EVEREST FACADE

Introduction

The Everest Commercial Facade System provides a versatile and durable façade which is suitable for an extensive range of commercial and industrial buildings types. Everest Façade is a highly adaptable system which can be used to conceal most common structural materials such as masonry, precast concrete or steel and timber stud framing. Everest Façade is 9mm thick compressed, autoclaved, cellulose fibre reinforced cement sheets, purpose made for use on building facades. **Endura** is a square edge sheet with a smooth flat surface suitable for painting. The panels are supported by vertical Top Hats and fixed with exposed or concealed screws. The panels may be arranged in a variety of patterns, and surface relief is produced by expressed joint finishing.

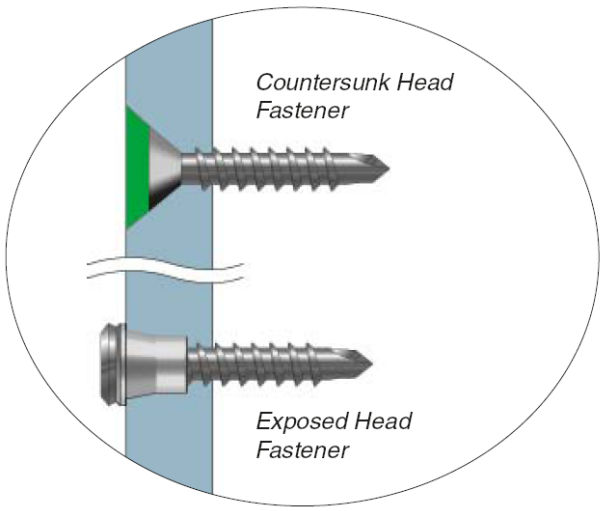
Applications

The Everest Façade system has been designed to be used for external cladding buildings such as:
• Supermarkets and Shopping centres.
• Office Buildings.
• Most Commercial Buildings.
• Residential Homes and Apartment Buildings.
• Or any other application not excluded by the Design Considerations section of this brochure.

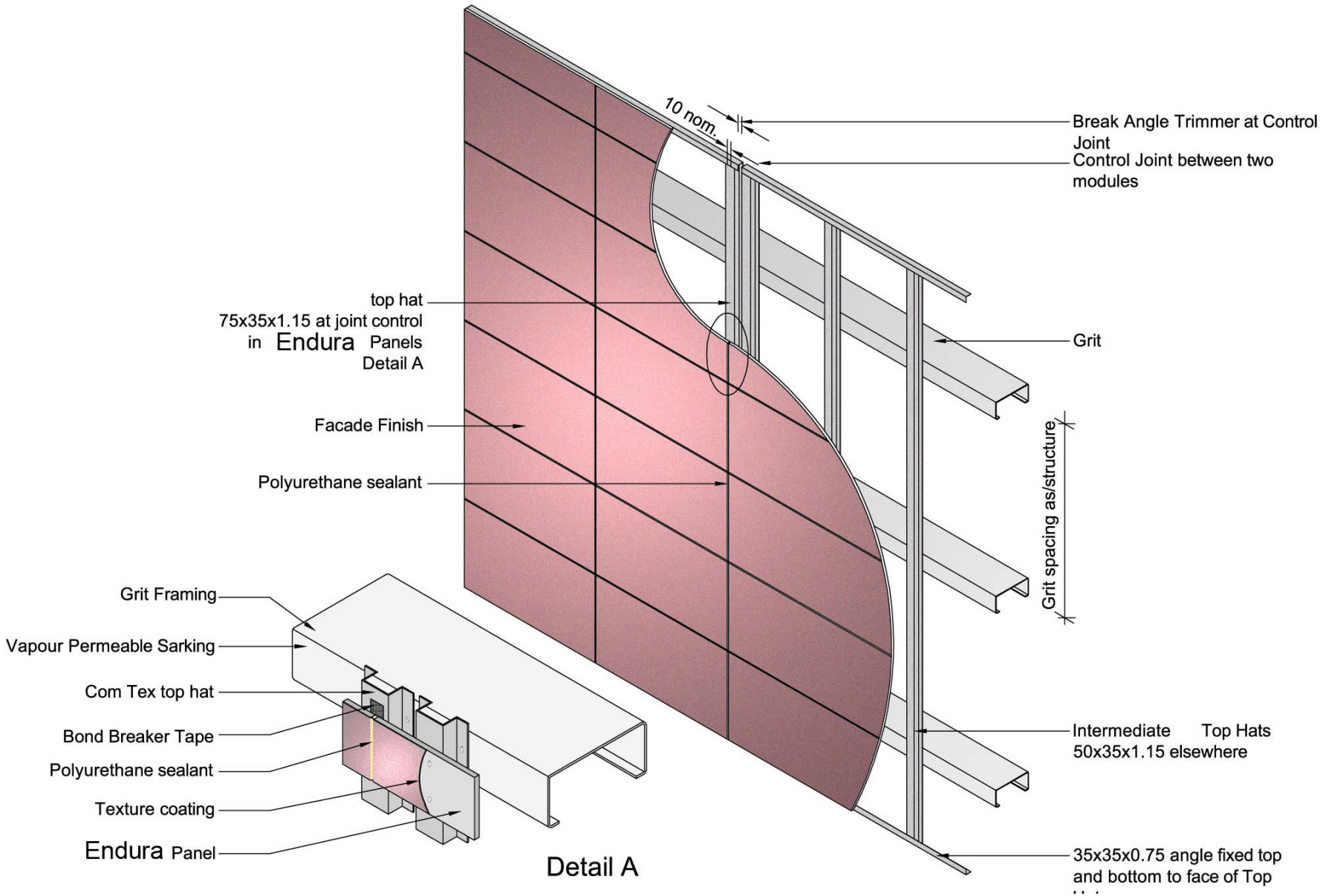
It however remains the responsibility of the building designer to verify the Everest Façade system is suitable for the particular requirements of any given project. The Everest Façade System has excellent resistance to water penetration and high wind loads, and is suitable for exposed applications.
The Everest Façade System can also be used as an exterior ceiling.

Everest Facade Advantages

DESIGN FEATURES.
• Flat, smooth finish.
• Expressed joint appearance.
• Countersunk or Exposed Head fastener options.
• Tested weather resistance.
• Designed for extreme wind pressures.
• Lightweight, low maintenance facade system.
• Readily accepts many forms of decorative finish.
• Suitable for curved applications.



CONSTRUCTION FEATURES.
• Highly durable gaskets.
• Dimensionally accurate panels.
• Set-out tolerance for fixing framing.
• High prefabrication opportunity.
• Panels easily replaced.
• High performance Top Hat 1.15:
– Suitable for Exposed Head Screws
– Suitable for Cyclonic Areas
– Wider fixing surface for increased fixing tolerance.



Everest Façade System

Components

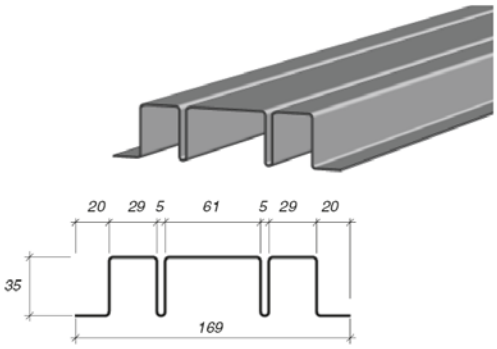
Endura PANEL

Endura Panel is a compressed fibre cement sheet which is purpose manufactured for use in building facades. Endura Panel is factory sealed on both faces and all edges. The *white face* is ready to accept a wide range of finishes. Endura Panel is 9mm thick, has a mass of 17kg/m2, and is available in the following panel sizes.

Width (mm)	Length (mm)		
	1800	2400	3000
900	Y	Y	Y
1200	Y	Y	Y

Top Hat

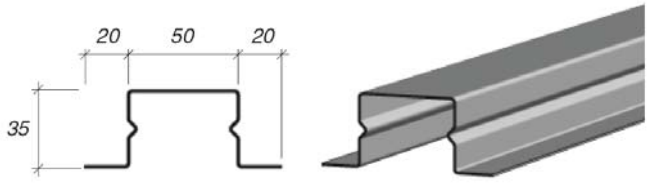
Top Hat 1.15 is a purpose designed rolled steel section for supporting the vertical edges of the Endura Panel. The unique profile also acts to accommodate movement of the sheets at the vertical joints. It is designed to be used in conjunction with the Vertical Gasket. Top Hat 1.15 is manufactured from galvanised (Z275) BHP steel of 1.15mm base metal thickness, and has a mass of 3.25kg/m. (This component replaces the 0.75mm BMT version).



