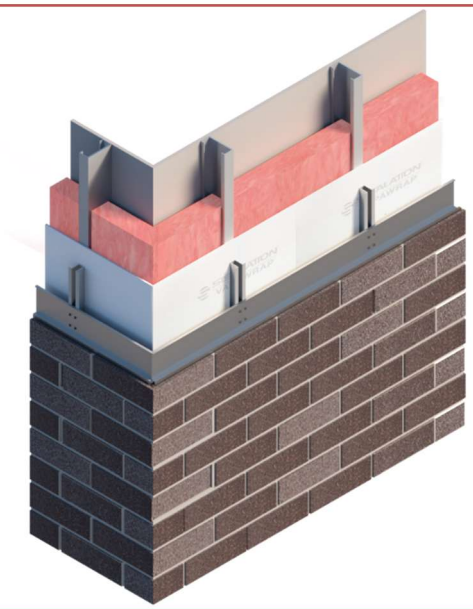
Empire Brick Cladding System

Technical Manual



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1 INTRODUCTION

EMPIRE Brick has been providing brick facing solutions for architectural design challenges since 1984.

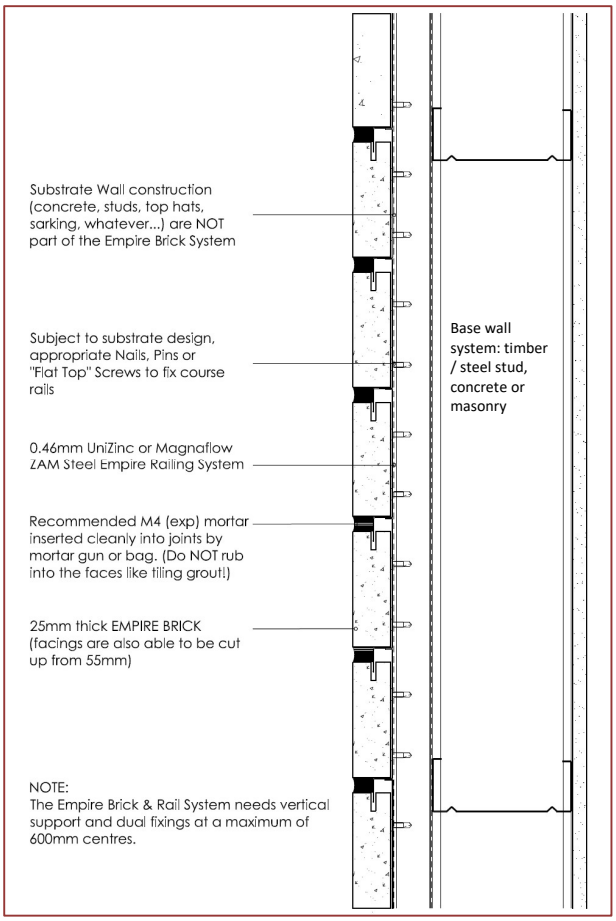
EMPIRE Brick Cladding systems are often used in facades and features walls for Multi Storey Apartments, Commercial buildings, Shops, Homes and Apartments.

With EMPIRE Brick in your design palette the applications are limitless. From large scale Commercial Projects to DIY walls & floors – you really can put real bricks ANYWHERE, free from the limitations of traditional brick foundations.

The Empire Brick Cladding System is a ventilated rainscreen decorative facade system designed to provide the look and finish of a brick wall when traditional brick construction is not practical.

Empire Brick Cladding may be installed over new or existing wall structures, including timber frame, steel frame, concrete and masonry walls.

The Empire Brick Cladding System consists of thin brick facings cut from virtually any Brick manufacturer's standard face brick range, including recycled bricks. Each brick facing is mechanically fixed into the Empire Brick steel rail system. Empire brick rails are fixed via battens to the building structure creating a cavity for drainage of moisture and ventilation.



Empire Brick Cladding System (Single Groove shown)

Fixing the Empire brick rails directly to the building structure is not recommended for external applications as the external cavity aids weatherproofing of the facade however, direct fix may be used in internal feature walls and specially designed applications.



After the brick facings are installed, mortar is added to the perpends and course joints to complete the brick wall appearance, this also locks the bricks into place.

The Empire Brick Cladding System provides the look and feel of a traditional brick wall while providing lighter structures and standard interfaces with other cladding materials or even existing bricks.

The Empire Brick Cladding system presents a structurally sound, non-combustible and durable wall solution for all residential building and many commercial construction applications.

The enclosed technical manual presents standard design parameters and construction details to ensure your next project can comply with all relevant requirements of the Building Code of Australia (BCA). The information contained herein is intended for suitably qualified building and construction professionals to design, specify and install the Empire Brick Cladding system in accordance with the relevant Standards and provisions of the BCA.

Project building professionals, including designers, engineers, installers and certifiers must ensure the details in this Technical Manual are appropriate for the intended application and comply with the relevant provisions of the BCA.

2 SYSTEM DESCRIPTION

2.1 Overview

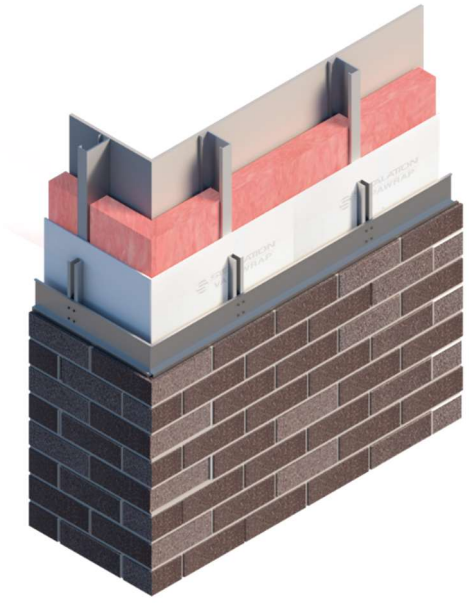
The Empire Brick Cladding system presents a ventilated rainscreen facade system for commercial and multi residential buildings. The Empire Brick Cladding system is a non-loadbearing brick facing wall system for use in external and internal wall applications.

The Empire Brick Cladding system components includes 25mm thick brick facings & steel rails. The installer is required to supply battens / top hats, site mixed mortar and appropriately rated fasteners for the vertical and/or horizontal support structure.

Brick facings are cut from conventional face bricks manufactured to AS/NZS 4455.1. For single groove systems, a rebate is cut into the top edge of each brick facing unit to engage the supporting rail above.

For double groove systems, a rebate is cut into the top and bottom edge of each brick facing unit to engage the supporting rails above and below the brick facing. Double grooved systems are used in high wind load applications and when brick facing units are suspended beyond the vertical plane (ie soffits).

Supporting rails are roll formed to interlock with each subsequent rail above, each rail is required to be fixed into the building structure via vertical battens, typically at each stud frame member or at similar frequency for concrete and masonry structures. For external wall systems battens shall provide a minimum cavity of 15mm width, external to the weatherisation layer.



The base wall system structure behind the Empire Brick Cladding System shall be designed to withstand project specific loads including wind loads and any other loading relevant to the application.

The external face of the building frame / base wall shall be made weather tight using pliable membranes or rigid weather barriers to the manufacturer's detail. Pliable membranes shall comply with AS4200.1 and be installed in accordance with AS4200.2. All weatherisation layers shall be suitable for project wind loads and must be watertight / flashed to ensure the wall system remains weatherproof.

Fastener selection and frequency / spacing to secure the Empire Brick Rails to the base wall system shall be conducted in accordance with the System Performance section of this manual.

2.2 Rainscreen Facade

The Empire Brick Cladding system presents a ventilated rainscreen facade system for commercial and multi residential buildings that feature

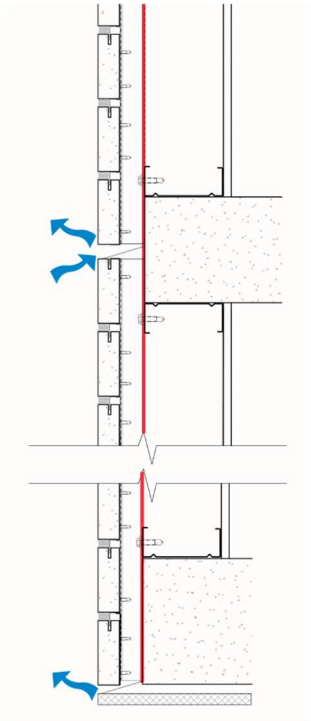
A rainscreen is an external wall or façade system where the external wall cladding is separated from the air/water barrier applied to the external side of the structure, this creates an external ventilated cavity allowing drainage and evaporation.

The rainscreen cladding allows wind pressure to be equalised across the external cladding, creating a ventilated cavity, the air barrier bears the wind pressure and due to it being separated from external surface water, Rainscreen facades present enhanced long term weather proofing of external walls.

A Rainscreen wall has the following three key components:

- An outer rainscreen, which diverts most of the water from the outside face while transferring load to the structure
- A drained, externally pressure-equalised cavity, allowing air flow in/out of external wall cavity
- An internal air barrier and waterproof barrier (shown in Red below right), capable of withstanding external wind pressures and maintaining weatherproof construction





2.3 Technical Data

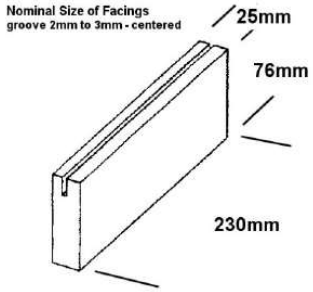
Technical Property	Value
System Weight	50-52 kg/m^2
Standard system thickness (incl 20 mm battens)	45 mm
Combustibility assessment	Non-combustible
Fire Hazard Properties	Compliant with NCC Vol 1 C1.10 for internal linings

3 SYSTEM COMPONENTS

3.1 Empire Brick Facings

Empire Brick Facings – Single Groove

Nominal Length 230 mm, Height 76 mm, Thickness 25 mm



Some brick types are intentionally manufactured to be very rustic and uneven. In such cases the Australian Standard specifies a tolerance in length of ± 90mm over 20 bricks.
On standard bricks, our manufacturing tolerance is ± 2mm in thickness.
Rustic or very uneven bricks may vary by up to 5mm in thickness.
Facings are grooved one side only as this is all that is usually required, but can be 'double grooved' to order.

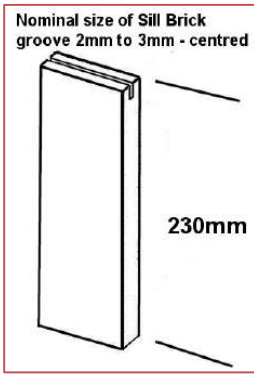
Empire Brick Facings – Double Groove

Same dimensions as Single groove Brick facings, however with a groove along top and bottom edges.



