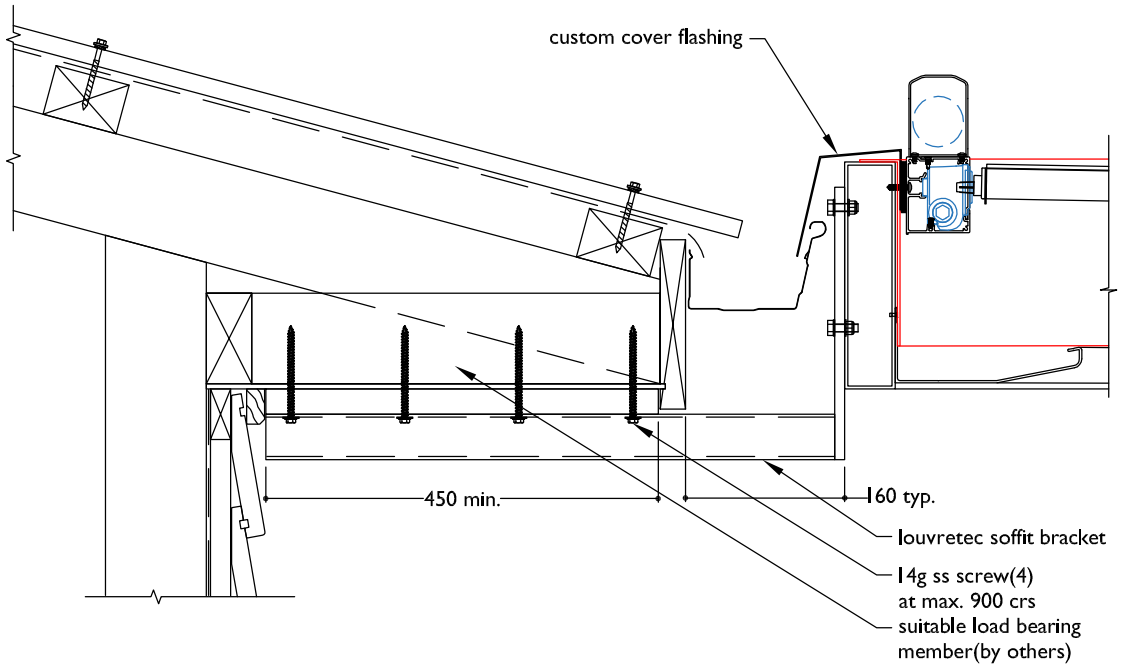
TYPICAL DETAIL: OPTION 2B. FLUSH TO GUTTER - SOFFIT FIXED



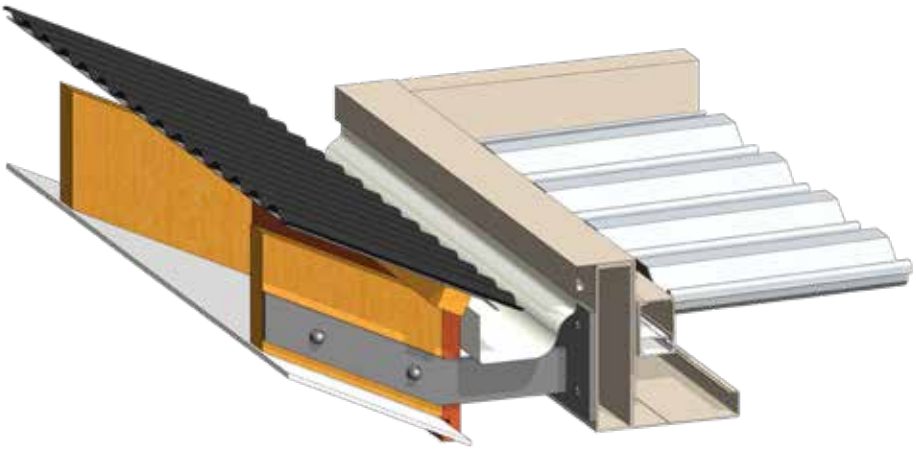
BRACKET FIXED TO UNDERSIDE OF SOFFIT. BOX SECTION SITS ABOVE GUTTER WITH FLASHING INTO GUTTER.

SECTION **OPTION 2B - FRAME TO FASCIA - SOFFIT BRACKET**



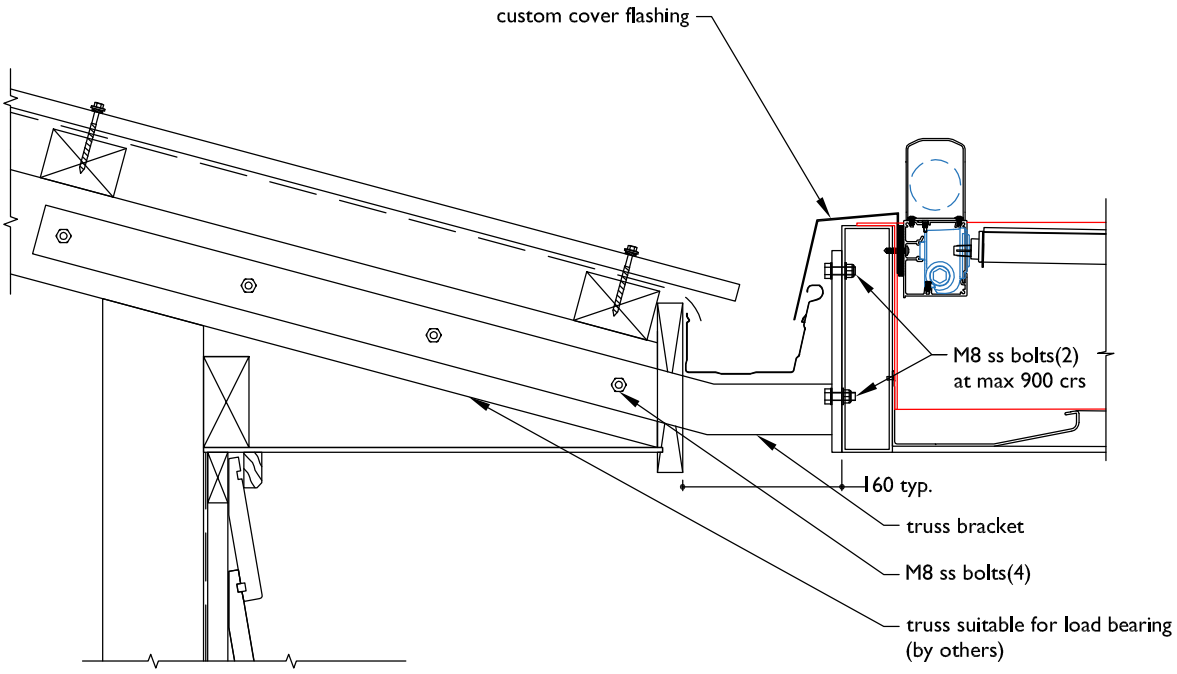
REFER RENDER ABOVE

TYPICAL DETAIL : OPTION 2C. FLUSH TO GUTTER - RAFTER FIXED



BRACKET FIXED TO RAFTER. BOX SECTION SITS ABOVE GUTTER WITH CAP FLASHING INTO GUTTER.

SECTION **OPTION 2C - FLUSH TO GUTTER - TRUSS OR RAFTER FIXING**



REFER RENDER ABOVE

FILE: STRUCTURAL 4.20 DATE MODIFIED: 01/10/2024 SCALE:

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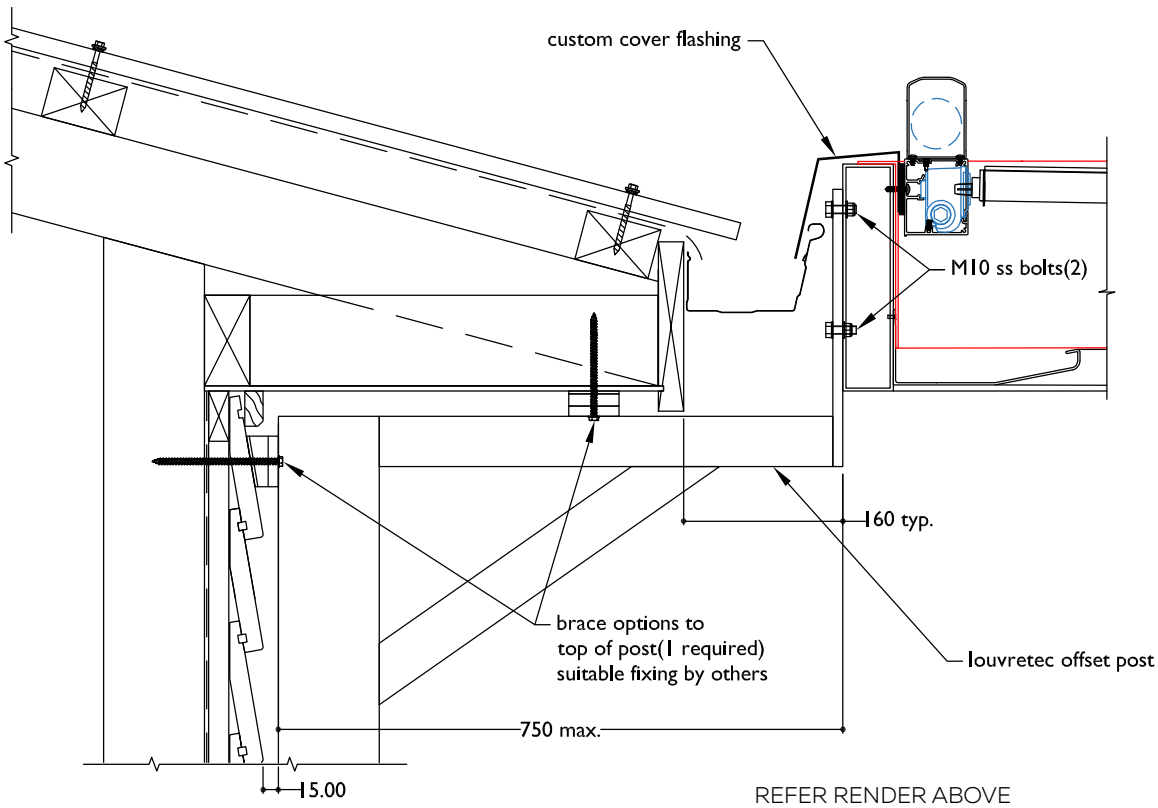
TYPICAL DETAIL: 2D. FLUSH TO GUTTER - FREE STANDING