Length = 3600mm

Intermediate Top Hat

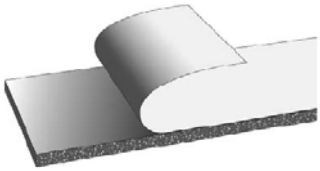
Intermediate Top Hat is used to support the Endura Panel at locations other than vertical joints. Intermediate Top Hat is a Rondo rolled steel section Nº255 which is manufactured from galvanised (Z275) BHP steel of 1.15mm base metal thickness, and has a mass of 1.38kg/m.



Length = 3600mm, 7200mm

Vertical Gasket

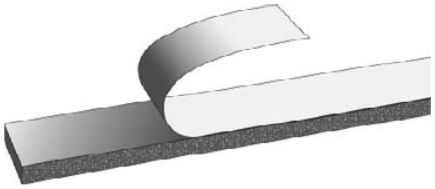
Vertical gasket is made from EPDM closed cell foam which has high UV resistance.The gasket has adhesive on one side (with a release paper), and is adhered to the Top Hat to prevent moisture entry at vertical joints.



Size = 3.2mm x 48mm x 25m roll

Horizontal Gasket

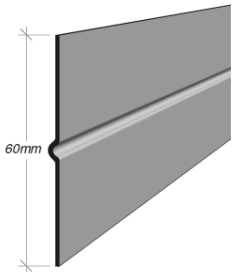
Horizontal gasket is made from closed cell PVC Nitrile foam which has a high resistance to abrasion and maintains its properties at high temperatures. The gasket has adhesive on one side (with a release paper), and is adhered to the Backing Strip to prevent moisture entry at horizontal joints.



Size = 3.0mm x 18mm x 9m roll

Backing Strip

Backing Strip is a rolled steel section designed to support the gasket and/or sealant behind the horizontal expressed joints. Backing Strip is manufactured from high tensile BHP Colorbond steel, and is black in colour.

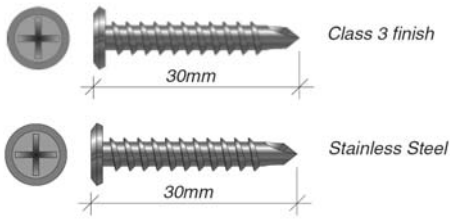


Length = 1194mm, 2394mm, 2994mm

Screws

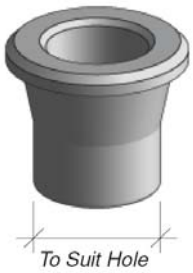
Countersunk Head Screw.
The countersunk head allows concealed fixing, and the buttress thread is designed to provide maximum holding power in light gauge steel. It has a Class 3 finish and is gray in colour.

• Exposed Head Screw.
The Exposed Head Screw has a buttress thread which is designed to provide maximum holding power in light gauge steel.It is available in Class 3 finish and Stainless Steel (grade 410).



Weather Seal

Weather Seal is a grey, UV stabilized nylon washer. It is used with Exposed Head Screws to provide an interference fit, delivering high weather resistance and acting to lock the screw into position.



Countersinking Tool

Flashings and capping

Sarking
A range of sarkings are available to suit various environments.

Backing Strip Adhesive
An adhesive is used for fixing Backing Strip to Endura panel. The recommended product is Sikaflex®-11FC.This product is not recommended for filling expressed joints.

Joint Sealant
Joint sealant must be used to seal Everest Façade joints for high wind loads.
Sikaflex® PRO, 310ml tube (colour grey)

Epoxy
Epoxy is used to conceal the countersunk fastener heads, to prevent moisture penetration, and to provide a flat surface for decorative coating. Epoxy products must be installed to the manufacturer's recommendations.
Recommended products are:
• Megapoxy P1.
• Hilti CA125*.
• Hilti CA273* (should be used when ambient temperature is less than 15°C at time of installation).

Bond Breaker Tape
Bond-breaker tape is used behind sealant at horizontal joints when the Design Wind Pressure exceeds 4.0kPa.
Recommended product is: *Tesa 7492* (3mm thickness x 10mm width).*

Backing Rod
Backing rod is used to enable correct filling of joints with sealant. It is recommended that backing rod be of open cell type to enable sealant to cure from behind. The diameter of backing rod must be appropriate for the width of the gap being filled.

Design Considerations

This guide represents good practice, though it is not intended as an exhaustive statement of all relevant information. It remains the responsibility of the building designer to verify that the Everest Facade system is suitable for the particular requirements of any given project.

HIGH WIND LOADS.
In areas where the design wind pressures exceed 4.0kPa, additional sealing is required to minimise water ingress.

SARKING.
The Everest facade is designed as a rain screen, and if exposed to weather, appropriately designed sarking must be used between the top hats and the framing. If the wall is not exposed directly to the weather and will not get wet during storms, sarking is only required for insulation and condensation control. Sarking must be designed and installed in accordance with AS/NZS 4200 Part 1 : Materials, and Part 2 : Installation.
Condensation is a complex problem, and can occur under a variety of conditions, not just cold conditions. Literature on this subject is available from CSIRO/BRANZ/ASHRAE and must be consulted when building in areas where condensation is likely to occur. In these cases, the appropriate use of a sarking as a vapour barrier or as thermal insulation, or both, can be effective in controlling condensation.

INSULATION.
It is recommended that insulation materials be installed to enhance thermal insulation properties and occupant comfort. Insulation also improves the acoustic performance of the wall against outside noise. The level of insulation provided in a wall is determined by its R-value.The higher the R-value the greater the insulation provided.

PANEL FINISHES.
Endura is factory sealed on both faces and all edges. Sealing in this manner increases the durability and stability of the panels. The exterior surface of the Endura must be coated with an appropriate finish.
Where panels are cut on-site, sealing of the cut edges shall be with Dulux Acra-Prime 501/1.The minimum application rate shall be 1 litre per 10m2 (140grams/m2) which results in a dry film thickness of 70 microns.
Alternatively, coat with undiluted Bondcrete before applying the finish coating. The exterior face of Endura panel can be finished with any of a wide variety of coatings, provided they are compatible with the seal coat, screws and with the epoxy used to cover the countersunk heads. High build, exterior grade acrylic paint or aggregate finishes provide the best results.
A minimum dry film thickness of 250 microns is recommended to ensure adequate cover for the concealed fasteners. High gloss and low build finishes will require additional surface preparation to minimise fastener showthrough.
In all cases the coating manufacturer's application instructions must be followed. The inside face of the Endura panel is finished clear and is not suitable for painting.
Before applying finishes in coastal areas (refer todefinition), all panels must be thoroughly washed with fresh water to remove any salt residue. Refer to coating manufacturer for additional requirements.

CONTROL JOINTS.
Control joints in the Everest Facade system are required to correspond to control joints in the supporting structure and anywhere that significant structural movement is expected. A horizontal control joint is required beneath slabs to accommodate any expected deflection.The magnitude of the deflection must be verified by the building designer.
Vertical control joints to allow for differential movement are required at the supports of fascia trusses and at the junction of structural elements of different stiffness, such as between concrete columns and stud frames.

DURABILITY.

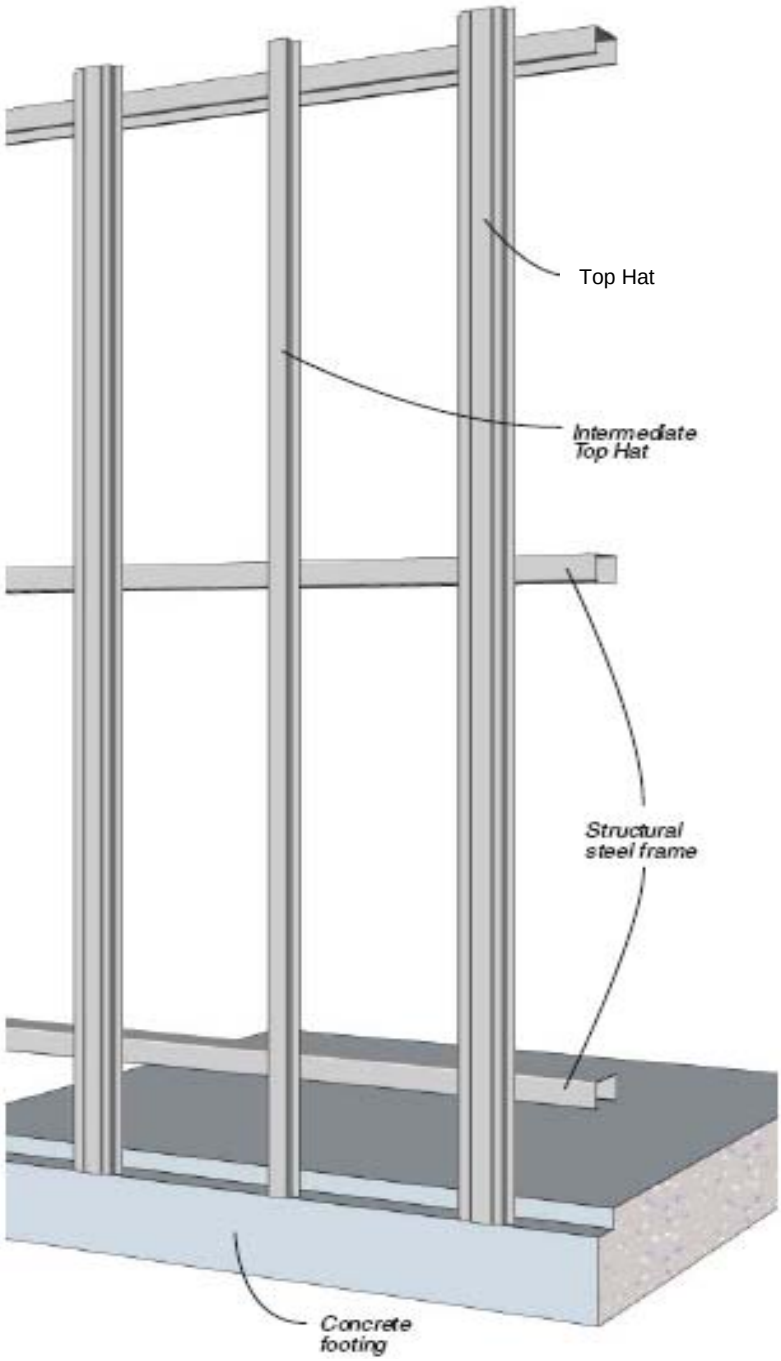
Endura panel has many properties which make it a very durable product, including:

• Immune to permanent water damage in both short and long-term exposure.
• Will not rot, burn or corrode, and is unaffected by termites, air, steam, salt and sunlight.
• Not adversely affected over a temperature range of 0ºC to 95ºC.
• Conforms with the Building Code of Australia (BCA) requirements for external wall applications.

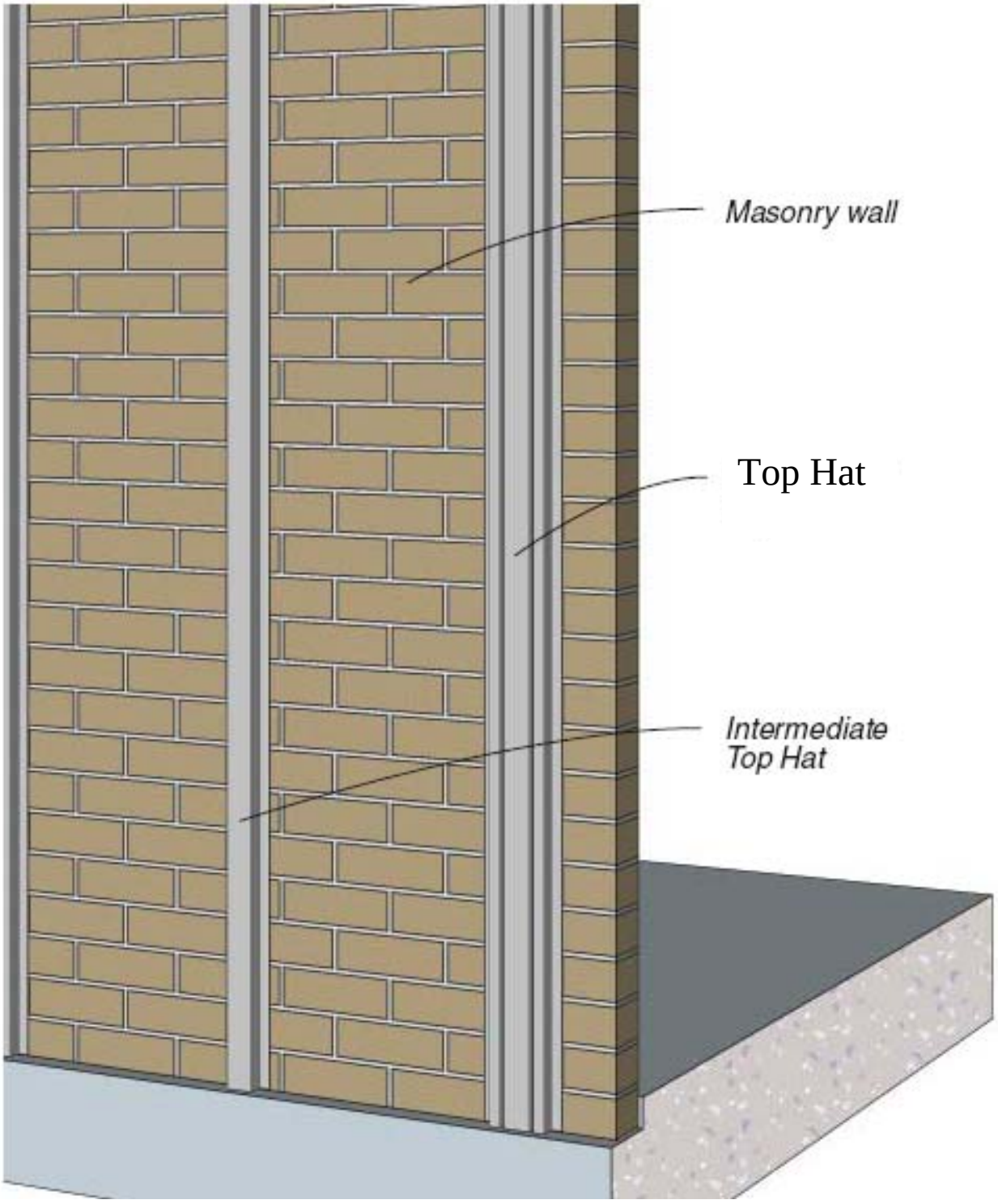
The durability of the Endura facade system can be enhanced by periodic inspection and maintenance. Inspections should include examination of the coatings, flashings and seals. Paint finishes must be maintained in accordance with the manufacturer's recommendations. Any cracked or damaged finish or seals which would allow water ingress, must be repaired immediately by recoating or resealing the effected area, or by removing the panel and replacing gaskets.Any damaged flashings, sheets or gaskets must be replaced as for new work. The durability of the system can also be increased by the additional treatment of steelwork, and by painting all exposed sealants to the sealant manufacturer's recommendations.

Construction Guidelines

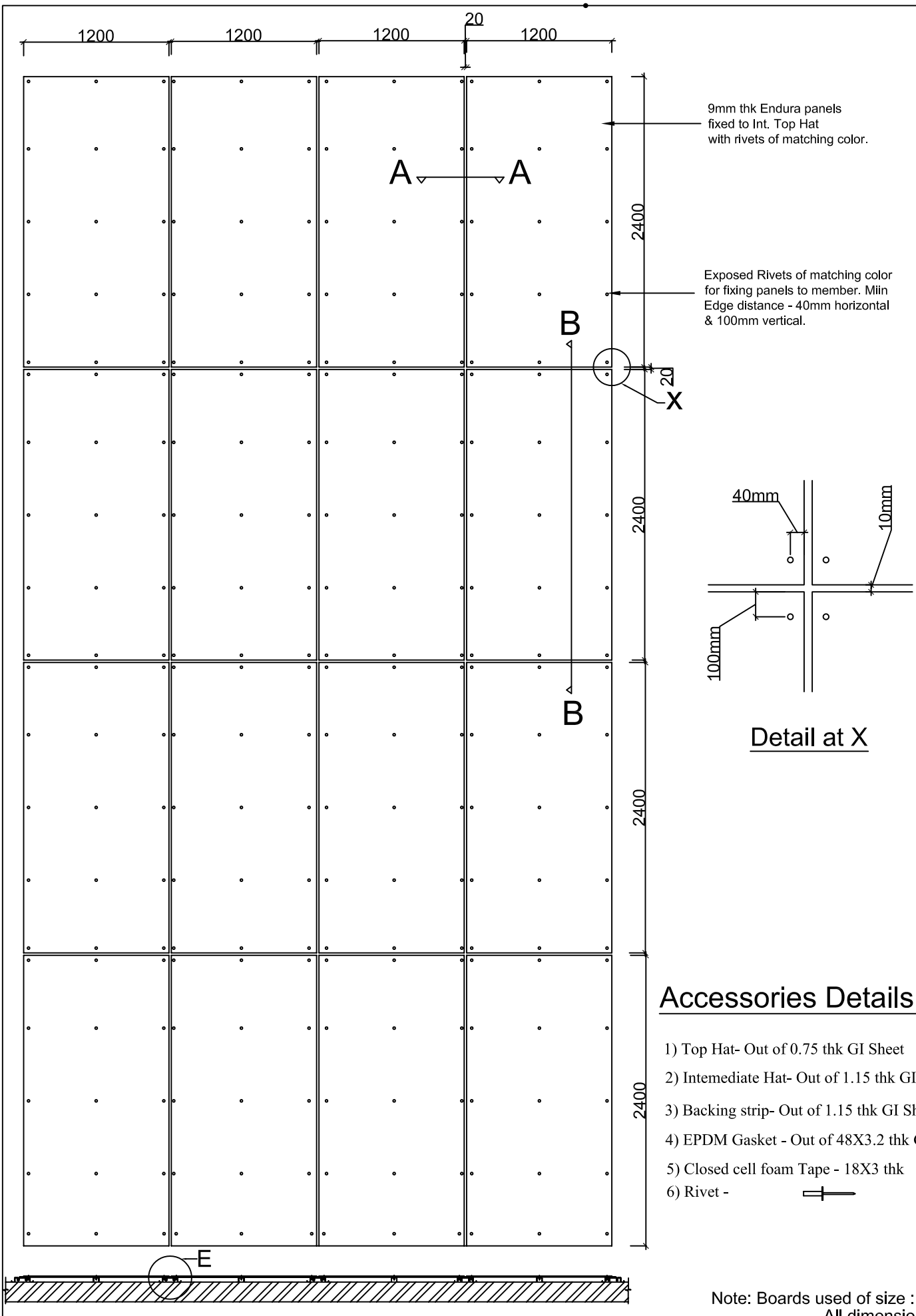
Top Hats and Intermediate Top Hats must be installed vertically, and supported by a primary structural system. Top hats can be fixed to horizontal structural steel framing which is commonly used for large walls and buildings.