Empire Brick Facings – Sill Brick

Same dimensions as Single groove Brick facings, however with a single groove along one short edge.



Installed vertically and grooved one end only.
Can be installed above or below openings.

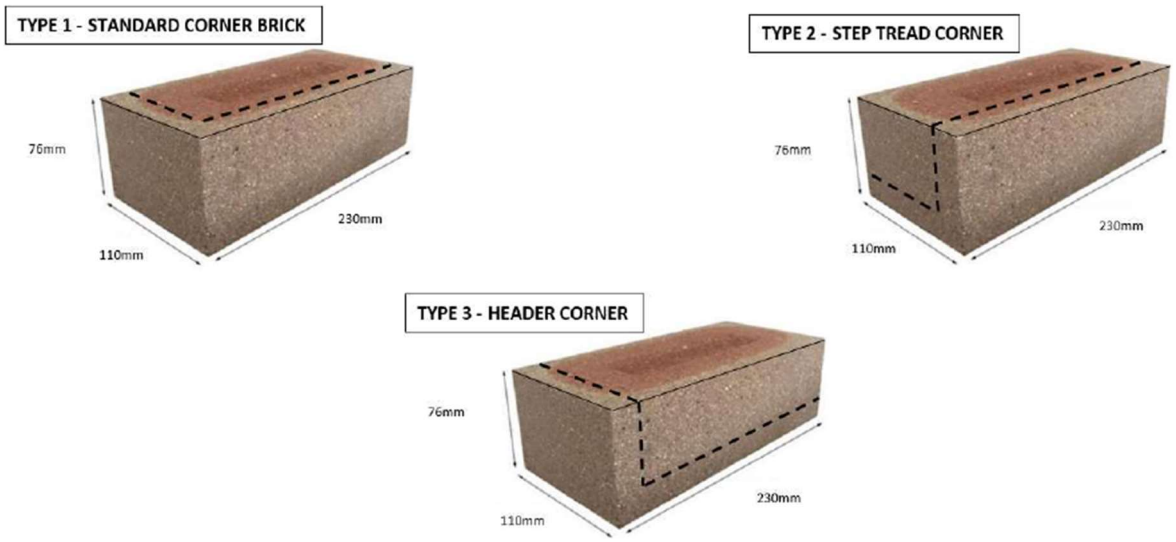
The Sill Brick will almost always need to be cut to length, so the single groove at the top will engage the course rail above the window (as a soldier course above the opening) with the cut end engaging into the window frame or a starter rail piece.

When used below the opening (as a soldier course) the sill brick is cut to length and can be installed by engaging the cut end in the window frame and then on some inverted top rail.

Empire Brick Facings – Corner Bricks

For use at external corners and window / door jamb reveals. Corner bricks may be supplied with single grooves (left / right-handed) or double grooves. Corner bricks are a feature of Empire Brick façade systems. In conventional brick walls, the brick is a 3-dimensional unit with a face and a header able to be shown at corners and window reveals.

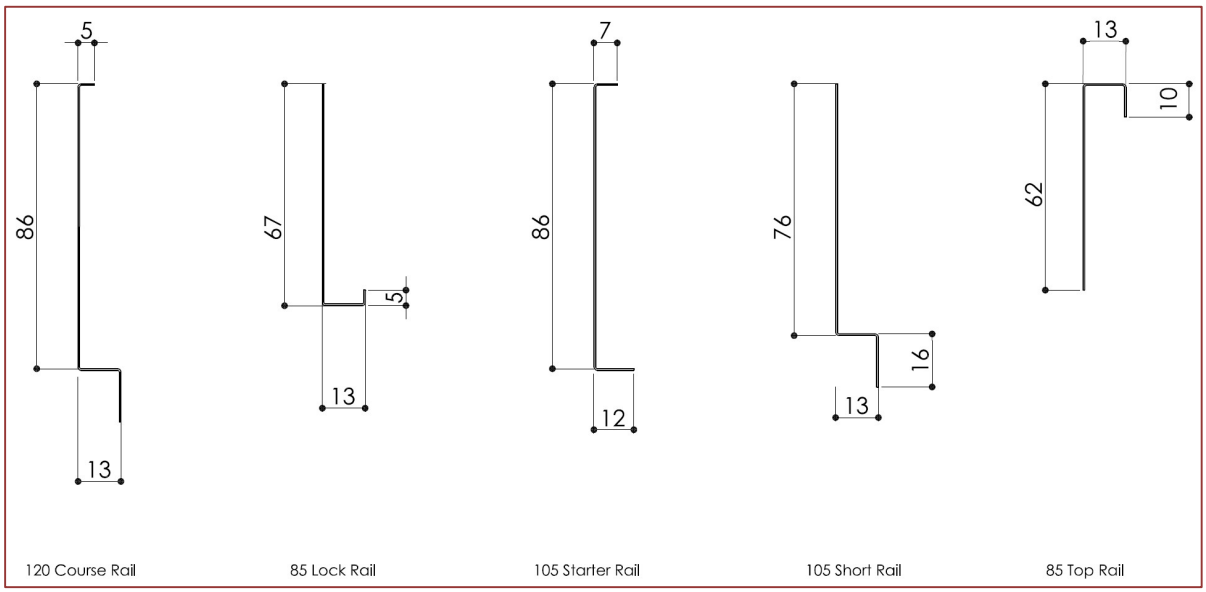
We use donor bricks to cut and groove thin facings and corner pieces. The corner bricks are used to articulate depth and 3D features in lightweight brick walls.



3.2 Empire Brick Rails

Empire Brick Rails are manufactured as standard from UniZinc 0.46mm Zinc Aluminium Magnesium coated Steel suitable for C3 Exposure as defined in AS4312. All rails are supplied in 2,400mm lengths.

For supply of rails required for C4 or C5 exposure sites please contact Empire Brick Products.



* The Lock Rail is used in the Double Groove (DG) system to lock the second groove of the brick facing, fasteners are driven through both the lock rail and the course rail (or short rail).

3.3 System Accessories

The Empire Brick & Rail system is designed for fixing with nailing systems having a maximum of 1mm head thickness, to avoid misalignment of the brick facings on the course rails. The use of 'tek' screws or similar with protruding heads will make facing placement uneven and is discouraged.

The following accessories are approved for use in installing the Empire Brick Cladding System.

Application	Accessory Details
Fix Rails to timber framing / battens	38 x 2.5mm Flat Head Gal coated Clouts, in coils for compatible nail guns.
Fix Rails to light gauge steel framing and/or top hats	"Structnail" from Iccons Fasteners – (Aust. Wide)  Flat Top Head Self–drilling Screw SDFTC - Flat Top Head AS3566 - Class 4 - Phillips Drive PART No. / SIZE (mm) G-TPI x Length / PACK Qty. / BULK Qty. SDFTC10-1616 10-16x16mm 1000 16 
Fix Rails to masonry or concrete	Hilti X-U MX 16mm or 19mm pins, using DX351 MX Powder actuated tool or Ramset P8HC617 Premium drive 17mm pins, using Trakfast 800 tool or similar  
Fixing Rails with Rainscreen Cavity, external to substrate	25mm x 38mm Timber Battens, packed to suit alignment of substrate.  22 mm – 35 mm Steel Top Hat profile, packed to suit alignment of substrate. BMT 0.75 to 1.1mm. Consult with top hat supplier to ensure suitable fixing of top hat to substrate. 

Weather Resistant Barrier Pliable Building Membrane (≤ 2.5 kPa ULS wind pressure)	Pro-Clima Solitex Extasana or equivalent. Flexible building membranes: • Manufactured in accordance with AS 4200.1 • Installed in accordance with AS 4200.2 Presents an Air & Water resistant barrier, Vapour permeability (Barrier or Permeable) according to the application and Climate Zone.  Note: Perforated (breather) membranes shall NOT be used.
Weather Barrier Rigid Air Barrier (applications > 2.5 kPa ULS wind pressure)	Promat Siniat Weather Defence boards or equivalent. Presents an Air & Water resistant barrier, Vapour permeability (Barrier or Permeable) according to the application and Climate Zone. Check for Fire Resistance (if required). 
Mortar	M4 grade site mixed mortars (in accordance with AS 3700)
Sealants	Acrylic and/or PU based sealants approved for use in external applications, (fire and acoustic rated, where required) may be used. Silicone based sealants are NOT recommended.
Flashings	Flashings shall be selected and installed in accordance with AS/NZS 2904 and suitable for the site's exposure classification.

4 Compliance

4.1 Building Code of Australia

Empire Brick Cladding may be used for indoor and outdoor decorative cladding and is compliant with the following sections of the Building Code of Australia (BCA) Volumes 1 and 2:

NCC 2019	Volume One – inc Amdt 1	Volume Two – inc Amdt 1
Structure	BP1.1 & BP1.2	P2.2.1
Fire	C1.9 (a) Non-combustible external walls C1.10 Internal Linings G5.2 Bushfire Construction	 3.10.5.0 (c) Bushfire Construction
Weatherproof	FP1.4 – Tested in accordance with FV1.1	P2.2.2 – Tested in accordance with V2.2.1
Construction using the Empire Brick Cladding System may also be conditional upon compliance with the BCA provisions below and where relevant, is subject to site specific compliance documentation being prepared by project engineers or other suitably qualified professionals.		
Condensation Management	FP6.1 Condensation Compliance with F6.2 Pliable building membranes. Membranes must comply with AS4200.1 and be installed in accordance with AS4200.2. A weather resistant barrier shall be selected to withstand project Wind pressures, Rigid Air Barriers may be required for high wind load zones.	P2.4.7 Condensation and water vapour management Compliance with 3.8.7.2 Pliable building membranes. Membranes must comply with AS4200.1 and be installed in accordance with AS4200.2. A weather resistant barrier shall be selected to withstand project Wind pressures, Rigid Air Barriers may be required for high wind load zones.
Acoustics	FP5.2 & FP5.5 Sound transmission and insulation For separating walls	P2.4.6 Sound insulation For separating walls
Thermal Performance	J1.5 Building Fabric Thermal Energy Efficiency Total building envelope / wall system R values, according to Climate Zone	3.12.1.4 Building Fabric Thermal Energy Efficiency Total building envelope / wall system R values, according to Climate Zone

Section 5 of this manual provides specific details relating to the performance of the Empire Brick Cladding system and may be used to provide evidence of compliance with the mandatory provisions listed above.

While this technical manual may provide guidance on some select National Construction Code (NCC) requirements, it is the responsibility of relevant project professionals to ensure the construction systems specified and installed meet all relevant NCC requirements.

5 System Performance

5.1 Structural Spanning Capacity

Specification of the cladding system must be carried out in accordance with AS1170, AS4055, the wind pressure limits, maximum span & fixings for Empire brick rails are shown below.