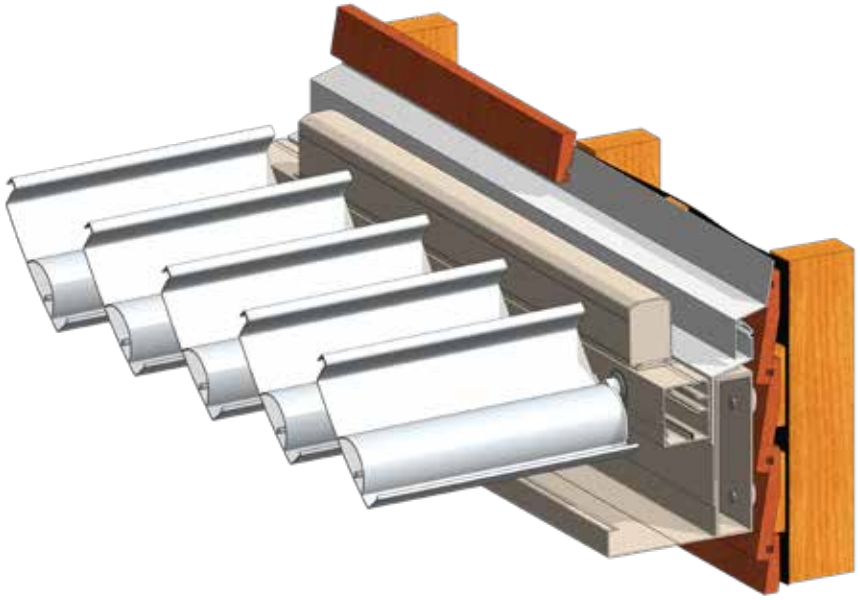
FREE STANDING POST SUPPORTS BOX SECTION ABOVE GUTTER, WITH CAP FLASHING INTO GUTTER.
USE THIS OPTION WHEN THERE ARE NO OTHER FIXING POINTS AND THE HOUSE CLADDING IS NOT SUITABLE FOR STRUCTURAL FIXING.
IF FIXING CAN BE FOUND FOR THE POST THIS WILL HELP STABILITY OF FRAME.

SECTION **OPTION 2D - FRAME TO FASCIA - FREE STANDING OR BRACED POST**



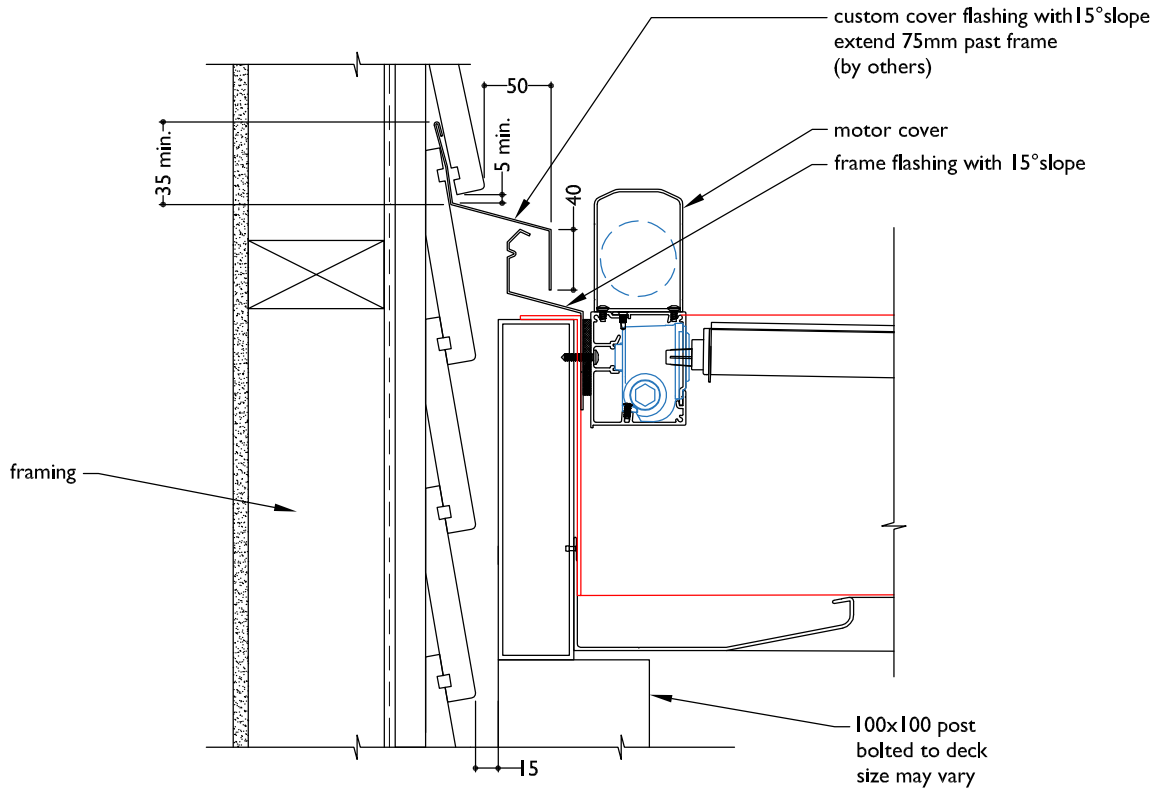
REFER RENDER ABOVE

TYPICAL DETAIL : OPTION 3A. FIXED DIRECTLY TO BUILDING



FIXED TO WEATHERBOARD CLADDING ON TIMBER FRAME WITH CAVITY.
SEE ALSO OPTION FIXED WITH NO CAVITY AND FREE STANDING.

SECTION **OPTION 3A - WEATHERBOARD ON TIMBER FRAME FREE STANDING**



REFER RENDER ABOVE

FILE: STRUCTURAL 4.22 DATE MODIFIED: 01/10/2024 SCALE:
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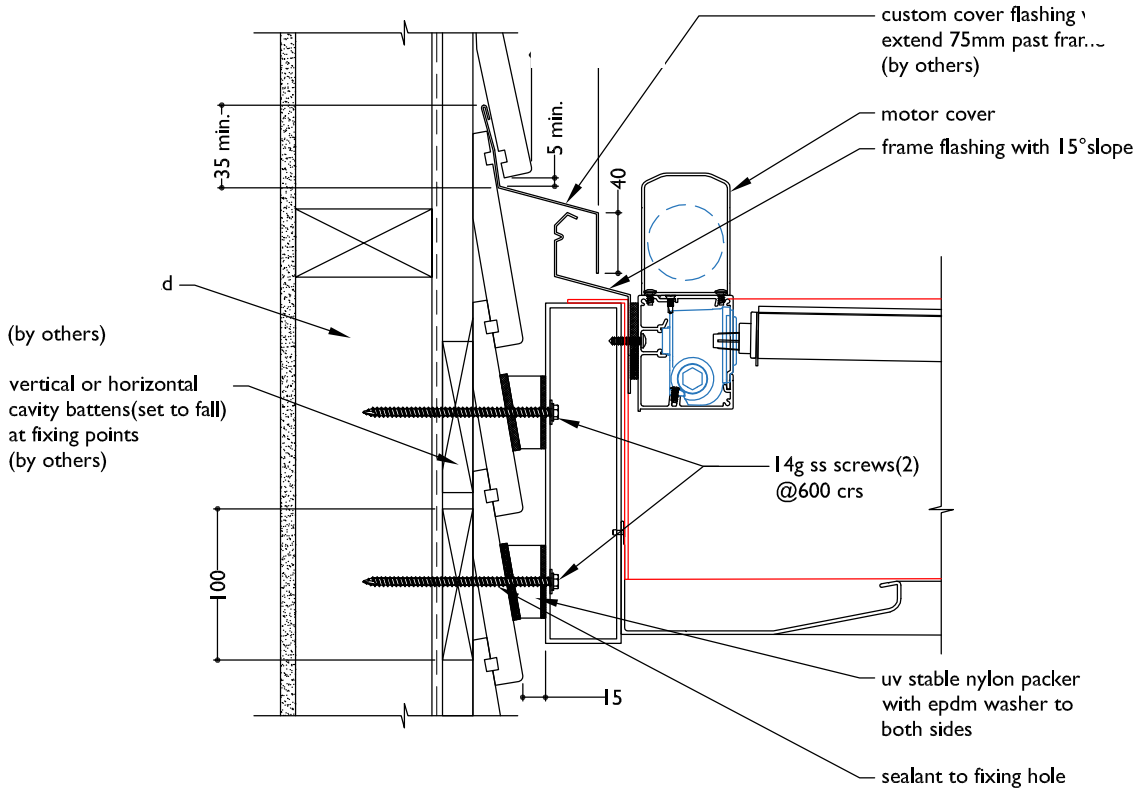
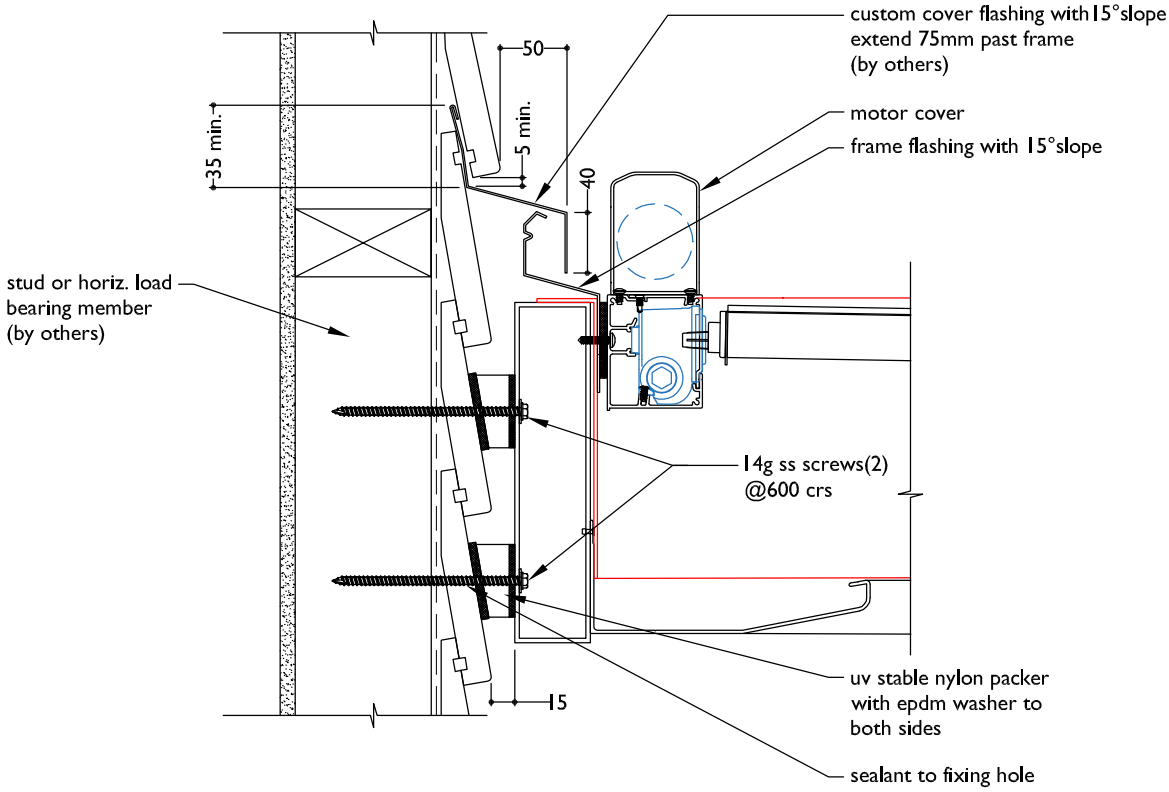
SECTION **OPTION 3A - WEATHERBOARD ON TIMBER FRAME WITH CAVITY**