Fixing to Structural Steel framing



Fixing to Masonry Wall



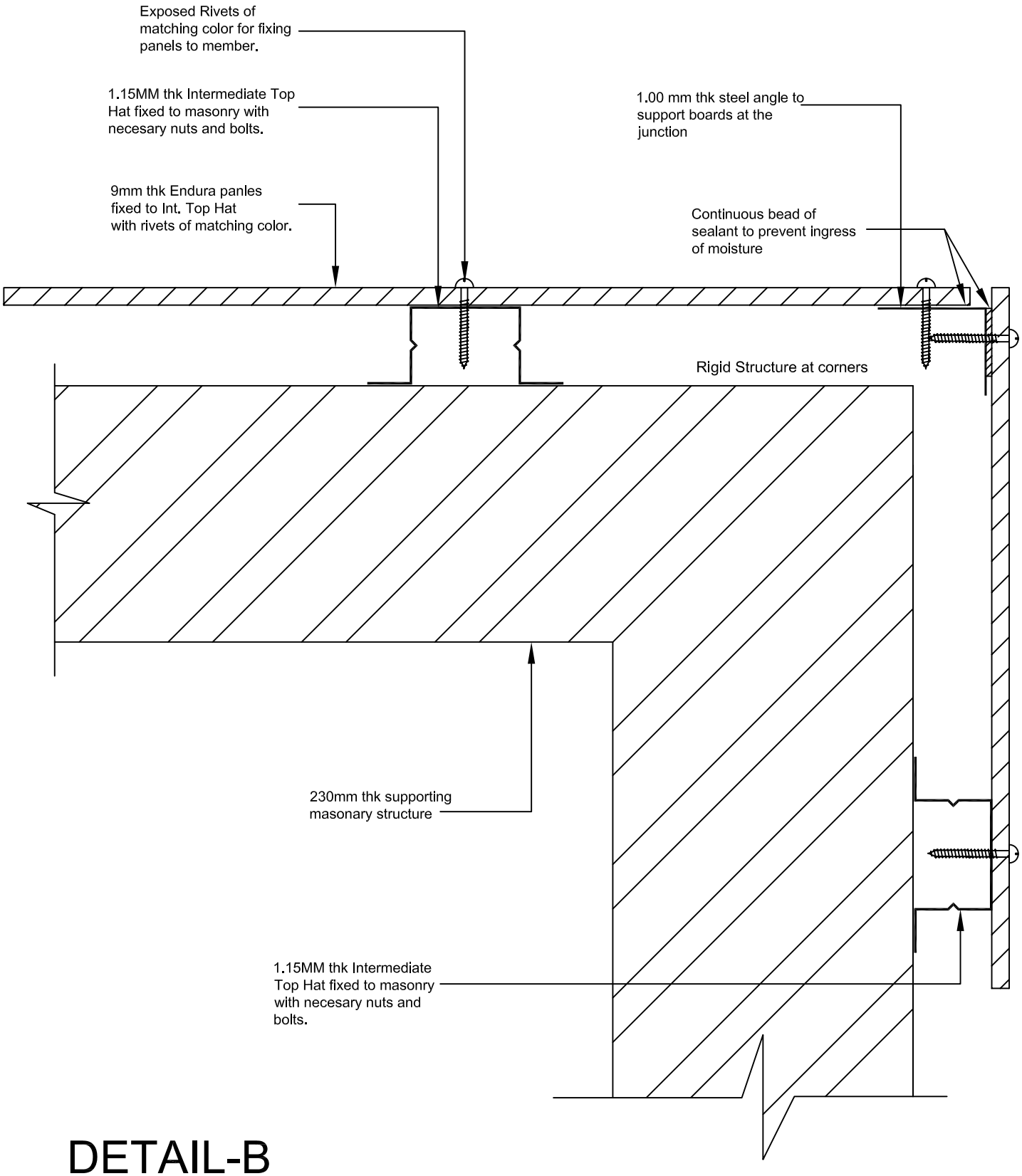
Detail at X

Accessories Details:

1) Top Hat- Out of 0.75 thk GI Sheet
2) Intemediate Hat- Out of 1.15 thk GI Sheet
3) Backing strip- Out of 1.15 thk GI Sheet
4) EPDM Gasket - Out of 48X3.2 thk GI Sheet
5) Closed cell foam Tape - 18X3 thk
6) Rivet -

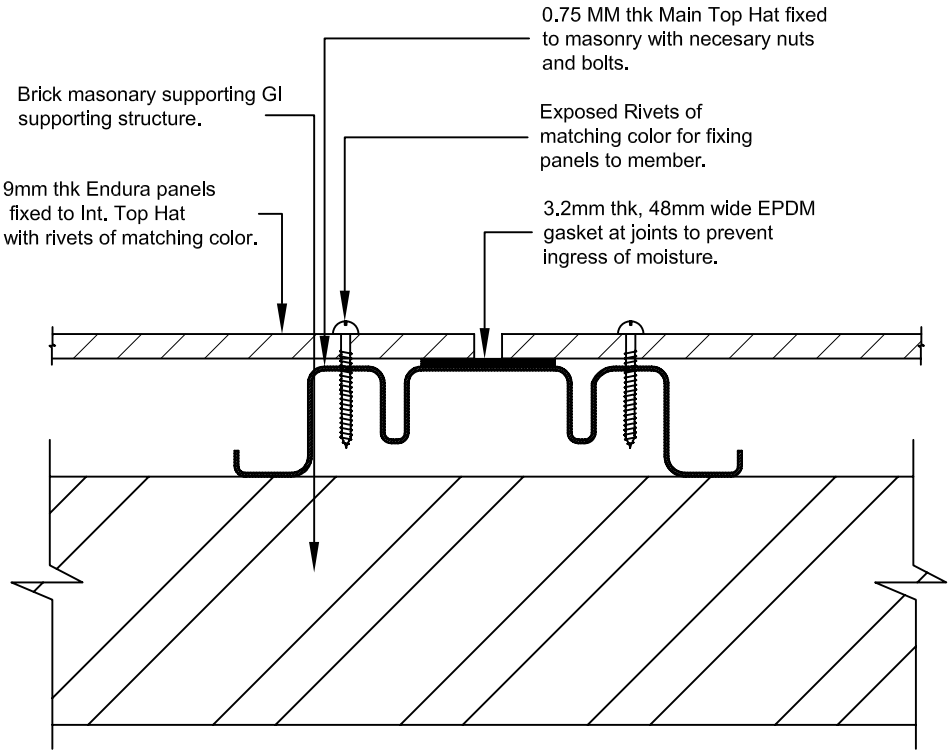
Note: Boards used of size : 2400 x 1200
All dimensions are in MM

PROJECT: FIBRE CEMENT FACADES	DATE: 20.06.06	EVEREST INDUSTRIES LTD. A-32, G-1 MOHAN COOPERATIVE INDUSTRIAL AREA NEW DELHI 110044
TITLE: TYPICAL ELEVATION	SCALE: NTS	