Empire Brick Cladding System	SLS Wind Pressure Limit	ULS Wind Pressure Limit*	Max Stud / Top Hat Spacing (mm)	Fixings per Rail at each Stud / Top Hat
SG – Single Groove	± 3.08 kPa	± 4.79 kPa	600	2
DG – Double Groove	± 4.11 kPa	± 4.79 kPa	600	2

The Empire Brick SG & DG systems may be installed in non-cyclonic wind regions up to and including N6 for general wall areas and N5 for all wall areas including corner zones.

The above system configurations have been tested in accordance with AS4284 up to ULS wind pressures of ± 7.0 kPa without failure, the test samples withstood the maximum fan pressure of the test rig. Due to a single test being undertaken for each Empire Brick system, a capacity reduction factor of 1.46 is applied to determine the above wind pressure limits.

Project specific wind pressures shall not exceed the wind pressure limits above and weather resistant barriers shall be selected to withstand project specific wind pressures. Typically flexible membranes may be installed in applications up to 2.5 kPa ULS wind pressure and Rigid Air Barriers for higher wind pressures, check manufacturer's details.

Any site specific SLS or ULS Wind Pressure exceeding the above limits will require site specific engineering design and is outside the scope of this section of the Technical Manual.

The Empire Brick SG system as tested was installed on 90x45 timber studs at 600mm centres, each Empire rail was installed with 2 fixings per stud, with an aggregate of 38 fasteners per square metre of wall area. Using the fasteners specified for Timber, Steel & Concrete/Masonry substrates in section 3 the equivalent stud frequency must be maintained for structural compliance to be maintained. For clarity this equates to 2 fixings per 86mm high rail per stud at maximum horizontal spacing of 600mm = 38 fasteners per square metre.

Individual building frame design with corner zone load factors applied (where required) shall be conducted by project engineers.

Empire Brick systems may be installed over a variety of substrates, including:

- Timber framing in accordance with AS1684 and/or AS1720
- Lightweight steel framing in accordance with AS4600 and/or NASH standard
- Concrete structures in accordance with AS3600
- Masonry structures in accordance with AS3700 and/or AS4773
- Structural Steel in accordance with AS4100
- Permanent formwork systems in accordance with manufacturers recommendations and concrete structures AS3600

5.2 Resistance to Fire

Non-combustible

Empire Brick slip materials have been tested for combustibility and are deemed non-combustible according to the test criteria specified in AS1530.1-1994.

All elements of the Empire Brick Cladding System are manufactured from non-combustible materials and are deemed non-combustible in accordance with the general concession in NCC Volume 1 C1.9.

Fire Indices

Empire Bricks, being masonry, comply with NCC Volume 1 C1.10 and may be used for all internal lining applications.

External Cladding

When Empire Bricks are used on external walls that are required to have non-combustible elements, all other components used within the construction of the wall must be compliant with NCC Volume 1 C1.9.

Fire Rating

Should an Empire Brick Cladding system be installed in a wall application where Resistance to Fire is required, the base wall system / substrate shall be specified and constructed to provide the required Fire Resistance Level (FRL).

Empire Brick Cladding systems do not contribute to the spread of fire, however do not achieve an FRL.

5.3 Weatherproof Facade System

A facade and/or structural engineer shall be responsible to design the complete wall system in accordance with the appropriate standards, codes, project loads and details, thus ensuring compliance with all relevant parts of the National Construction Code (NCC).

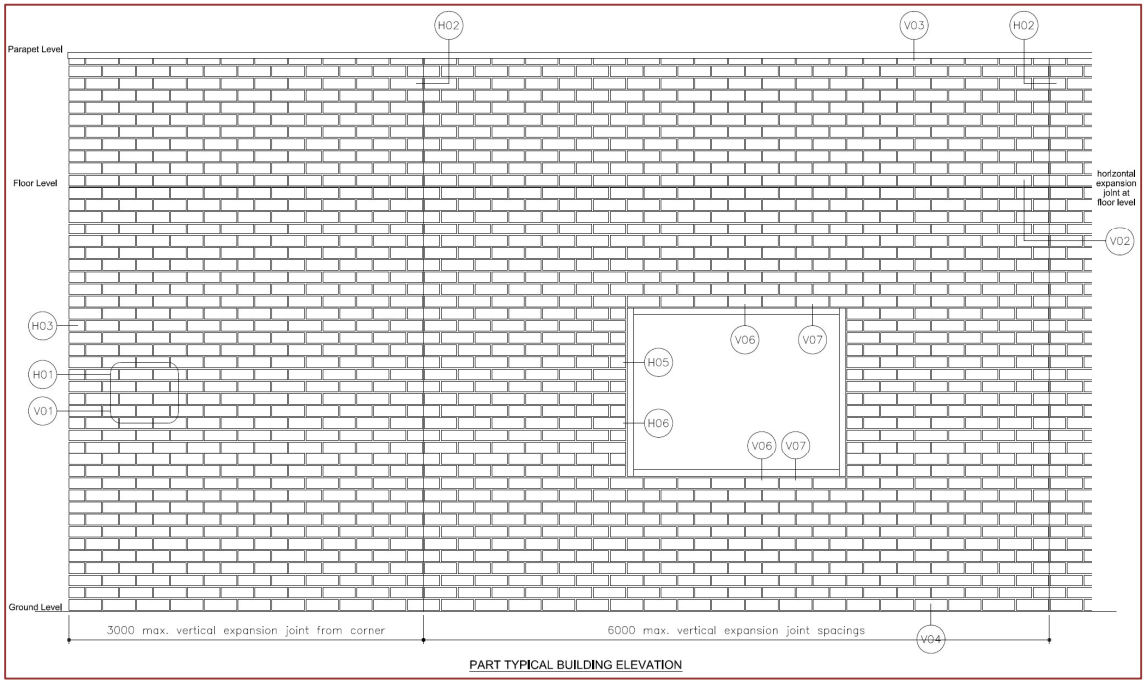
Empire Brick Cladding system presents a Rainscreen facade design. For rainscreen facade systems a weather resistant layer (rigid air barrier or flexible building membrane) shall be installed on the external surface of the building sub-frame and/or substrate, all joints in the weather barrier shall be tape sealed, all flexible membranes shall be lapped and taped at joints. The external wall cavity (outside the weather resistant barrier) shall be drained and ventilated. All flashing at windows, slab junctions and junctions with other building elements shall be installed to ensure all moisture is controlled and directed to the exterior of the building.

When installed with suitable flashing details and weather resistant membrane installation over a ventilated and drained external wall cavity, Empire Brick Cladding System presents a weatherproof external wall solution.

Thermal design consideration must be completed and insulation installed to the satisfaction of the approving authorities and relevant codes.