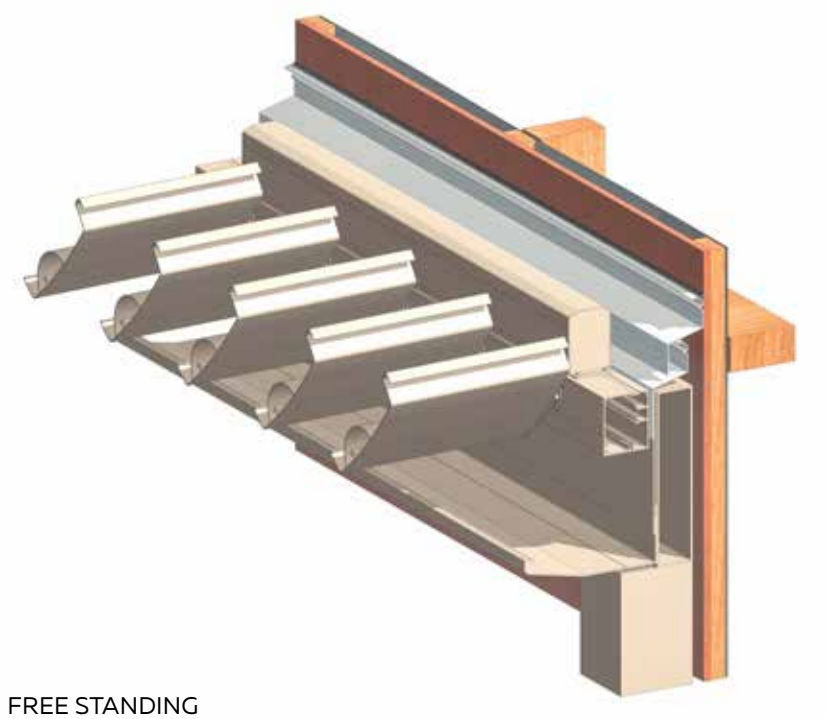


SECTION **OPTION 3A - WEATHERBOARD ON TIMBER FRAME**



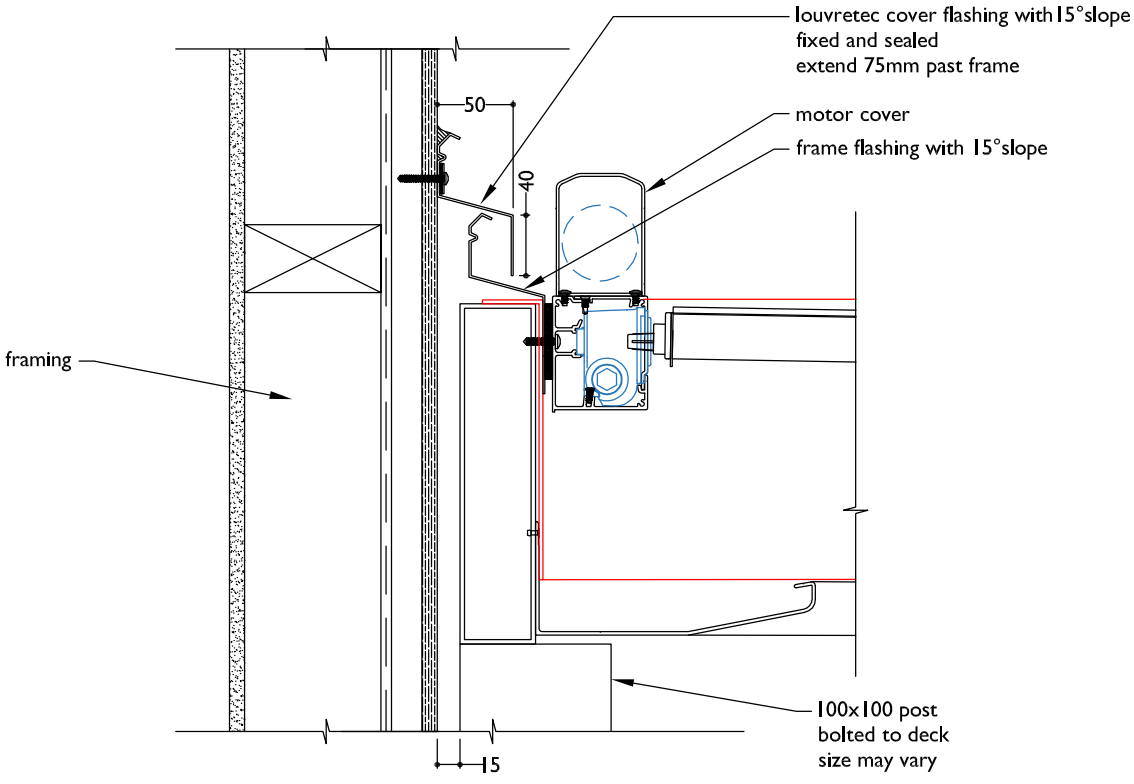
REFER RENDER PREVIOUS PAGE

TYPICAL DETAIL : OPTION 3B. FREE STANDING



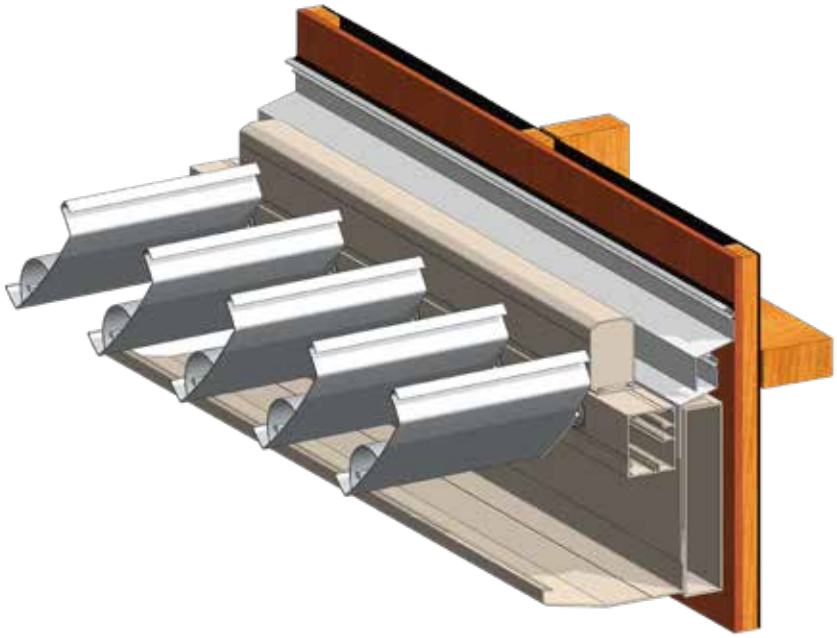
FREE STANDING

SECTION **OPTION 3B SHEET ON TIMBER FRAME - FREE STANDING**



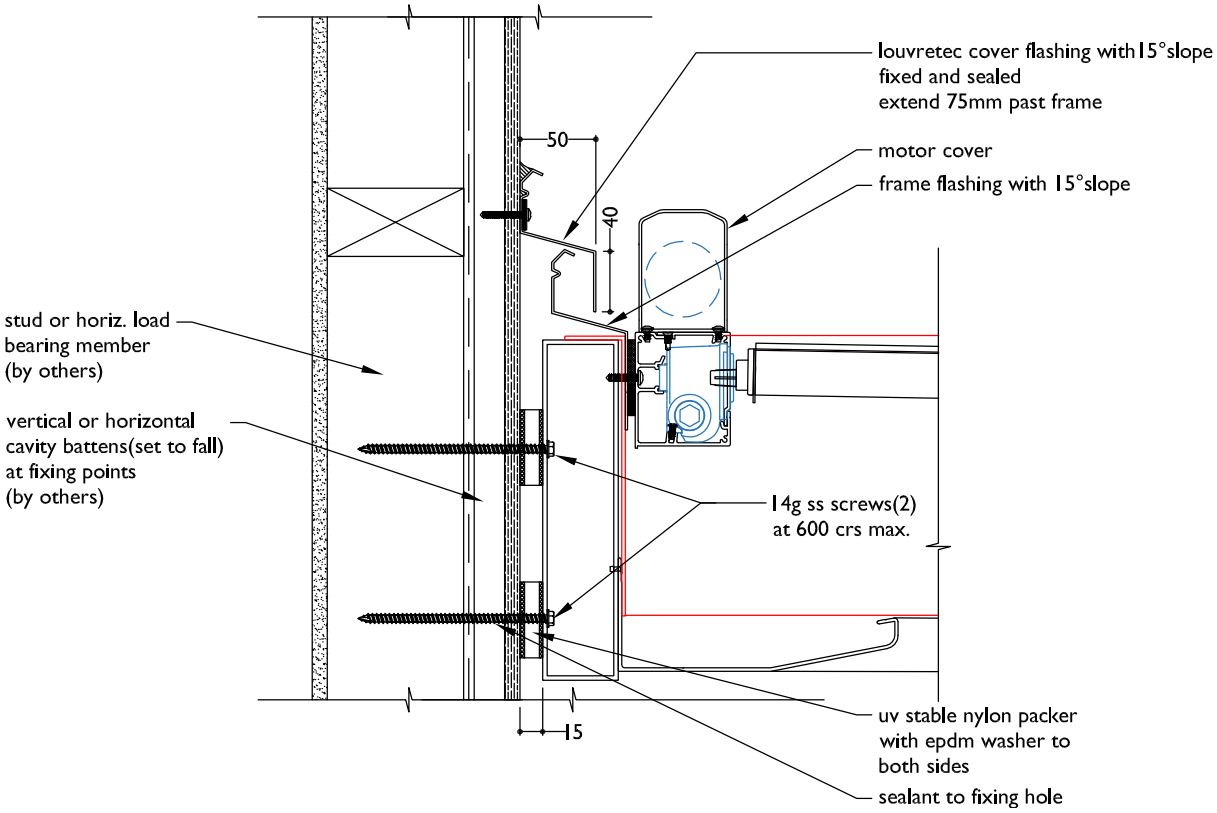
FILE: STRUCTURAL 4.24 DATE MODIFIED: 01/10/2024 SCALE:

TYPICAL DETAIL : OPTION 3B. FIXED DIRECTLY TO BUILDING



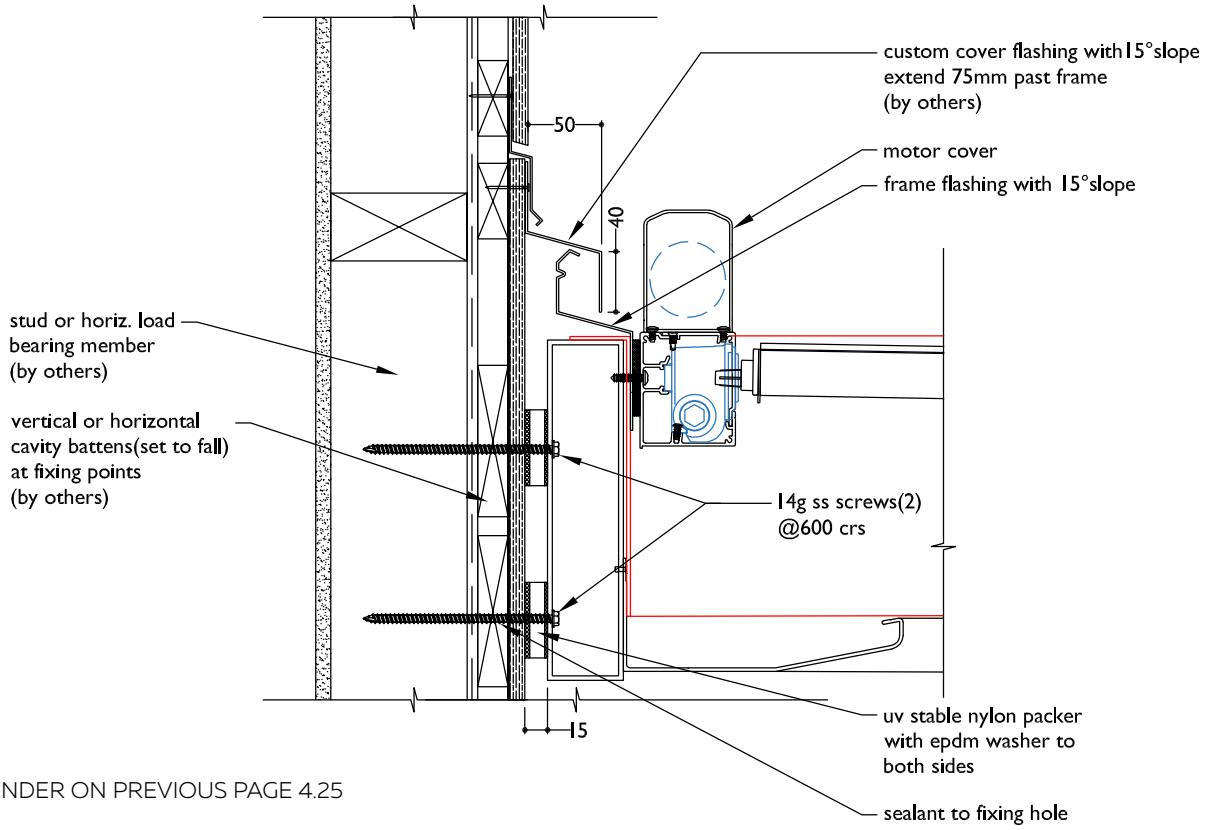
STRUCTURAL FRAME FIXED TO SHEET ON TIMBER FRAME.

SECTION **OPTION 3B SHEET ON TIMBER FRAME. FIXED COVER FLASHING**



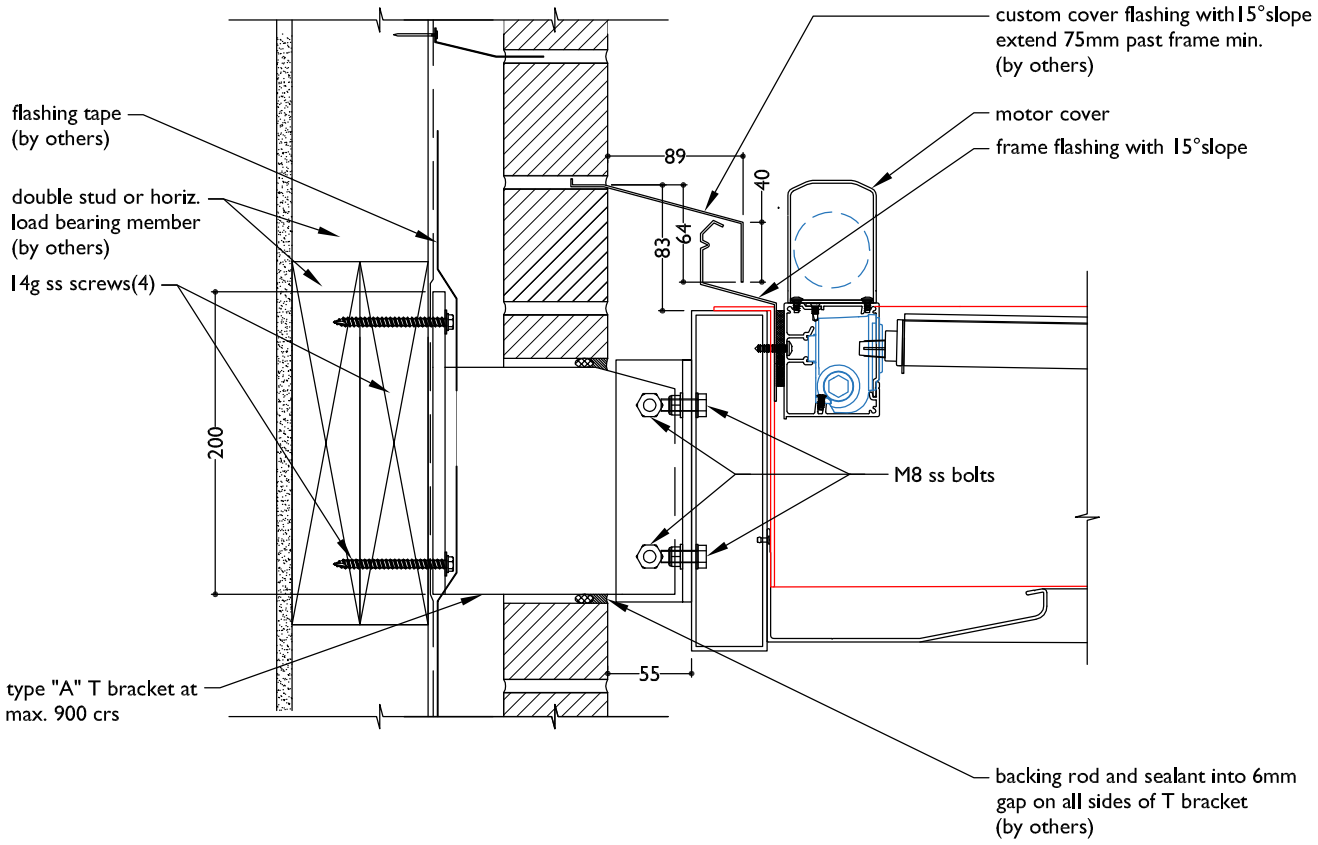
TYPICAL DETAIL : OPENING ROOFS STRUCTURAL FRAME CONNECTING TO THE BUILDING

SECTION **OPTION 3B SHEET ON TIMBER FRAME**



REFER RENDER ON PREVIOUS PAGE 4.25

SECTION **BRICK ON TIMBER FRAME**



FILE: STRUCTURAL 4.26 DATE MODIFIED: 01/10/2024 SCALE:

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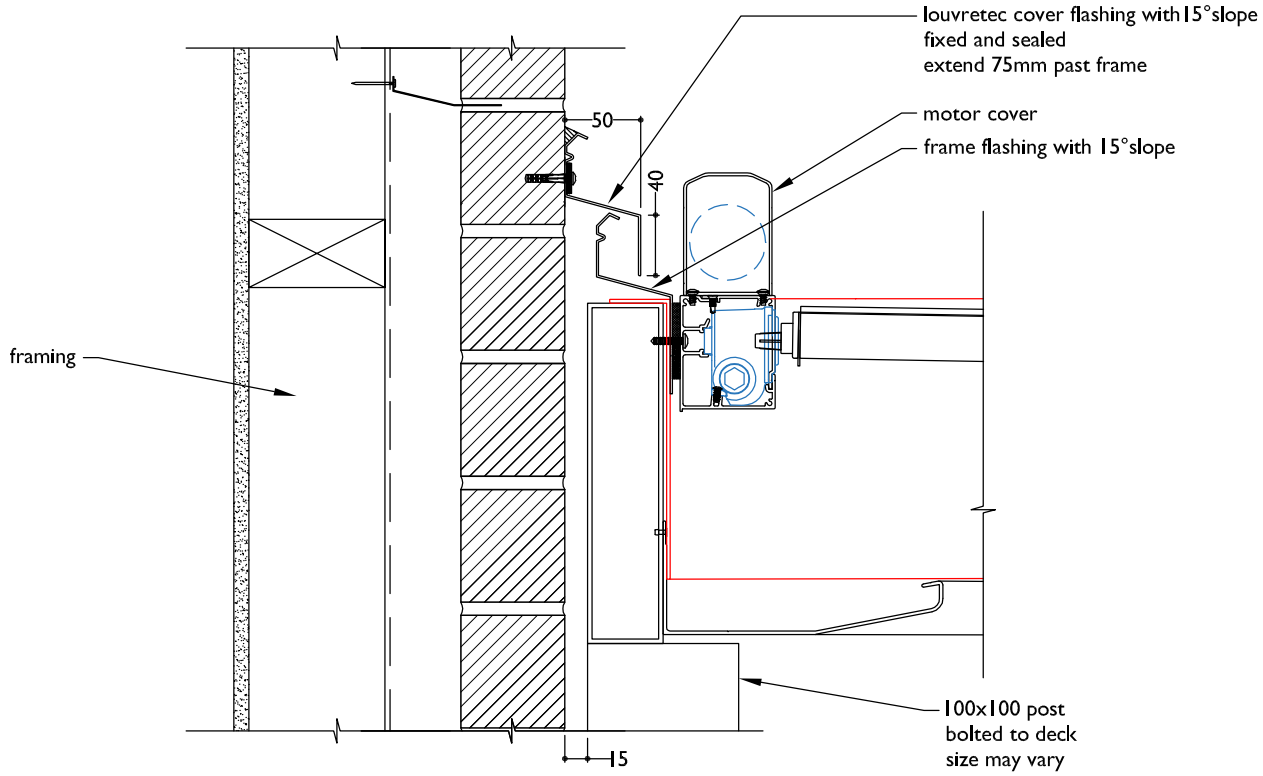
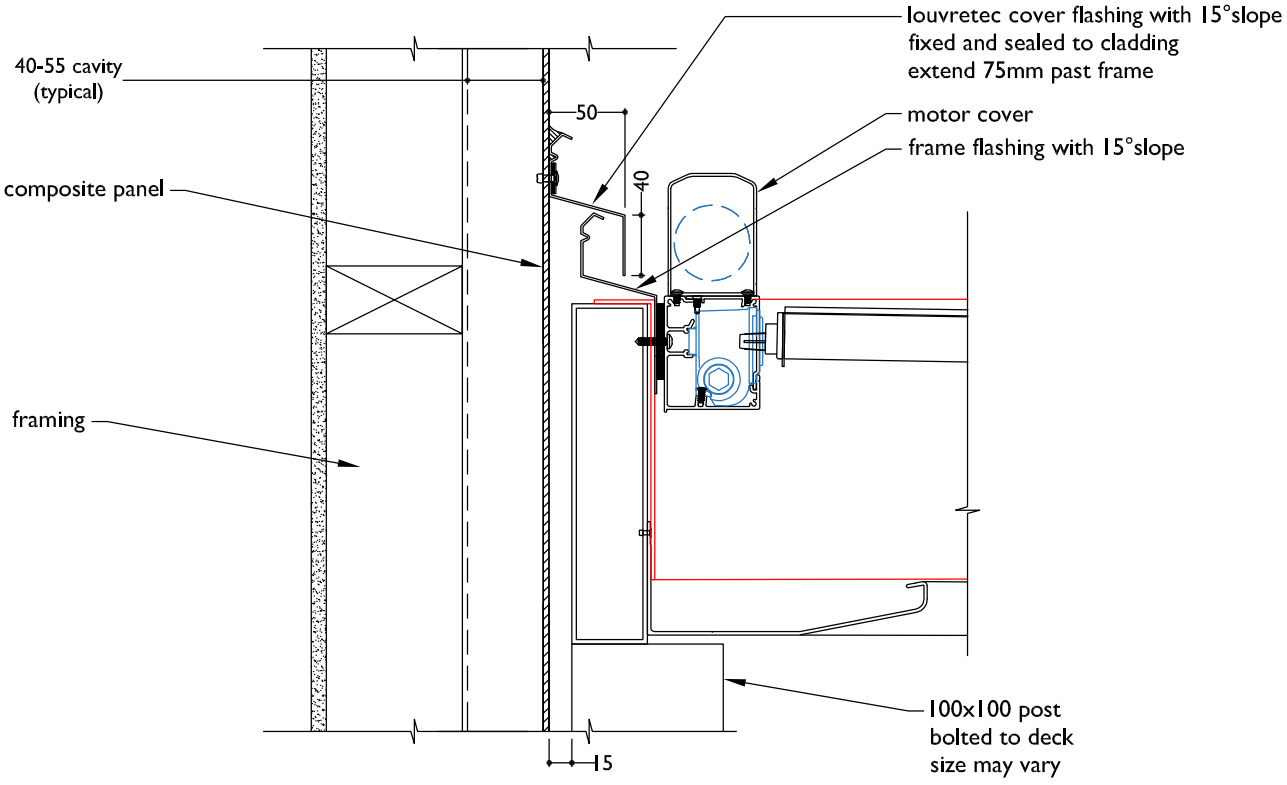
SECTION **BRICK ON TIMBER FRAME FREE STANDING**
FIXED COVER FLASHING

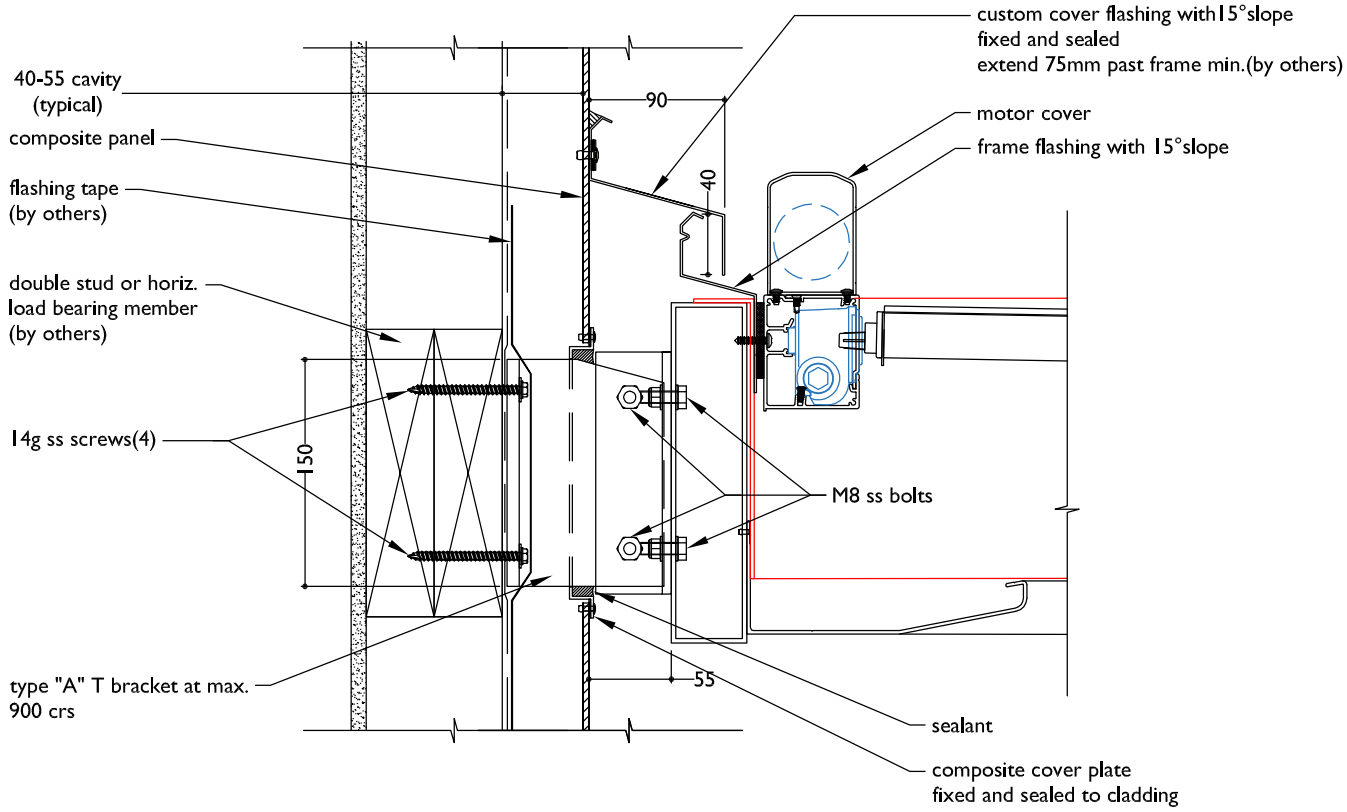


SECTION **COMPOSITE PANEL ON TIMBER FRAME FREE STANDING**
FIXED COVER FLASHING

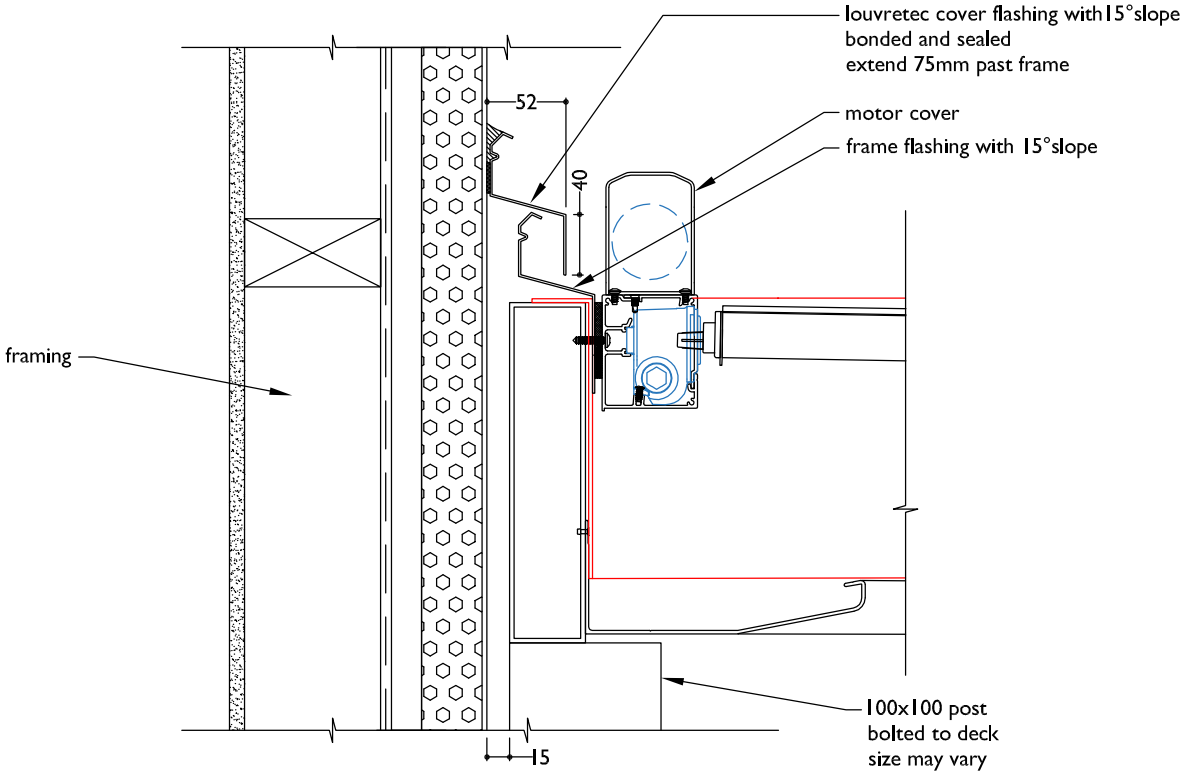


TYPICAL DETAIL : OPENING ROOFS STRUCTURAL FRAME CONNECTING TO THE BUILDING

SECTION **COMPOSITE PANEL ON TIMBER FRAME**



SECTION **BRICK ON TIMBER FRAME - FREE STANDING BONDED COVER FLASHING**



FILE: STRUCTURAL 4.28 DATE MODIFIED: 01/10/2024 SCALE:

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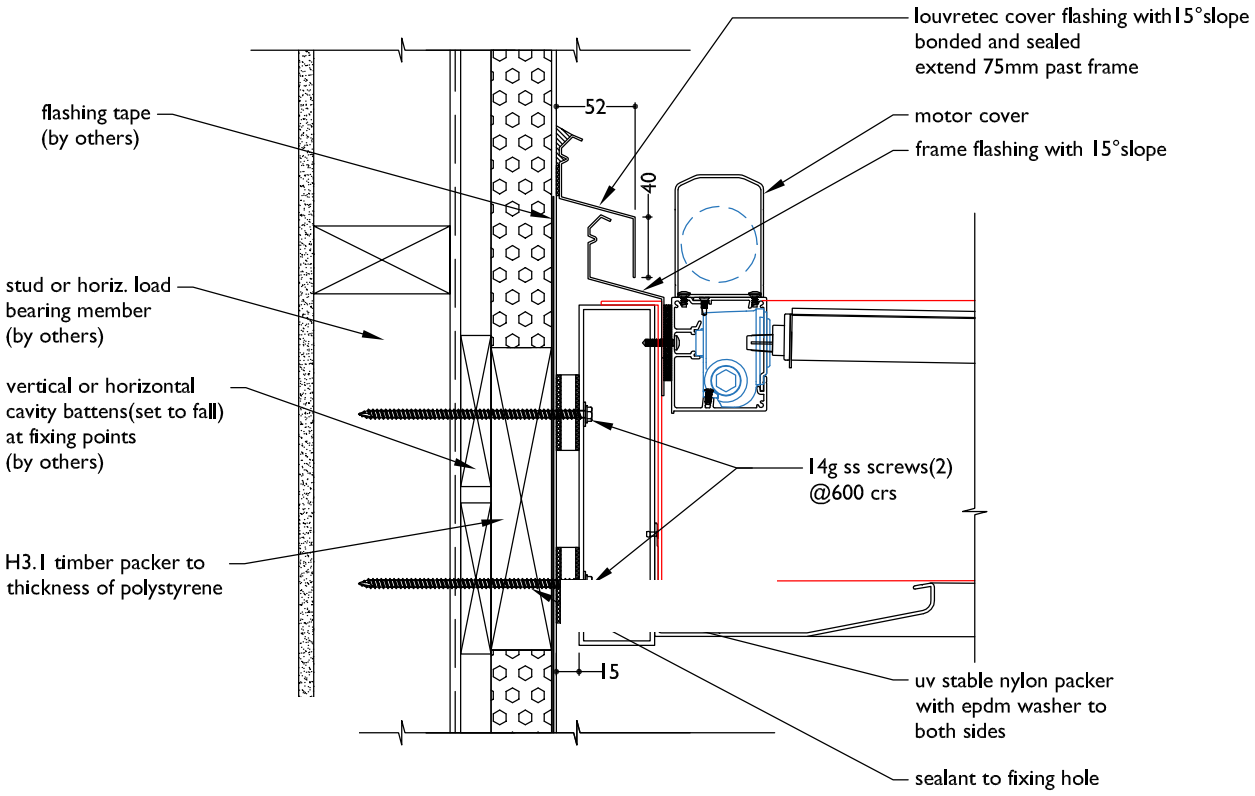
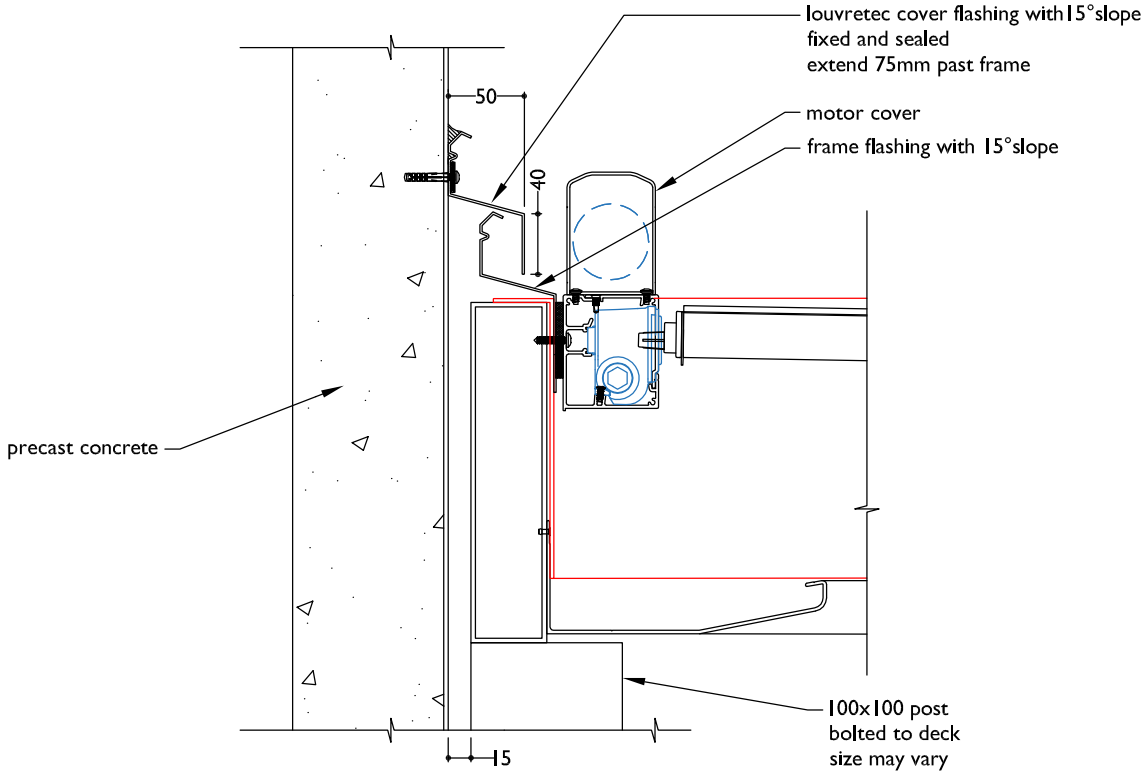
SECTION **POLYSTYRENE ON TIMBER FRAME - FIXED TO BUILDING**
BONDED COVER FLASHING