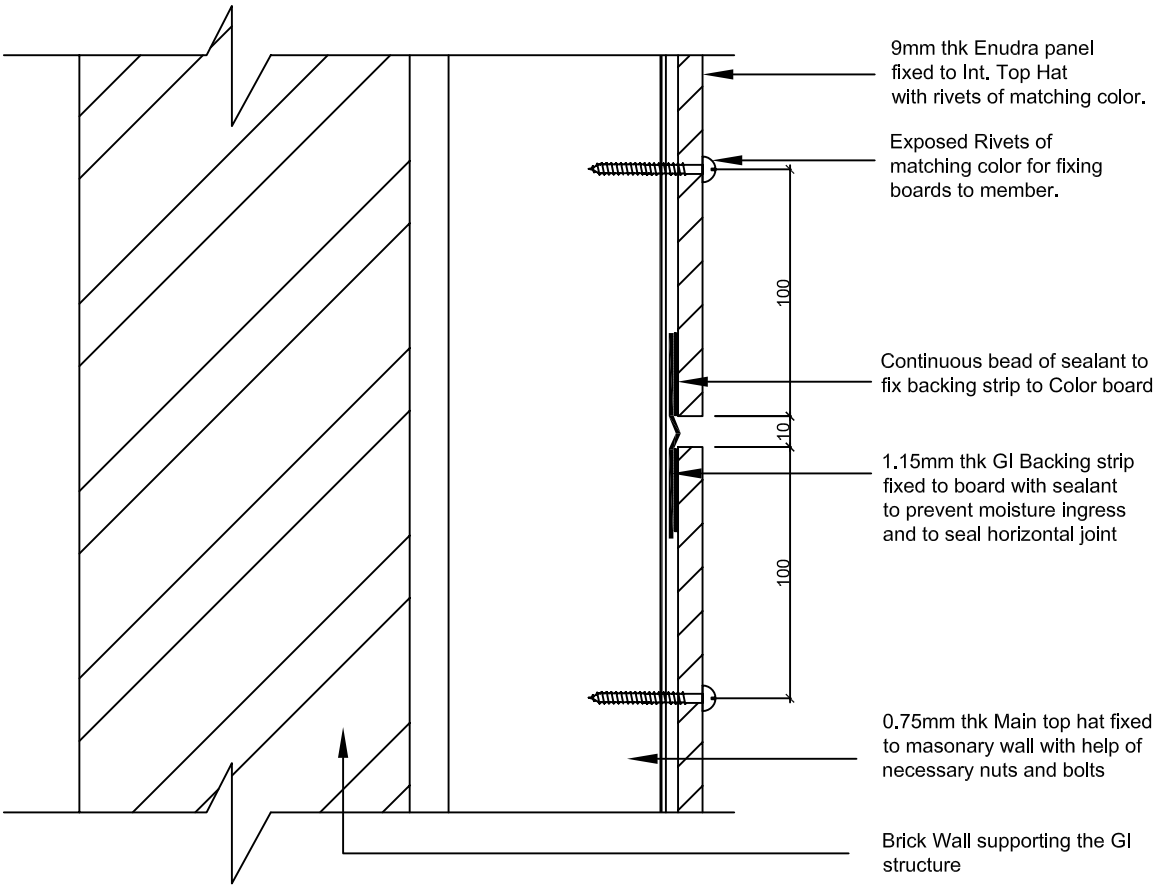


DETAIL-B

PROJECT: FIBRE CEMENT FACADES	DATE: 20.06.06	EVEREST INDUSTRIES LTD. A-32, G-1 MOHAN COOPERATIVE INDUSTRIAL AREA NEW DELHI 110044
TITLE: EXTERNAL CORNER DETAIL	SCALE: NTS	



DETAIL-E (VERTICAL)



DETAIL-H (HORIZONTAL)

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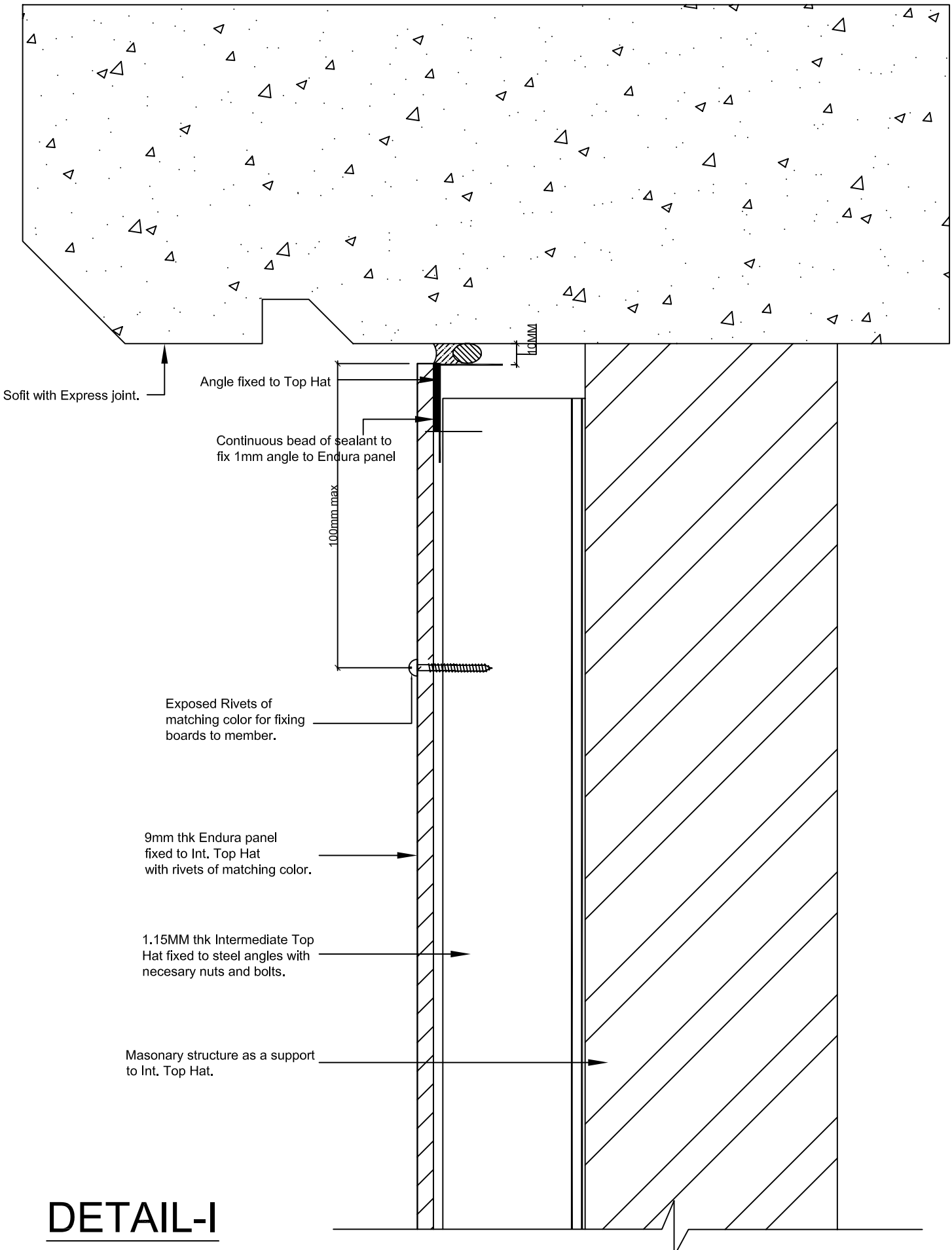