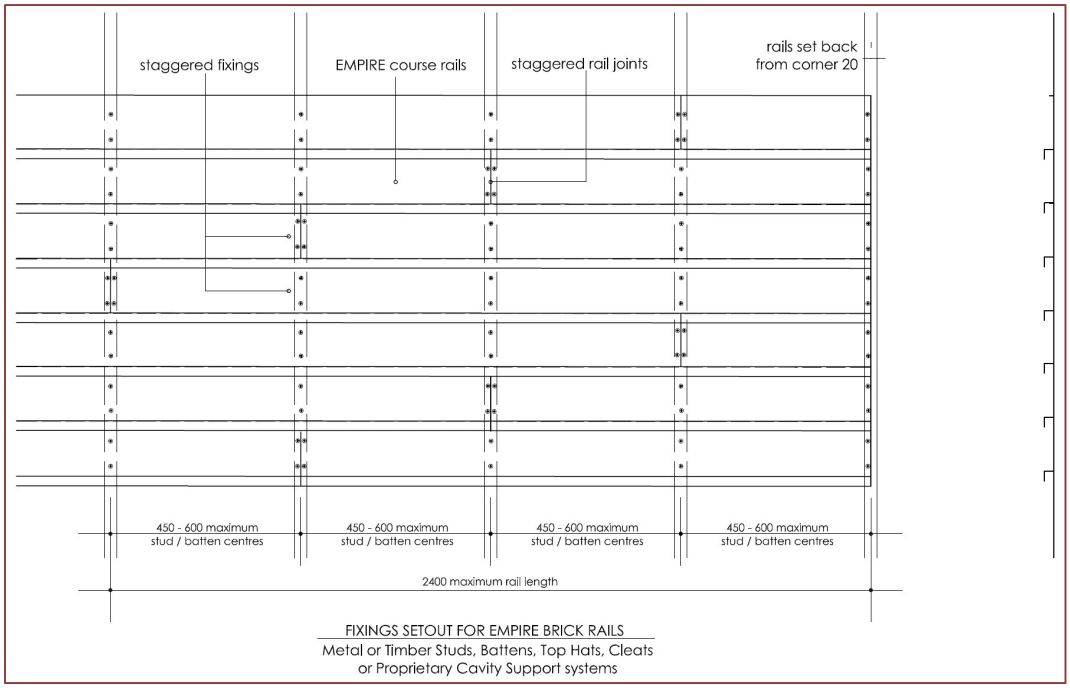
6 Construction Details

6.1 Typical Wall Elevation



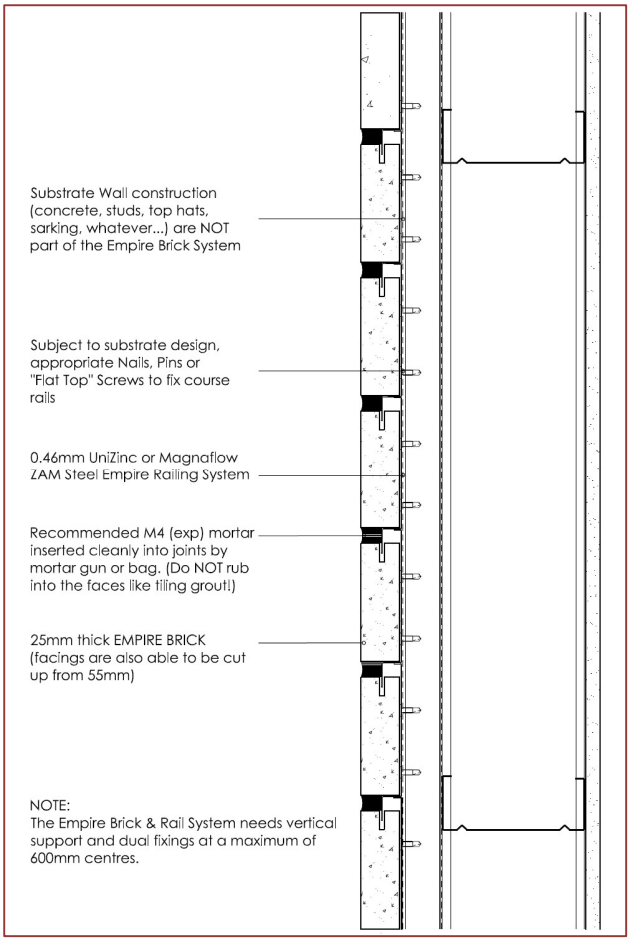
PART TYPICAL BUILDING ELEVATION

6.2 Rail Fixing to Top Hats / Framing – Elevation

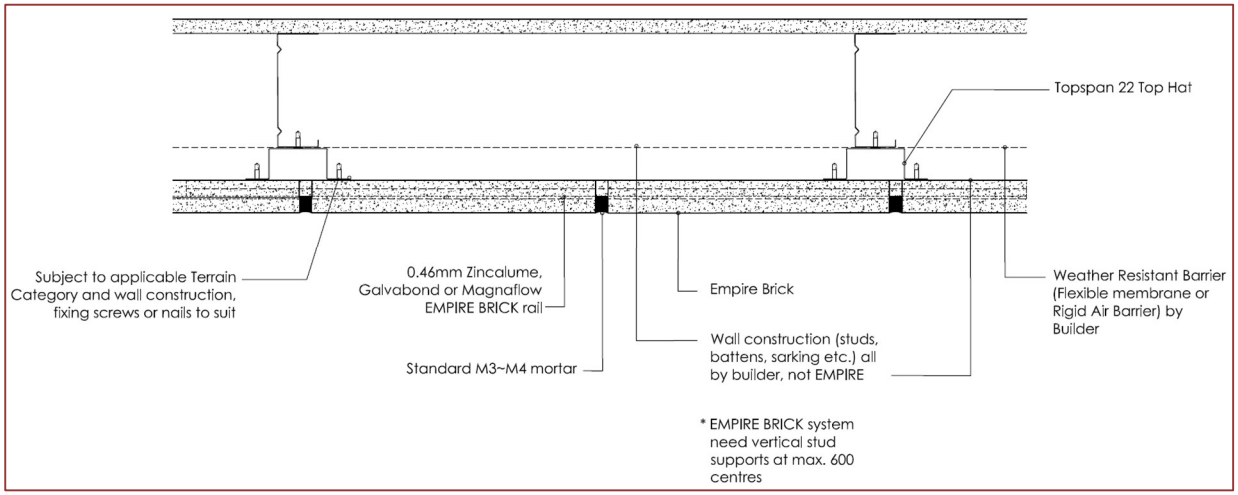


FIXINGS SETOUT FOR EMPIRE BRICK RAILS
Metal or Timber Studs, Battens, Top Hats, Cleats or Proprietary Cavity Support systems

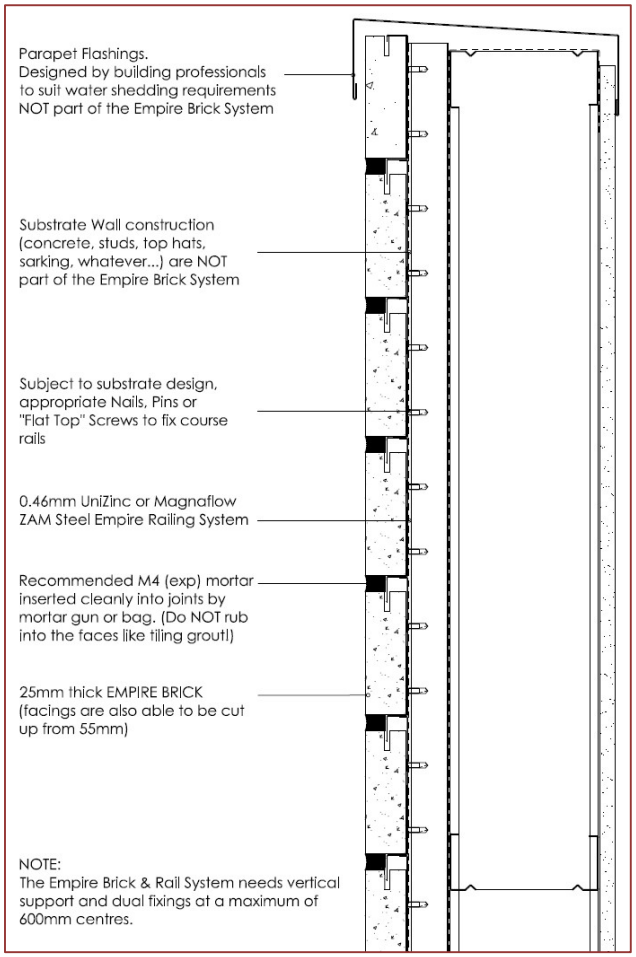
6.3 Vertical Top Hats on Frame – Elevation



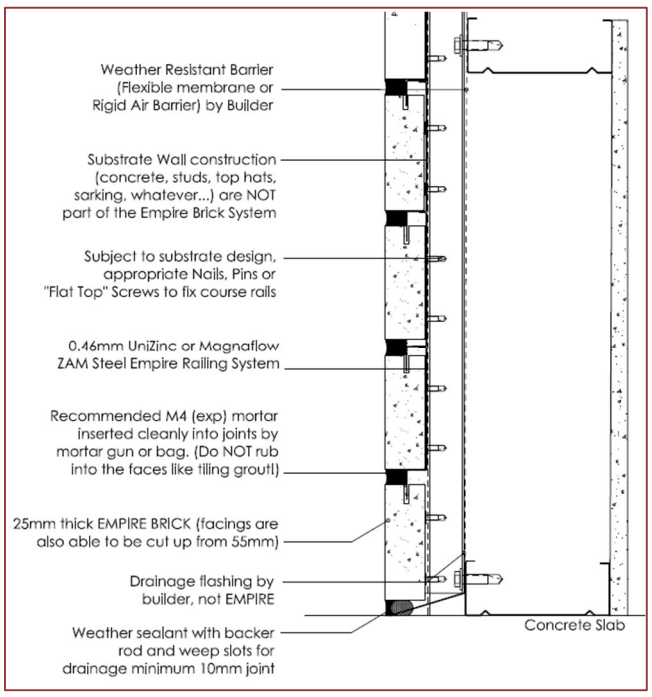
6.4 Vertical Top Hats on Frame – Plan View