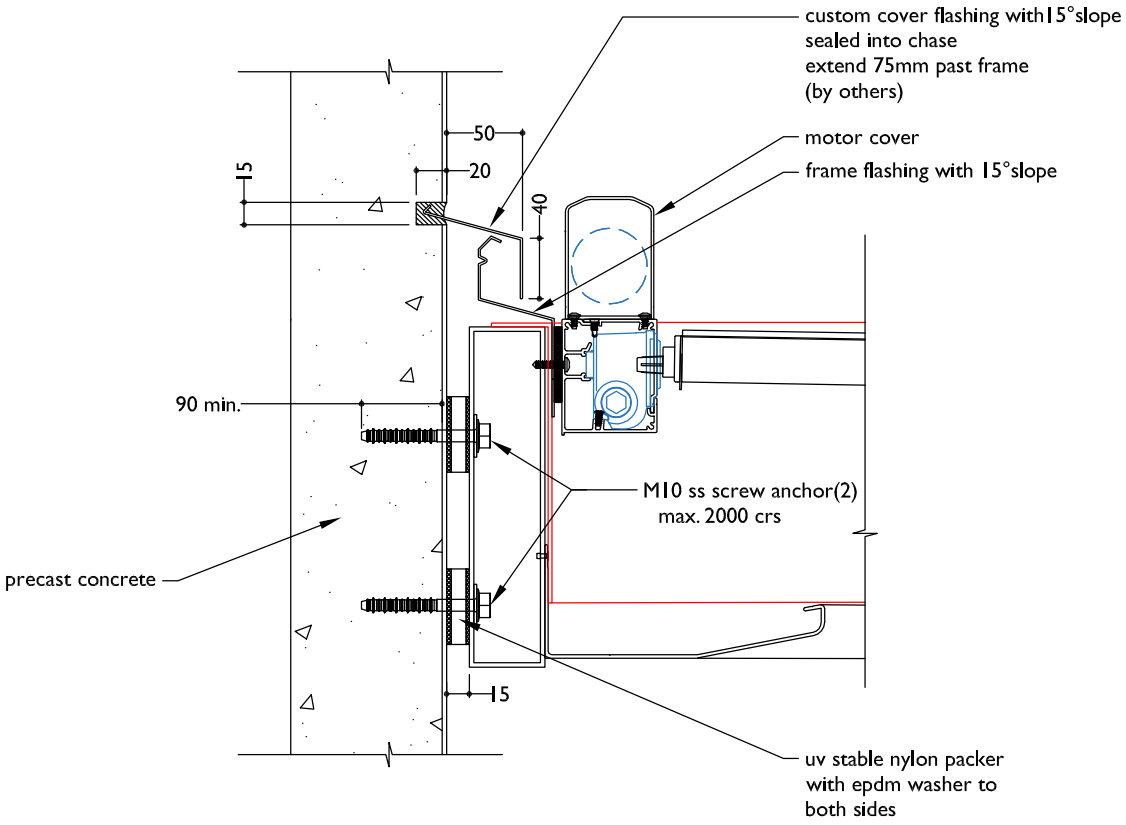


SECTION **CONCRETE - FREE STANDING**
FIXED COVER FLASHING

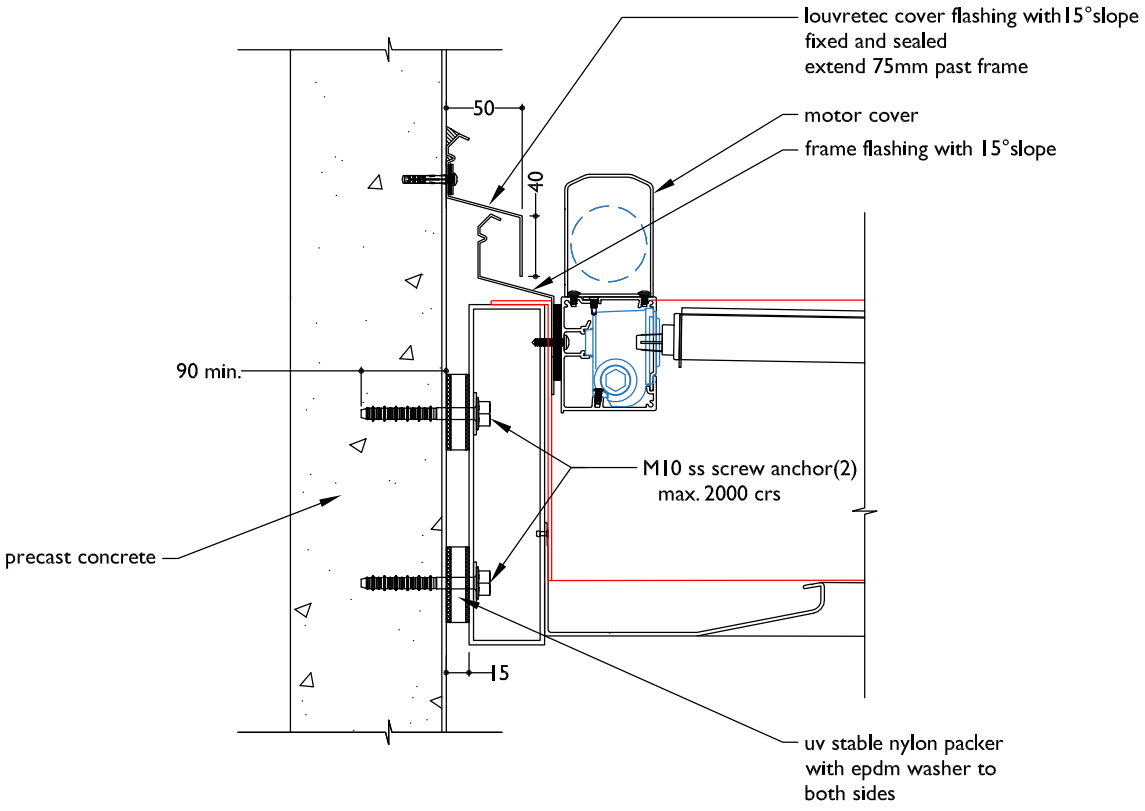


TYPICAL DETAIL : OPENING ROOFS STRUCTURAL FRAME CONNECTING TO THE BUILDING

SECTION **CONCRETE WITH CHASE**



SECTION **CONCRETE NO CHASE. FIXED COVER FLASHING**



FILE: STRUCTURAL 4.30 DATE MODIFIED: 01/10/2024 SCALE:

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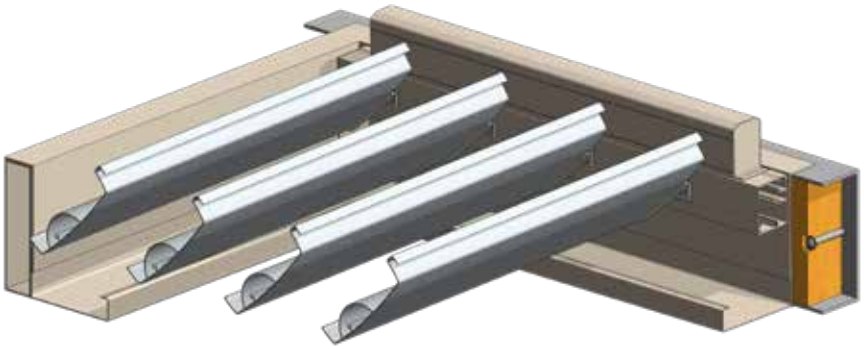
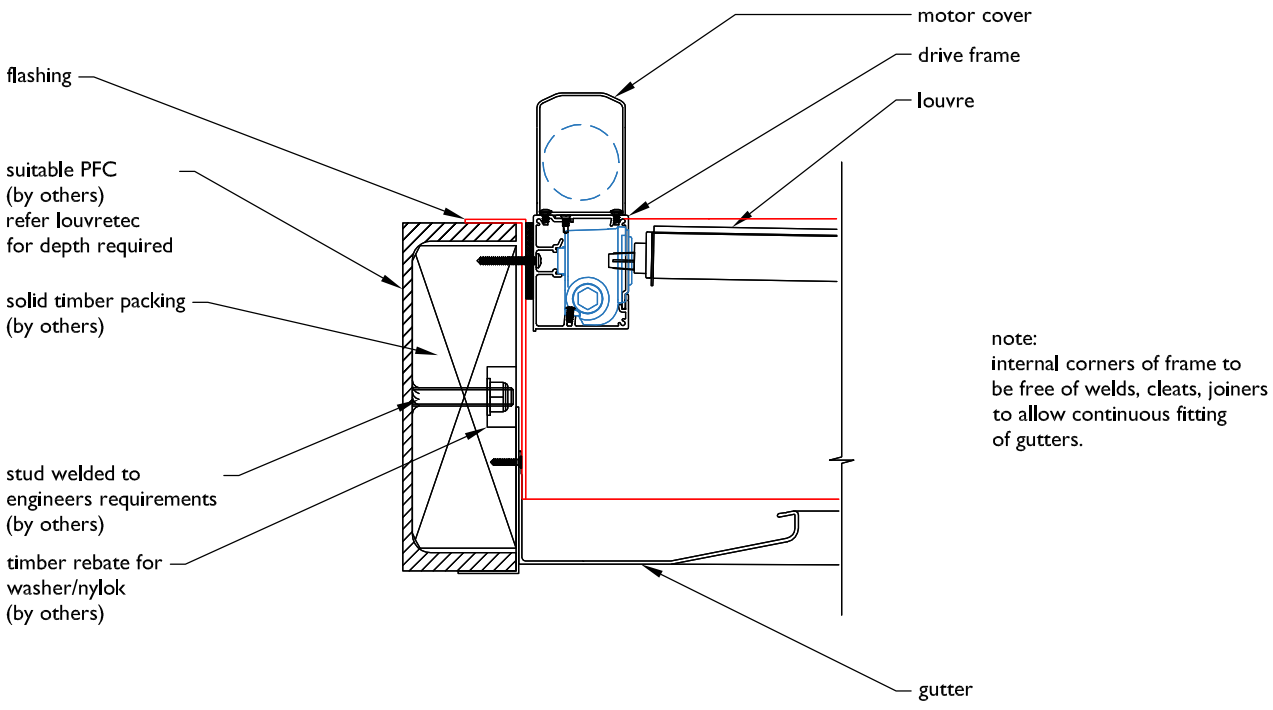
TYPICAL DETAIL: FIXING OPENING ROOF FIXING TO P.F.C



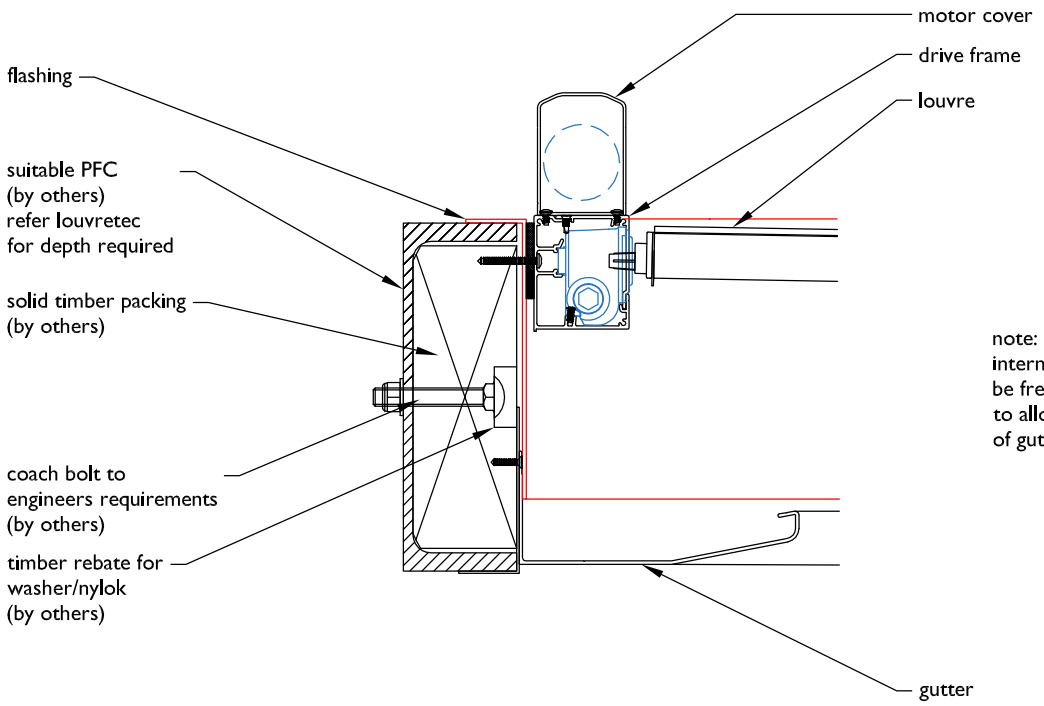
INSIDE FACE MUST BE FLUSH TO FIT THE OPENING ROOF GUTTER AND PIVOT SYSTEM ONTO.

SECTION **PFC WITH WELDED STUDS FOR TIMBER INFILL**



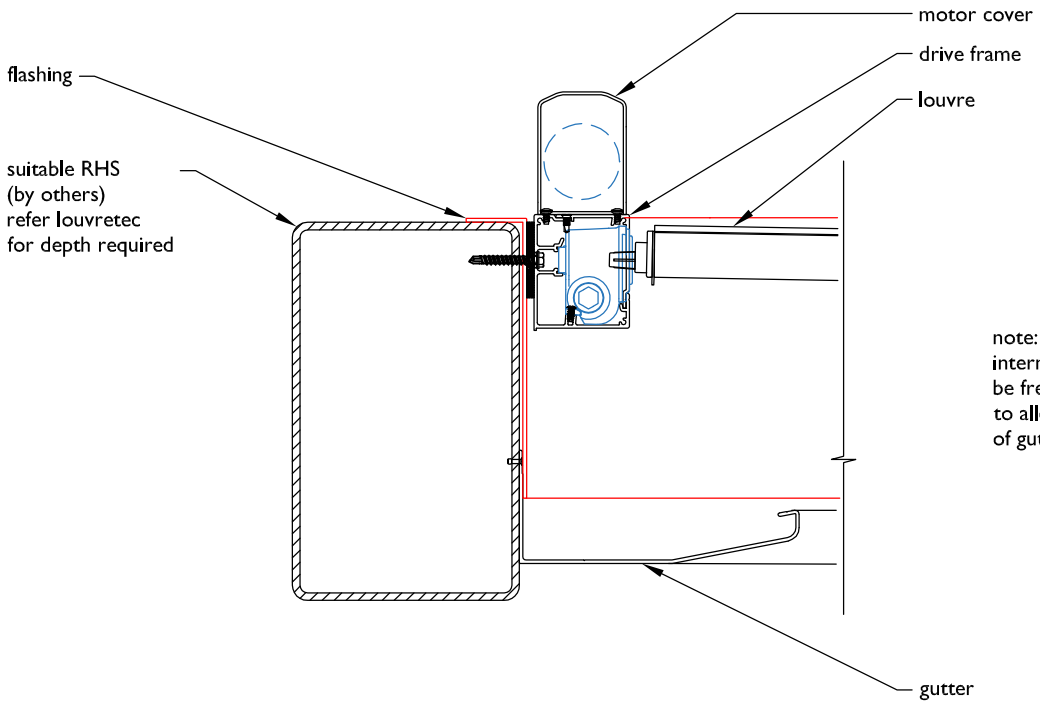
TYPICAL DETAIL : OPENING ROOFS STRUCTURAL FRAME CONNECTING TO THE BUILDING

SECTION **PFC WITH BOLTED TIMBER INFILL**



note:
internal corners of frame to be free of welds, cleats, joiners to allow continuous fitting of gutters.