DETAIL-I

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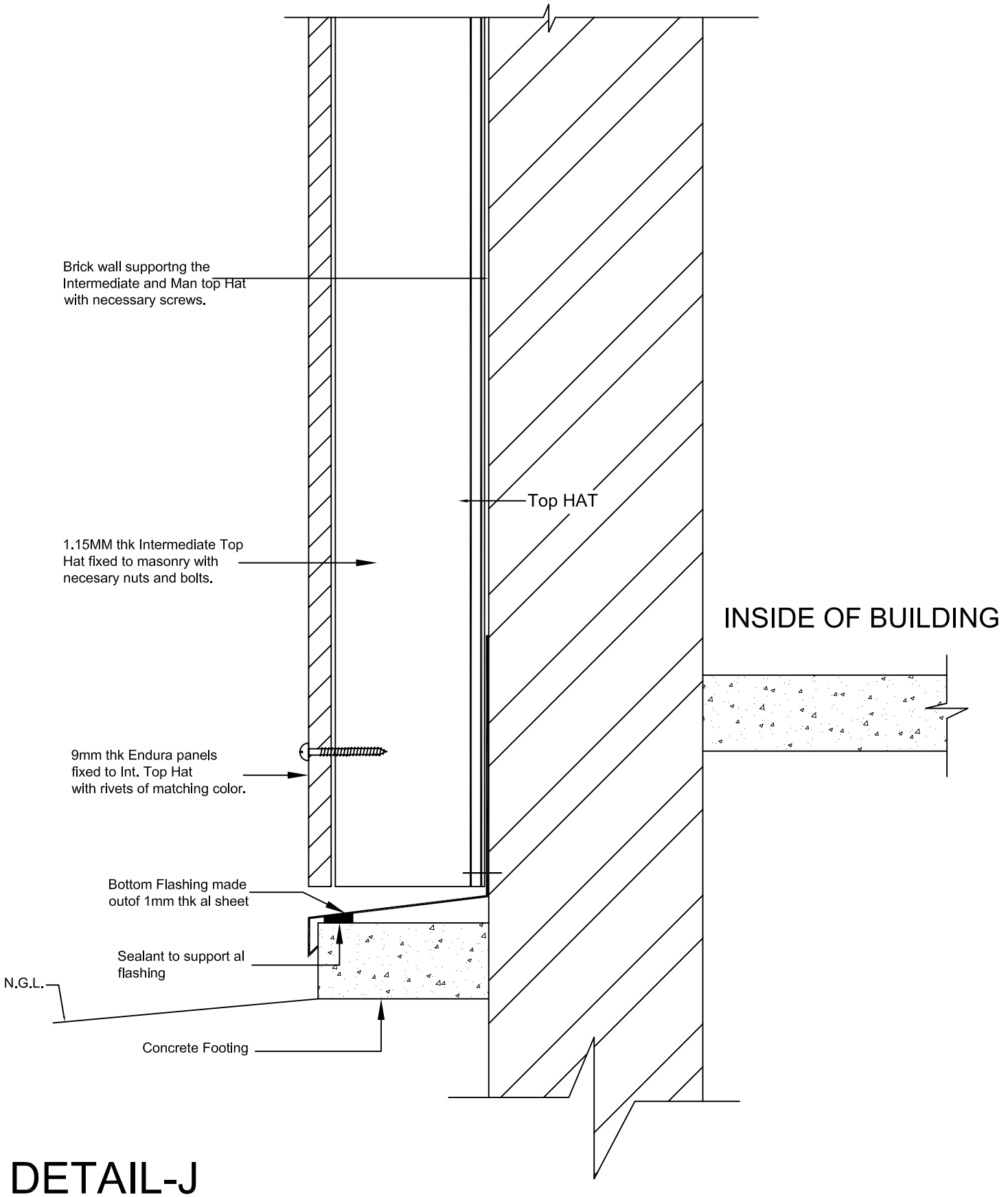
TITLE: SOFFIT DETAIL.	SCALE: NTS	



DETAIL-J

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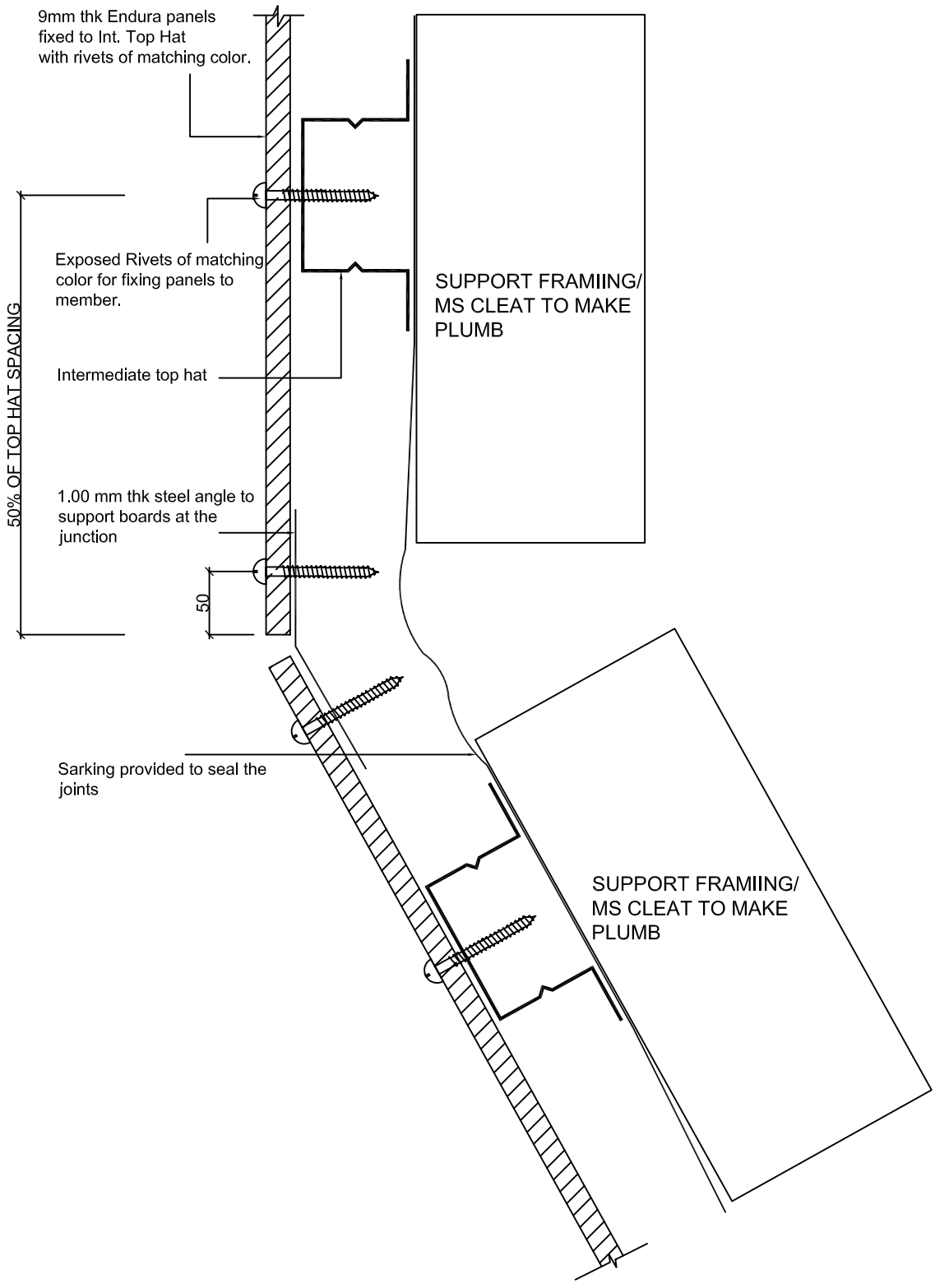
TITLE: BASE DETAIL FOR INLIINE SLAB	SCALE: NTS	



DETAIL-A

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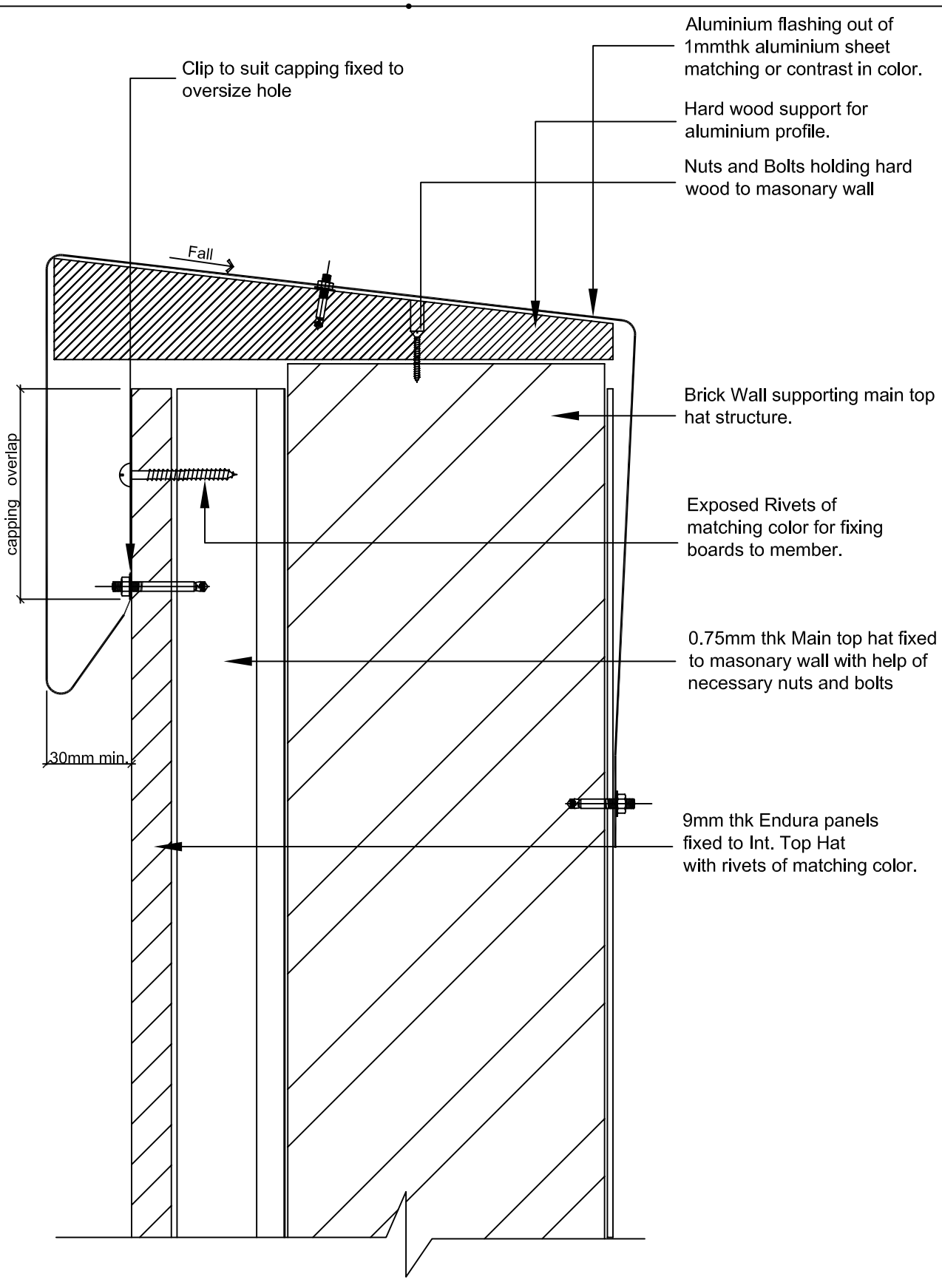
TITLE: ANGLE CORNER DETAIL	SCALE: NTS	