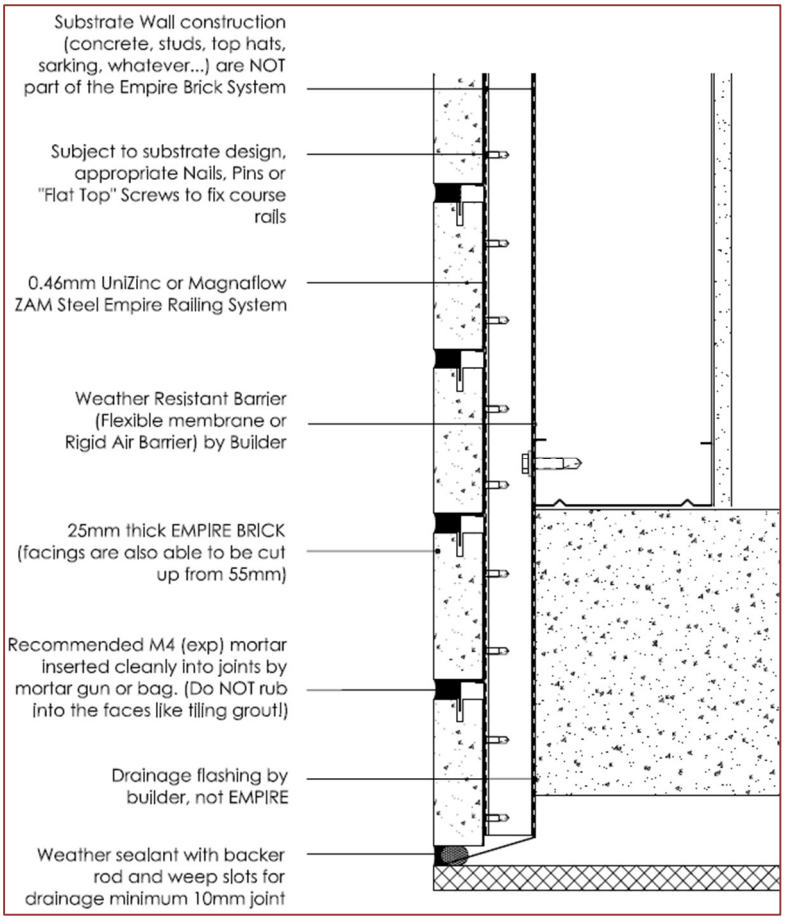
6.5 Parapet Detail – Elevation



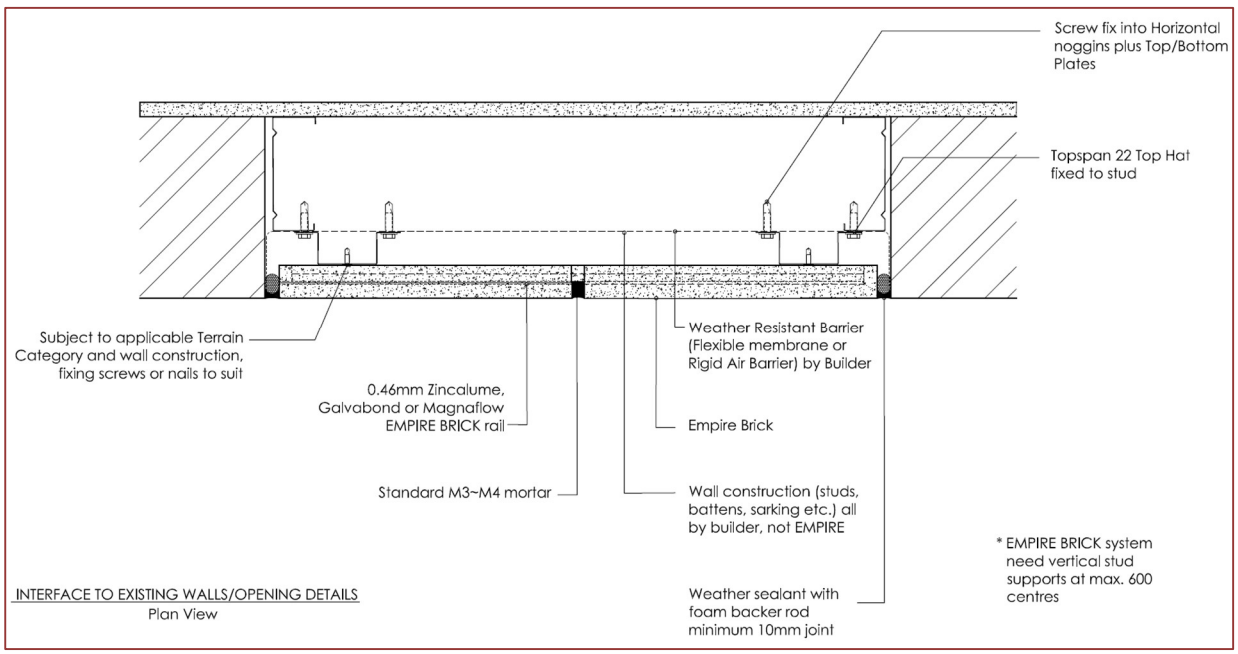
6.6 Slab Junction Detail – Elevation



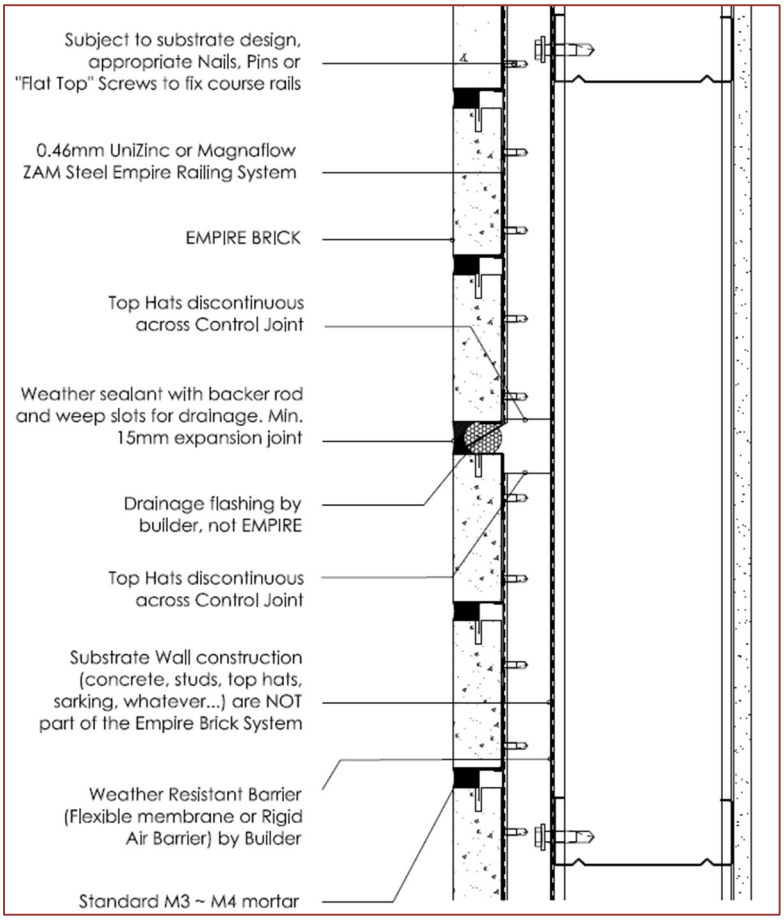
6.7 Slab / Soffit Detail – Elevation



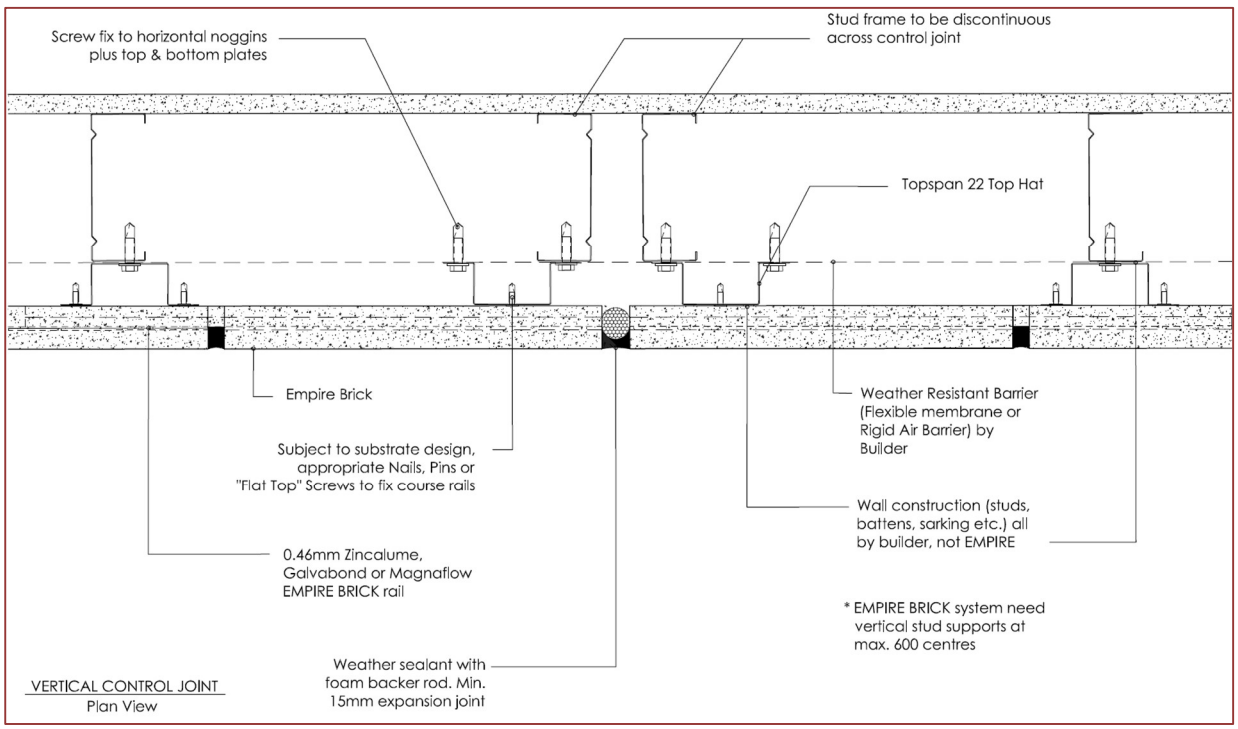
6.8 Interface to Existing Walls / Opening Detail – Plan View



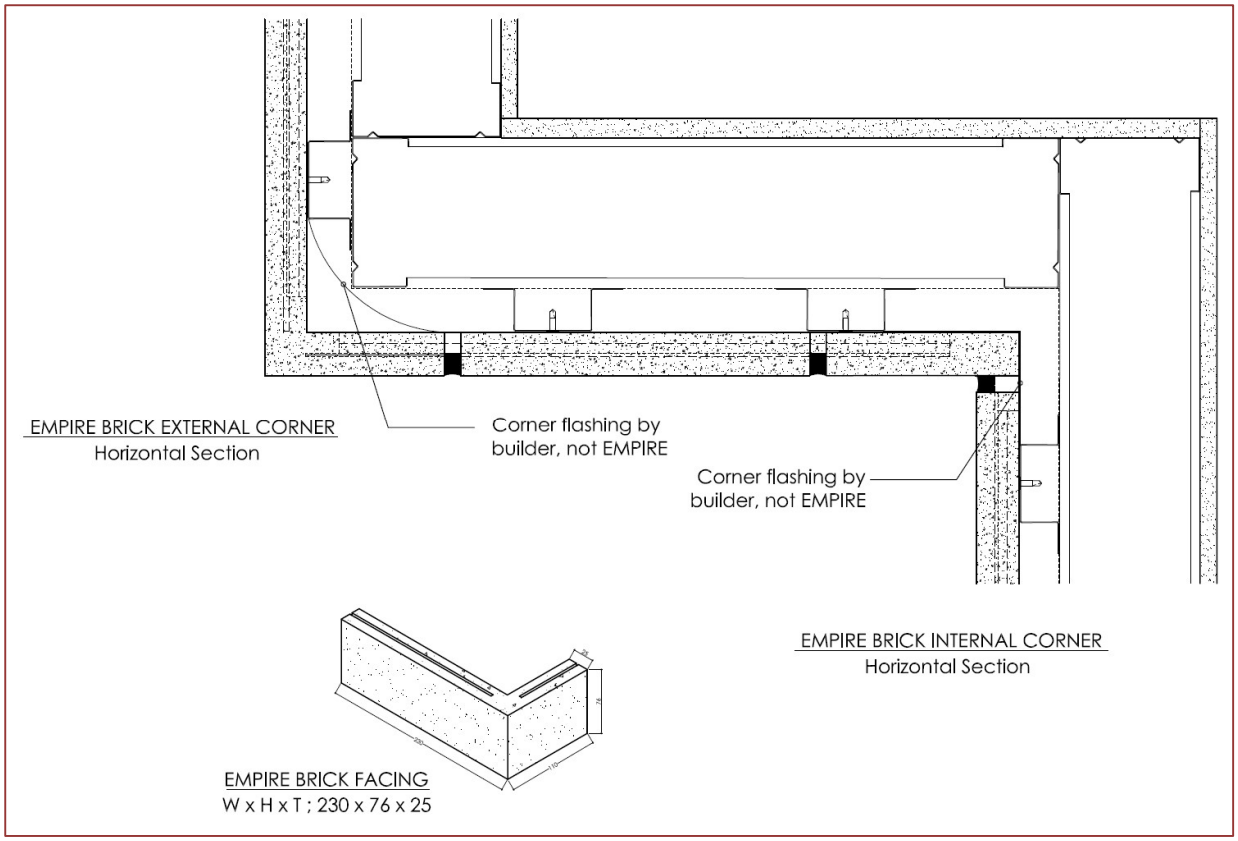
6.9 Horizontal Control Joint – Elevation