SECTION **STEEL RHS**



note:
internal corners of frame to be free of welds, cleats, joiners to allow continuous fitting of gutters.

FILE: STRUCTURAL 4.32 DATE MODIFIED: 01/10/2024 SCALE:

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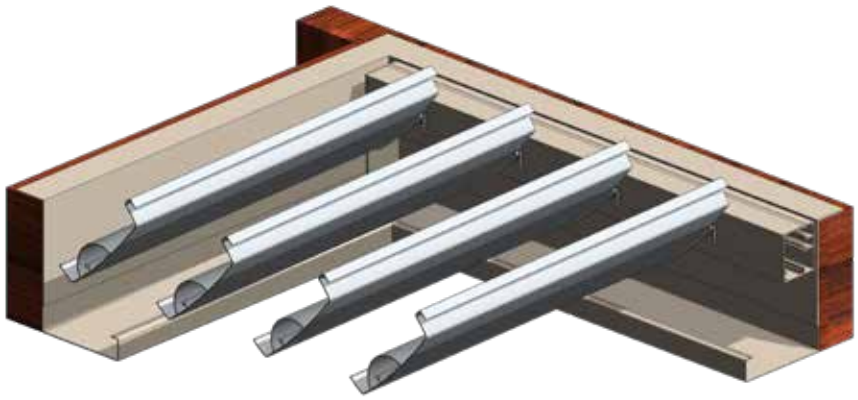
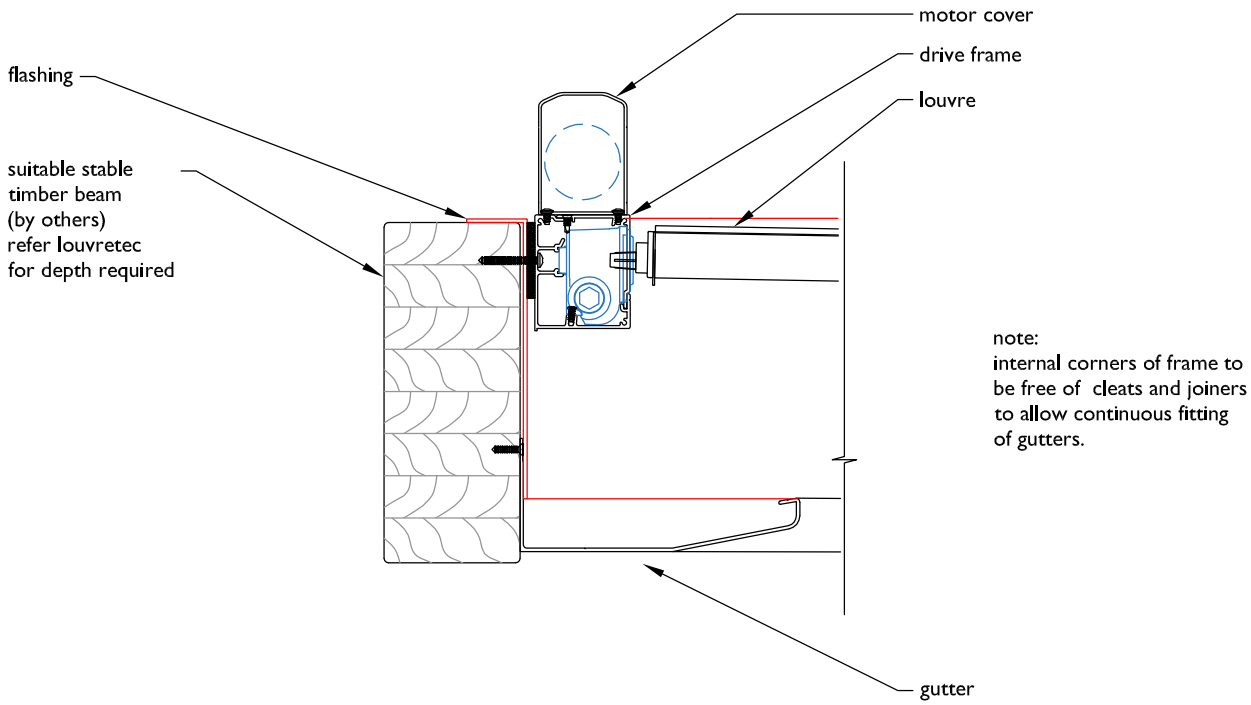
TYPICAL DETAIL: OPENING ROOF FIXING TO TIMBER BEAM



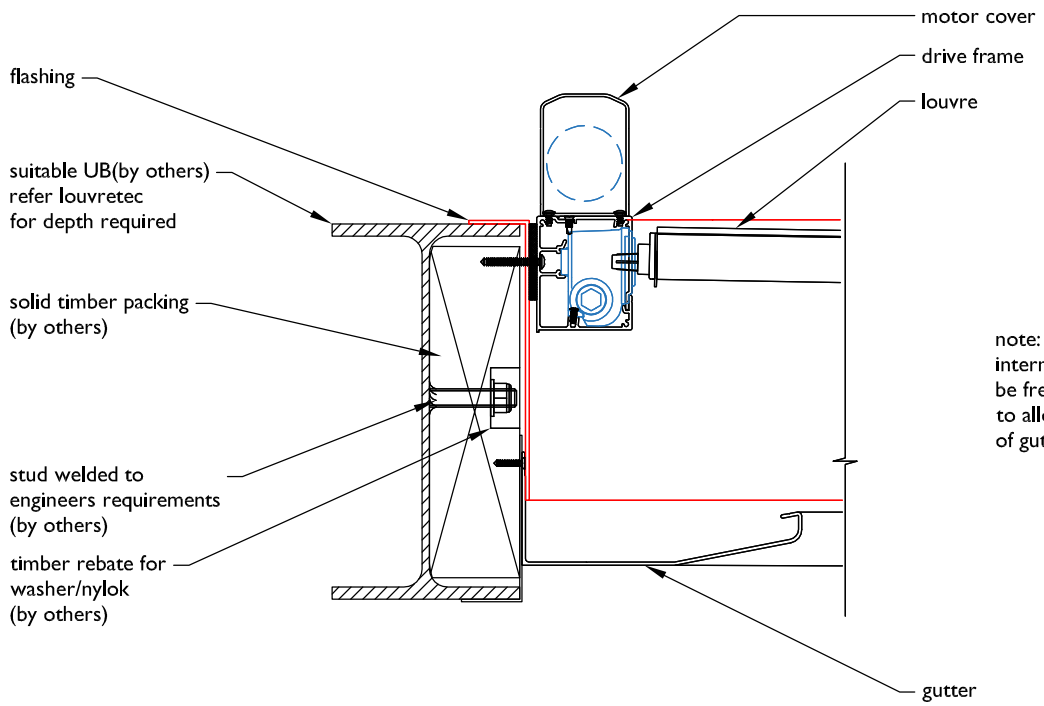
TO REDUCE TWISTING, WARPING OR MOVEMENT, GLULAM LAMINATED BEAMS (OR SIMILAR) ARE RECOMMENDED.

SECTION **TIMBER BEAM**



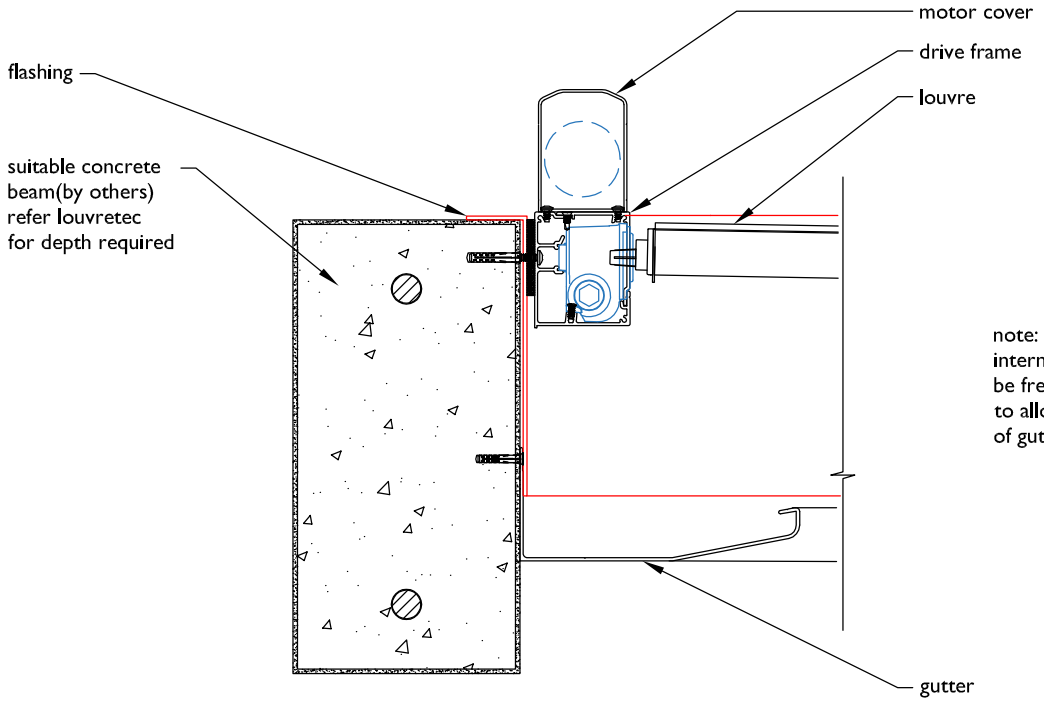
TYPICAL DETAIL : OPENING ROOFS STRUCTURAL FRAME CONNECTING TO THE BUILDING

SECTION **STEEL UNIVERSAL BEAM**



note:
internal corners of frame to be free of welds, cleats, joiners to allow continuous fitting of gutters.

SECTION **CONCRETE BEAM**



note:
internal corners of frame to be free of cleats and joiners to allow continuous fitting of gutters.

FILE: STRUCTURAL 4.34 DATE MODIFIED: 01/10/2024 SCALE:

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NOTES