DETAIL-G

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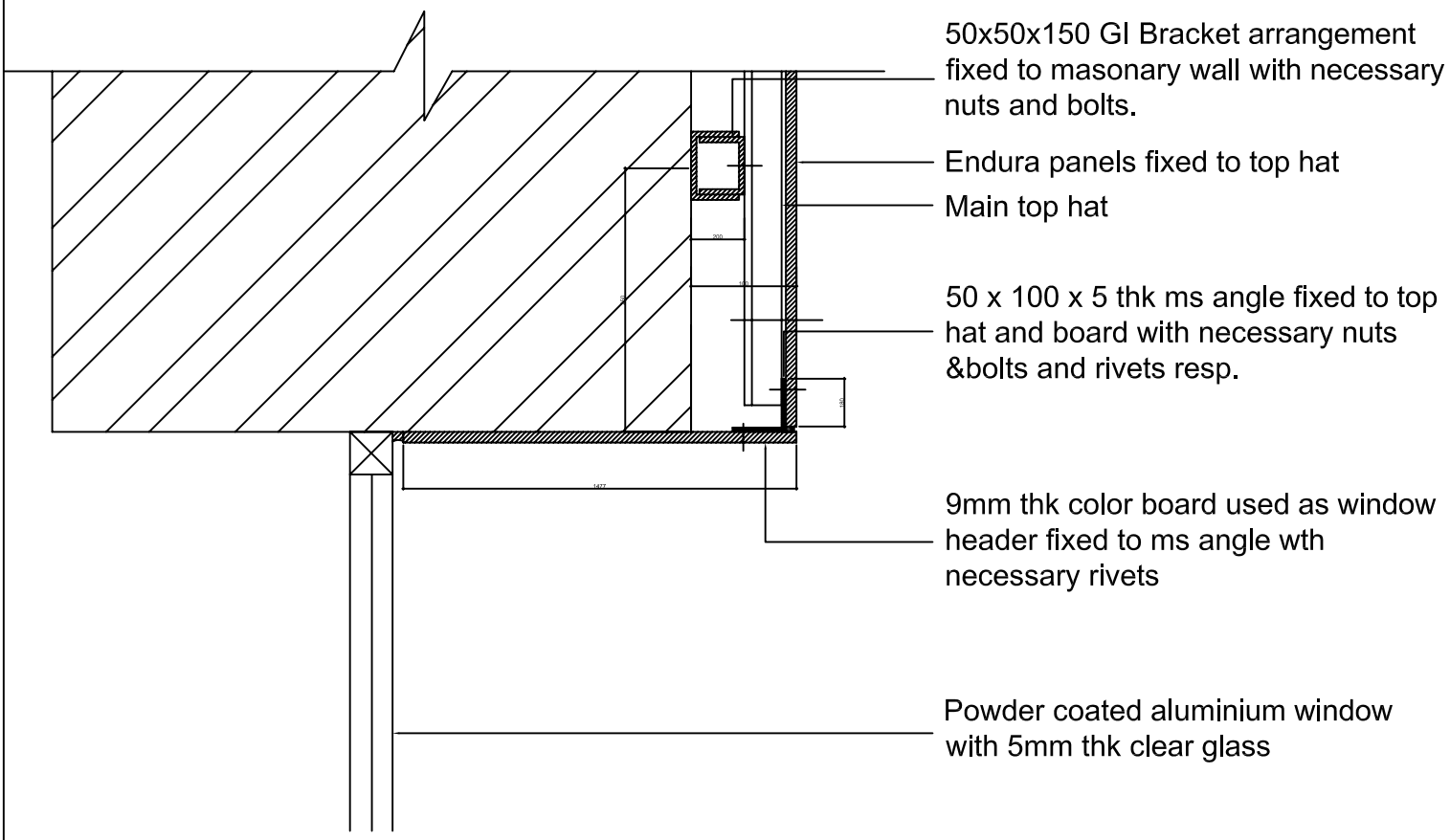

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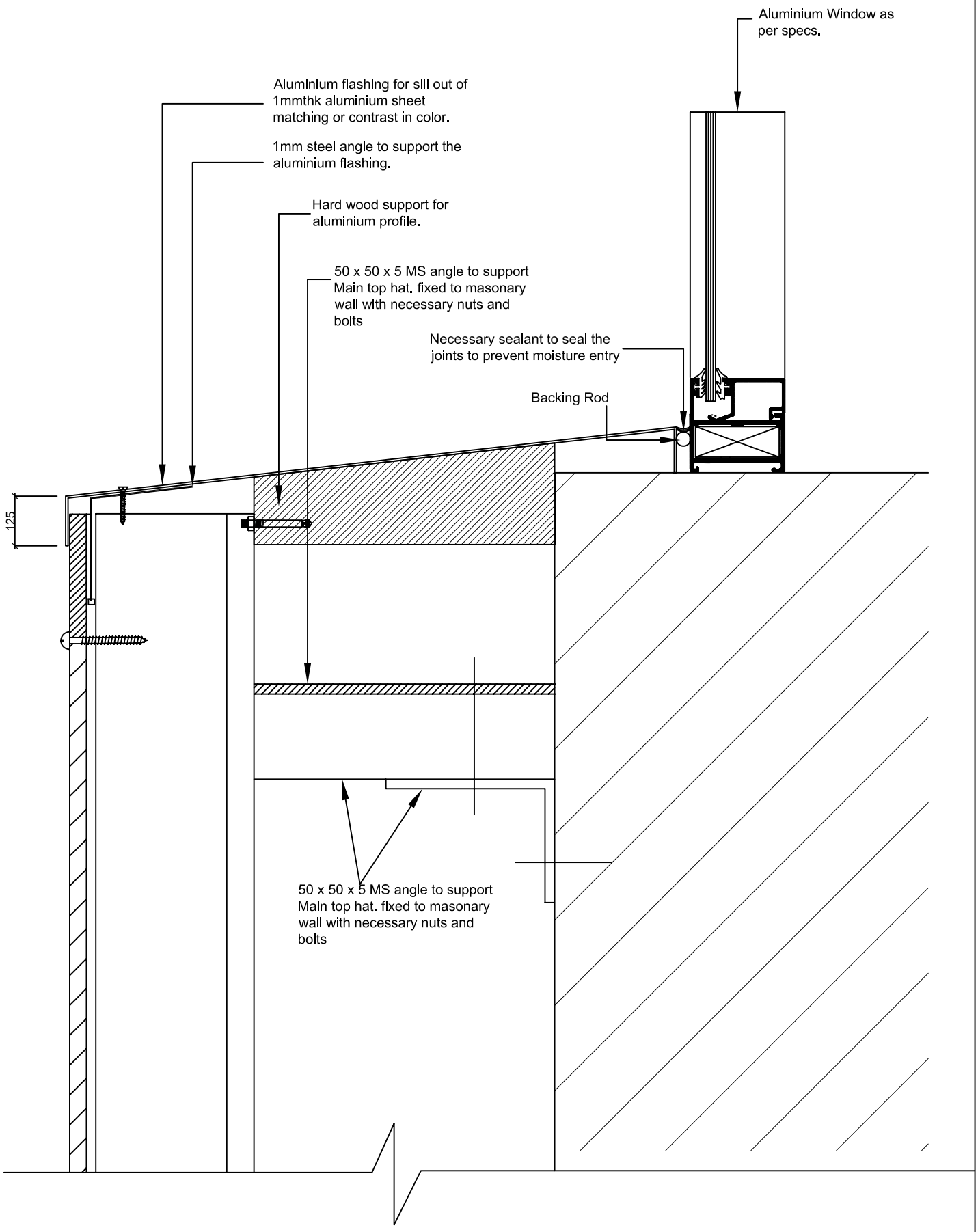
TITLE: WINDOW HEAD DETAIL	SCALE: NTS	