6.10 Vertical Control Joint – Plan View

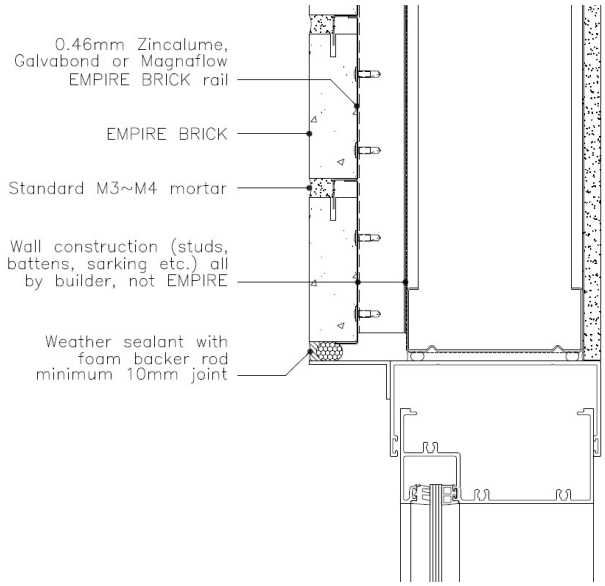


6.11 External & Internal Corner Detail – Plan View

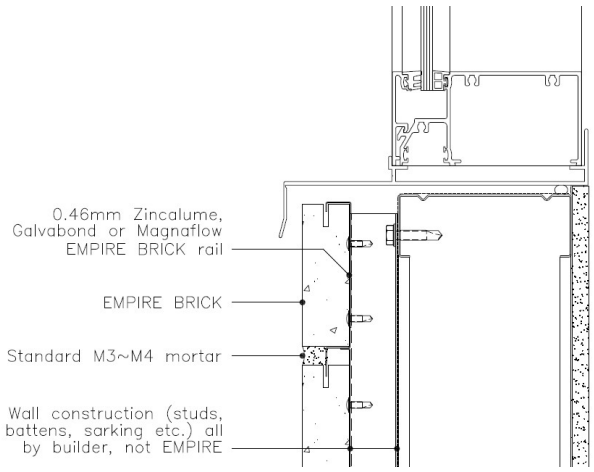


6.12 Window Details – External Reveal

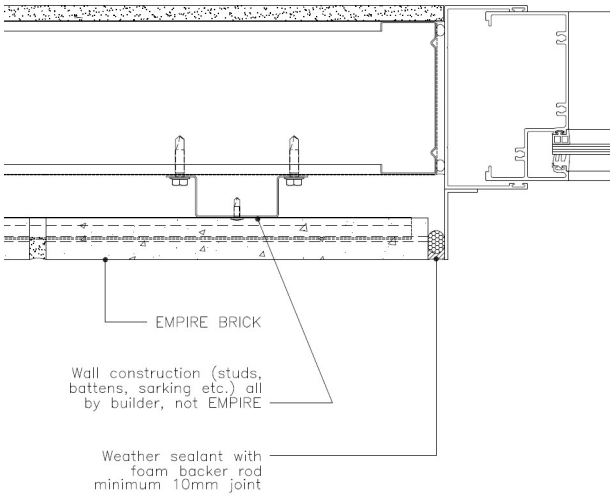
Window Head



Window Sill

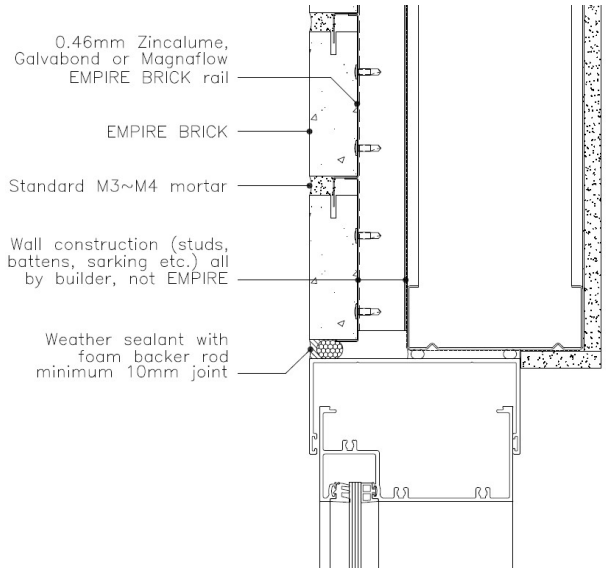


Window Jamb

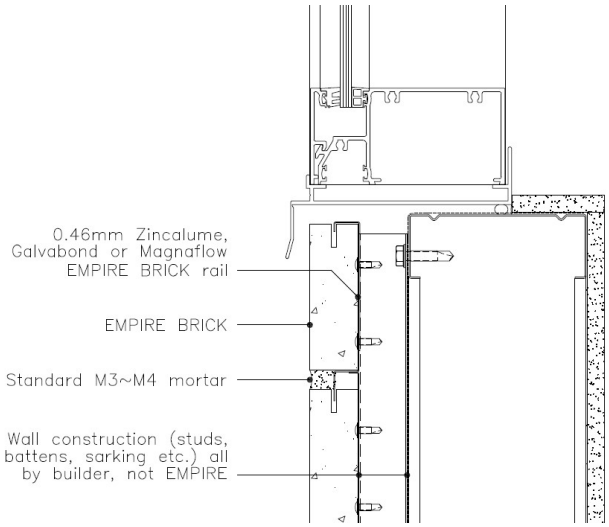


6.13 Window Details – Flush External

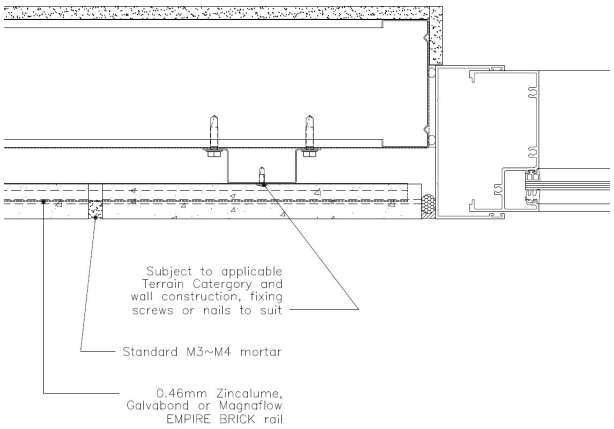
Window Head



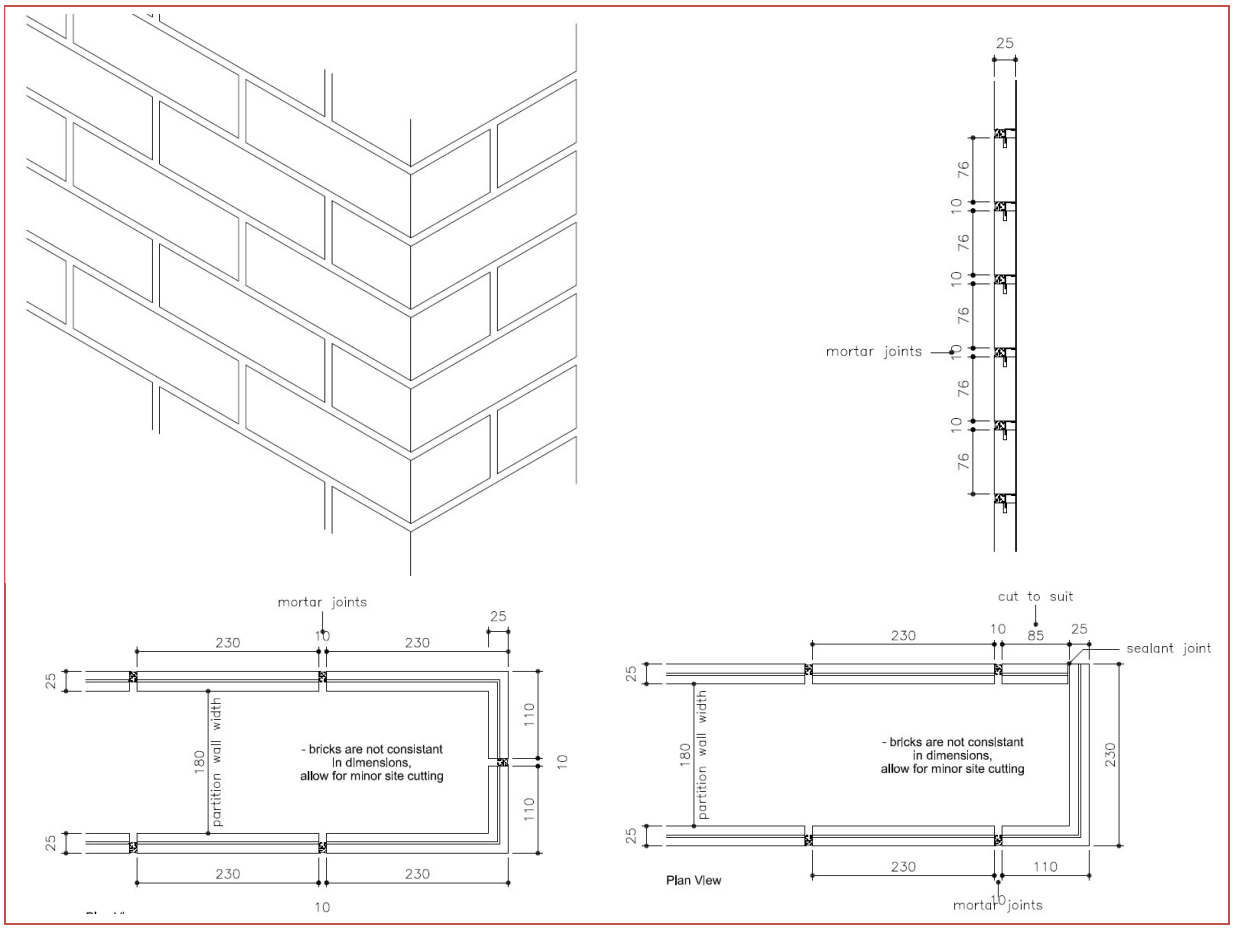
Window Sill



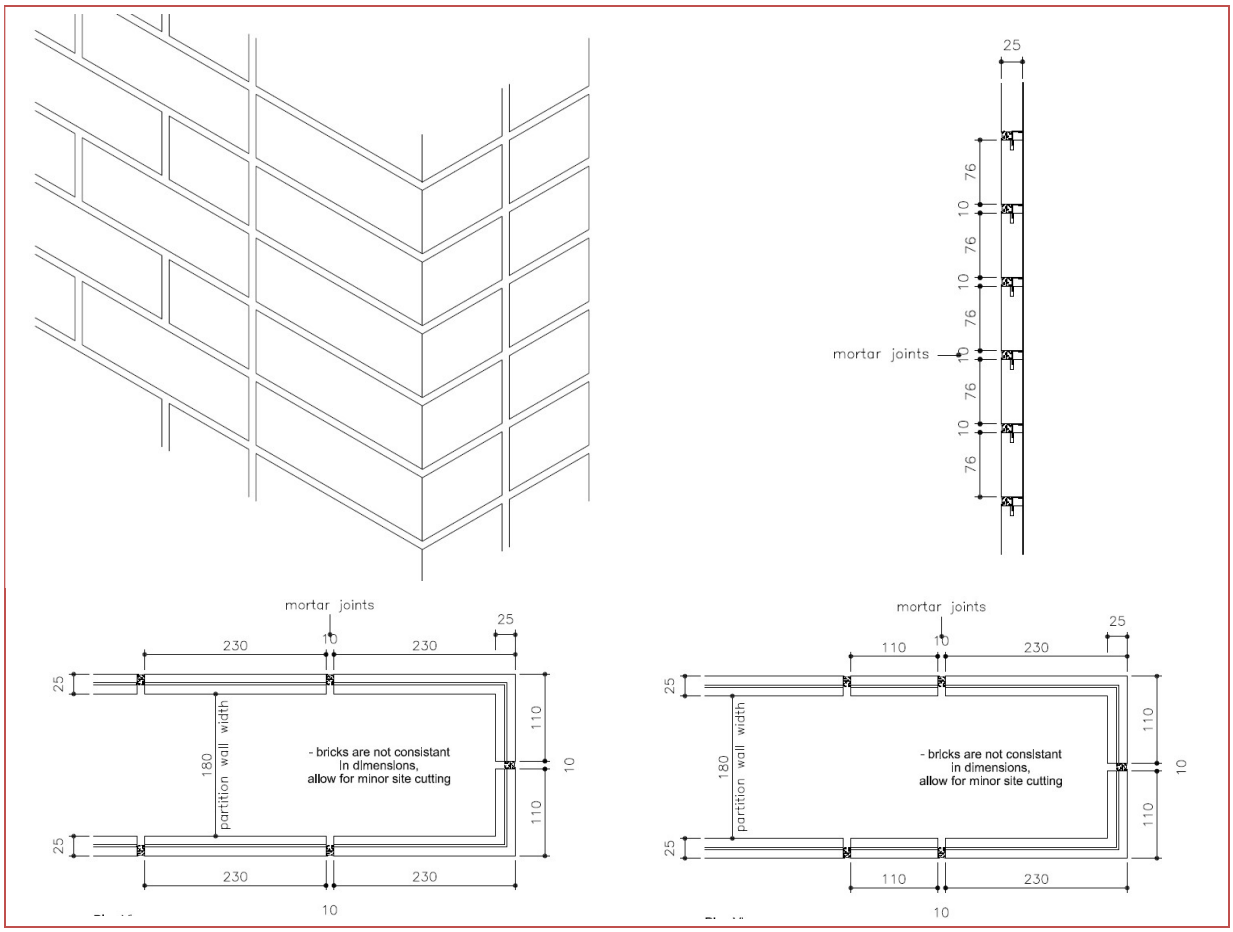
Window Jamb



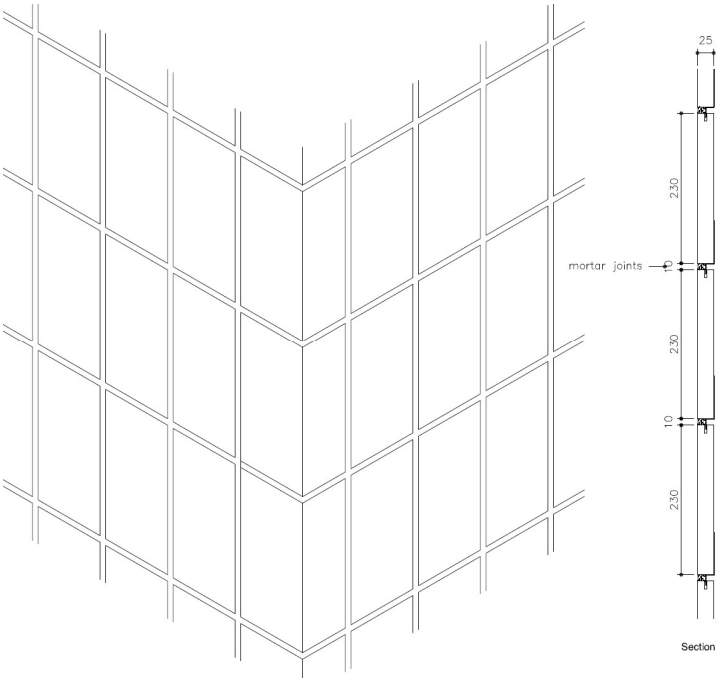
6.14 Wall End Detail – Stretcher Bond

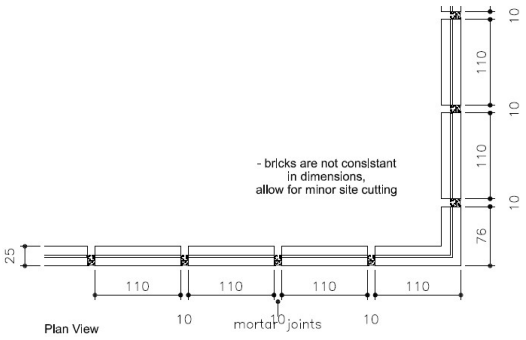


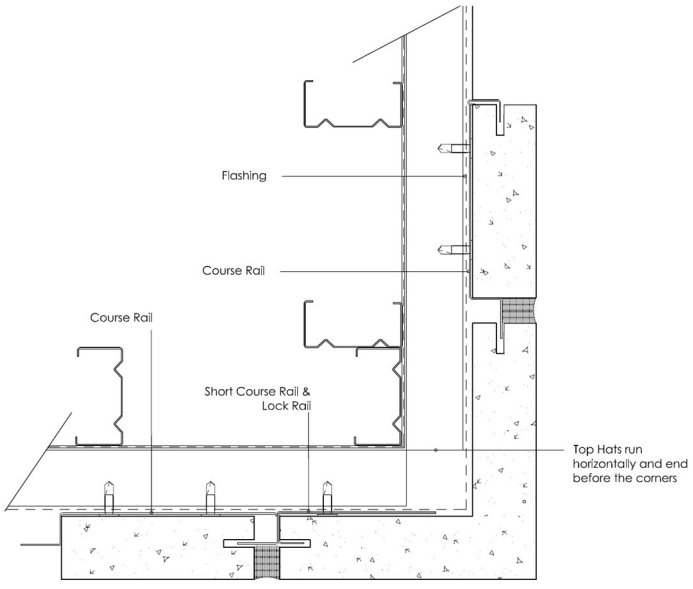
6.15 Wall End Detail – Stack Bond



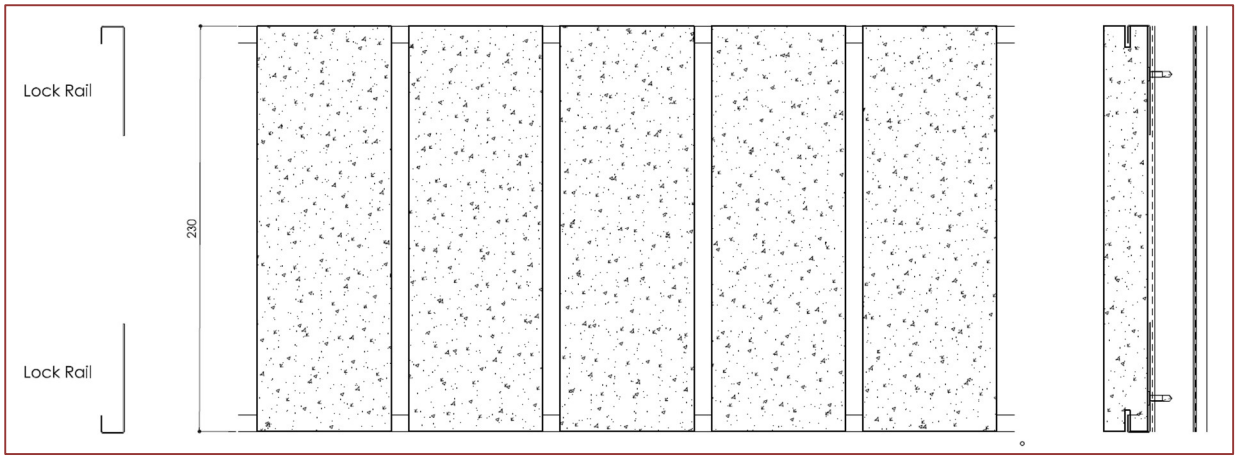
6.16 Soldier Course Corner Detail



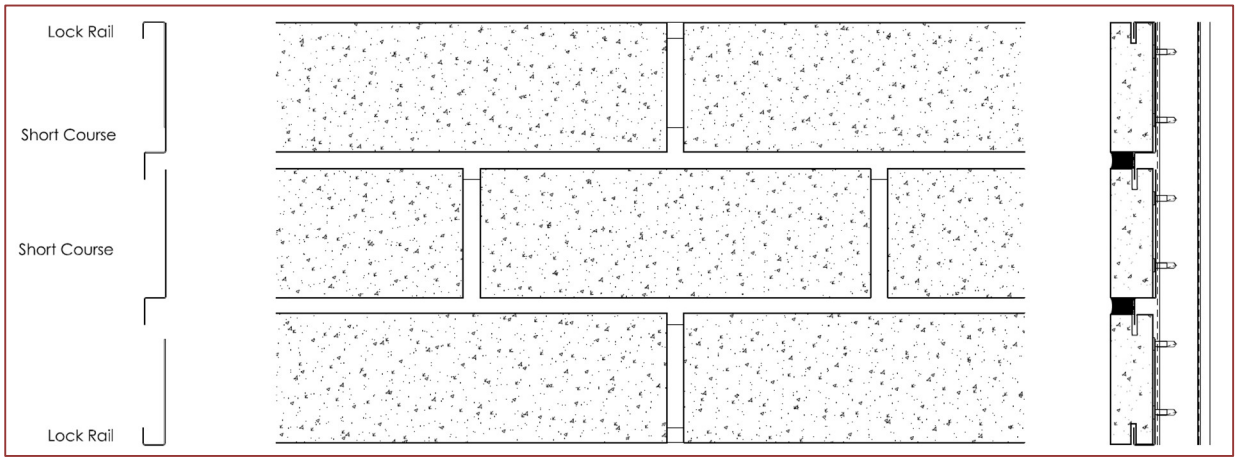




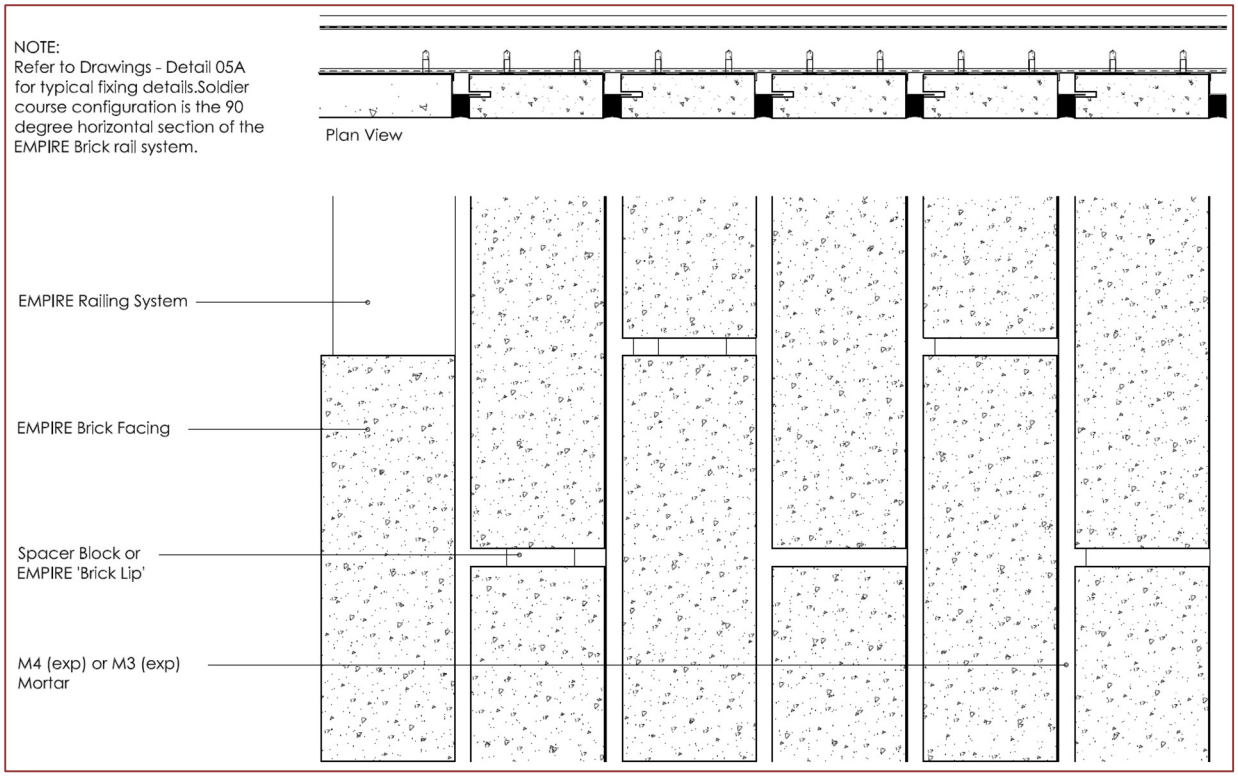
6.17 Slab End Soldier Course Detail



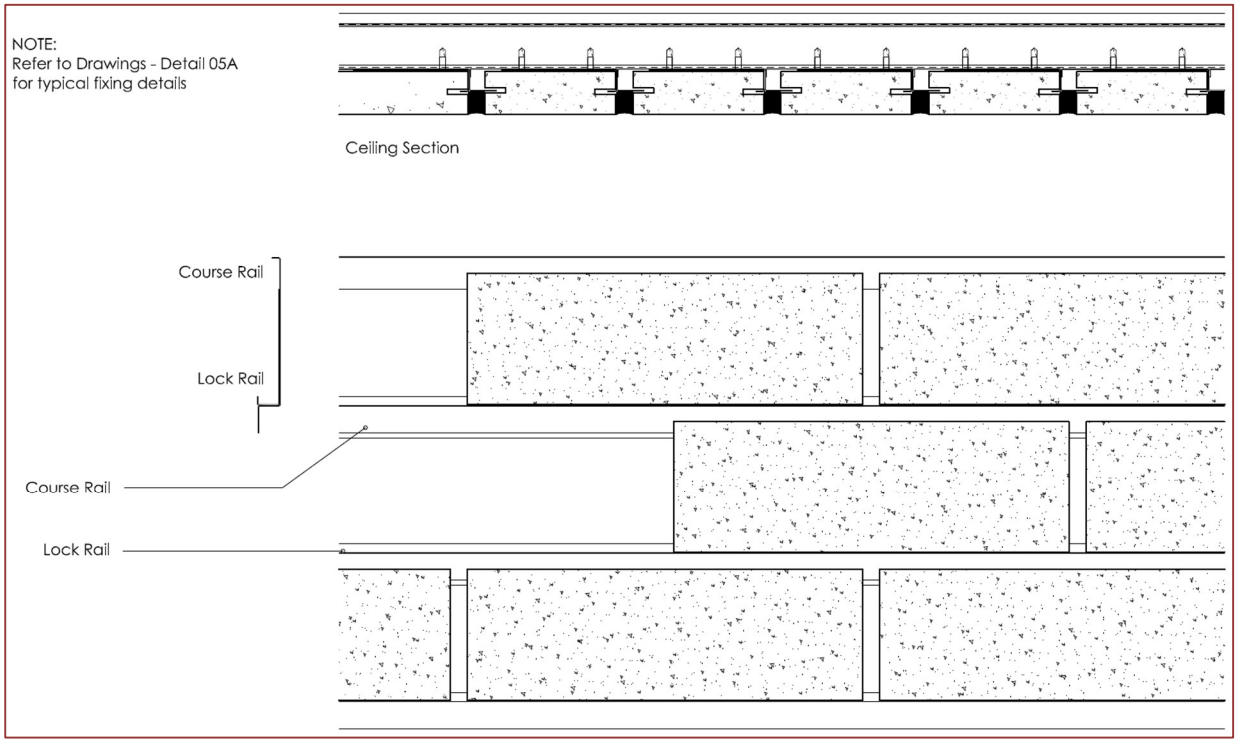
6.18 Slab End Stretcher Bond Detail



6.19 Soldier Course / Vertical Stretcher Bond Detail



6.20 Soffit / Ceiling Detail



7 Safe Handling and PPE

7.1 Site Safety

Local OH&S regulations must be adhered to when installing Empire Brick Cladding, with specific reference to handling and cutting of masonry and steel.

7.2 Personal Protective Equipment (PPE)

In addition to normal construction site PPE, the following PPE is recommended when installing Empire Brick Cladding:

- Eye protection
- Hearing protection
- Mask / respirator
- Gloves



8 Installation

8.1 Tools

The following tools are required when installing Empire Brick Cladding system:

Drop Saw	Nail Gun / Screw Gun	Pointing trowel
Masonry (wet) Saw	Impact driver / drill	Mortar pointing gun
Tin snips	Drill with mortar mixing paddle	Sealant / caulking gun
Knives	Mallet / Hammer	Tape measure
Spirit level	Straight edge	Chalk line

The above assumes the wall framing / substrate has been installed by the builder and/or previous trades and is ready for installation of the Empire Brick Cladding system.

8.2 Preparation