DETAIL-L

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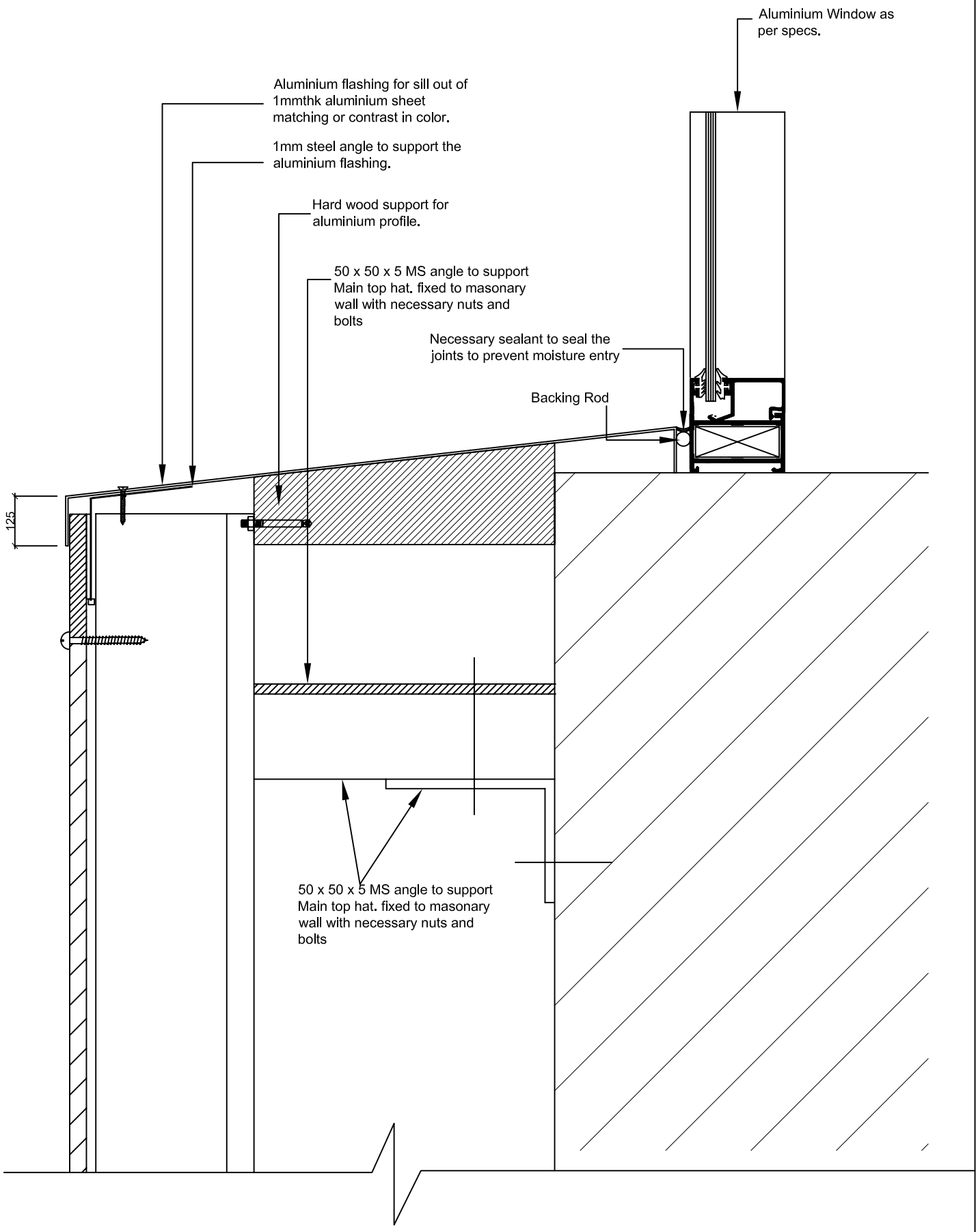
TITLE: WINDOW CILL DETAIL	SCALE: NTS	



DETAIL-L

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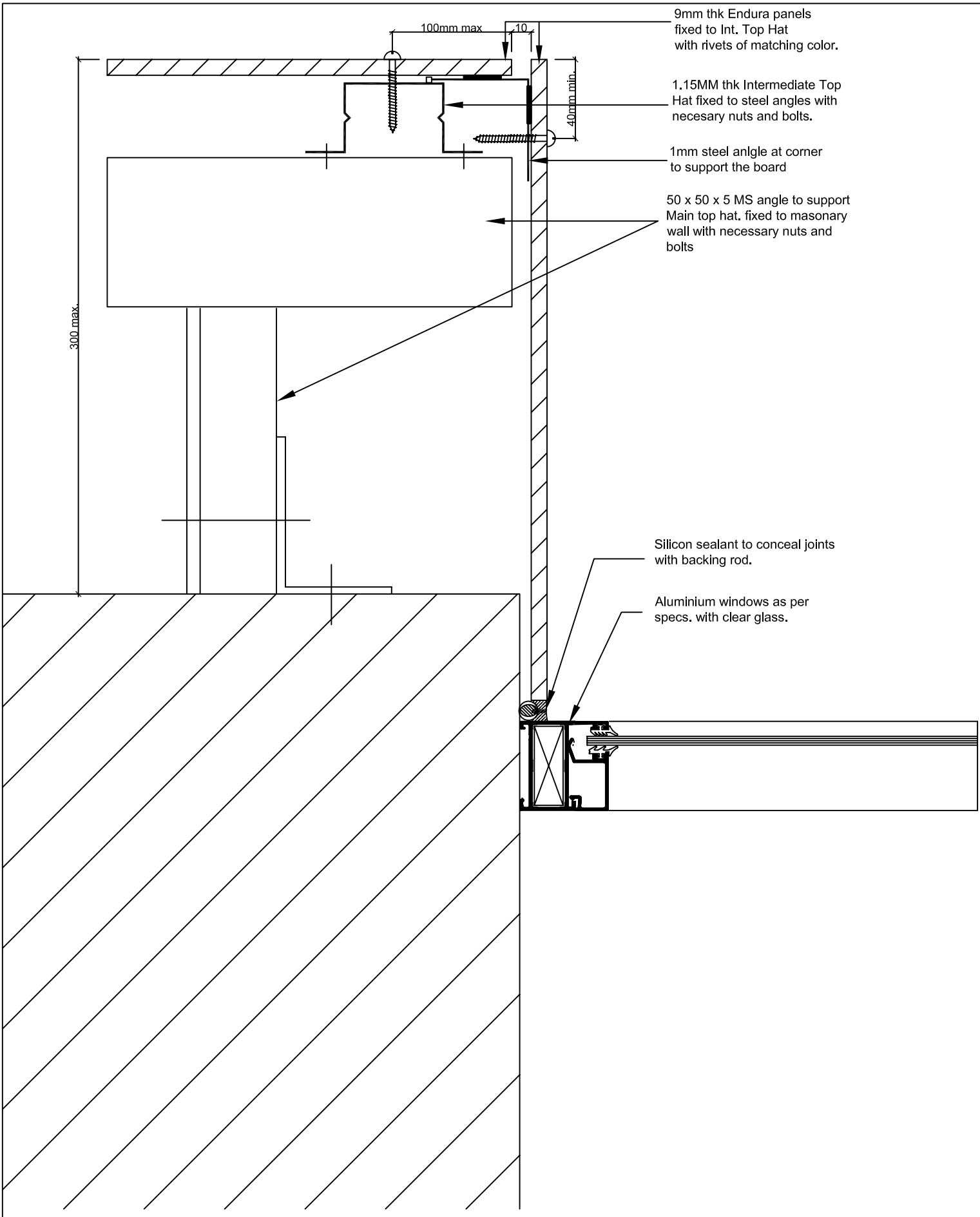

DETAIL-C

PROJECT: FIBRE CEMENT FACADES	DATE: 20.06.06	EVEREST INDUSTRIES LTD. A-32, G-1 MOHAN COOPERATIVE INDUSTRIAL AREA NEW DELHI 110044
TITLE: WINDOW JAMB DETAIL	SCALE: NTS	

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