The supporting frame / substrate that the Empire Brick Cladding system will be fixed to, should be vertical, aligned and capable of supporting the cladding loads.

- Timber framing shall be designed and constructed in accordance with AS1684
- Steel framing shall be designed and constructed in accordance with AS4600 and/or NASH Standard
- Masonry walls / substrates shall be designed and constructed in accordance with AS3700
- Concrete substrates shall be designed and constructed in accordance with AS 3600
- Proprietary construction systems (such as permanent formwork walls) shall be constructed in accordance with the manufacturer's instructions and any relevant standards
- Rigid air barriers and pliable building membranes shall be installed in accordance with AS4200.2 and fit over the substrate prior to the Empire Brick cladding being installed
- Windows and external glazed doors shall comply with AS2047
- Flashing shall comply with AS/NZS2904

If the base wall frame / substrate is out of alignment, efforts should be made to bring the structure into alignment prior to installing the Empire Brick Cladding system.

If the substrate cannot be suitably aligned by prior trades, packers may be required to align the top hats. Note, all materials used must comply to the relevant Building Code Clauses and Standards, eg if non-combustible materials are required, plastic packers may not be permitted.

8.3 Weather Resistant Barrier

A weather resistant barrier shall be installed on the external surface of the frame / substrate. A high strength pliable building membrane compliant with AS4200.1 (and installed in accordance with AS4200.2) may be used in areas where ULS wind loads do not exceed 2.5 kPa or in accordance with manufacturers' instructions.



A rigid air barrier is recommended when pliable building membranes are unsuitable. In some cases, the rigid air barrier may also provide Fire Resistant Construction, check with manufacturers for compliance and Fire Resistance Levels (FRLs).

8.4 Flashing

Flashings should be installed in accordance with AS/NZS2904 to control moisture. Flexible and/or rigid flashings may be used in appropriate applications / locations around the building.

Rigid flashings should be located where the flashing can be seen from the exterior of the building and where required by the Building Code and Standards.

Rigid or flexible flashings may be required at the bases of walls and all floor edges. Flexible flashings may be used where the cavity is interrupted by an element such as a window or door and the flashing is hidden by external cladding or other materials.

Flashings shall be fixed to the substrate over the weather resistant barrier and extend a minimum of 150mm up from the lowest point and shall be fixed at 600mm maximum centres along the wall. All corners and joints shall be lapped by a minimum of 150mm.

8.5 Top Hats

The Empire Brick Cladding system is fixed to vertical top hats that are required to be spaced in accordance with section 5.1. The vertical Top Hat supports must create a cavity between the substrate and the Empire Brick Cladding system rails of at least 25mm.



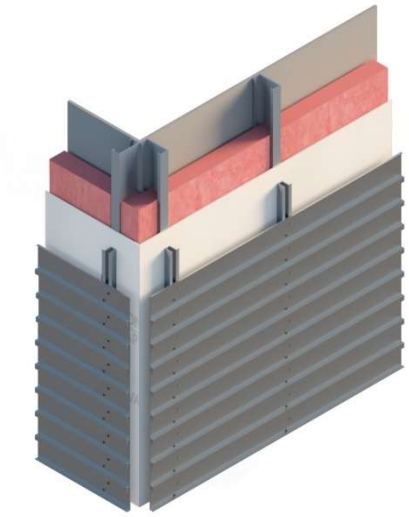
Top Hats are to be fixed to the substrate (over the weather resistant barrier) at a maximum spacing of 600mm, unless otherwise nominated by section 5.1 and/or structural engineering design specifications. The manufacturer of the Top Hats and/or project engineer should be consulted for selection and spacing of fasteners and correct installation of Top Hats to the frame / substrate.

8.6 Empire Rail Set Out

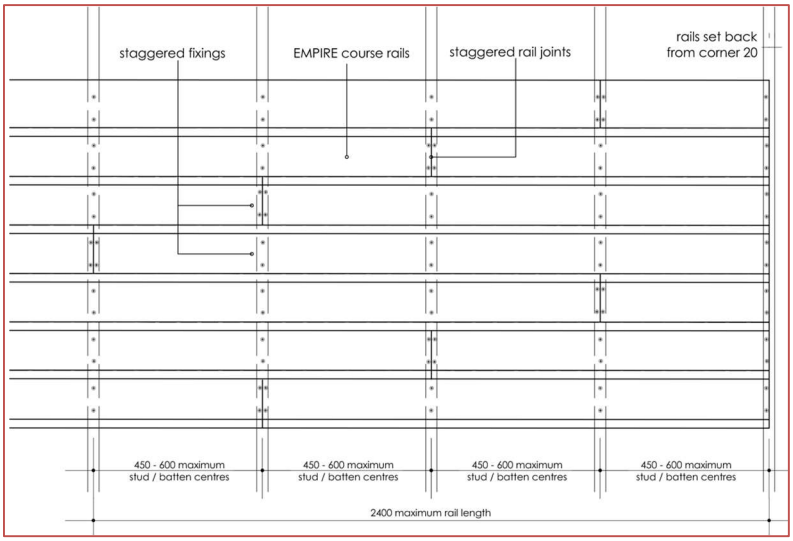
Empire Brick Rails are supplied in standard lengths of 2,400mm and are installed from the base of a wall working upwards.

Rails are fixed directly to the Top Hats using an appropriate fastener, as detailed in section 3.3, in general 2 fasteners per rail, per Top Hat is recommended.

Empire Brick Rails require butt joins between rails to be supported over a vertical support (ie Top Hat or batten), butt joins require each end to be fastened to the vertical support. Butt joins in rails shall be staggered between successive rails and may not be located directly above or below another butt join.



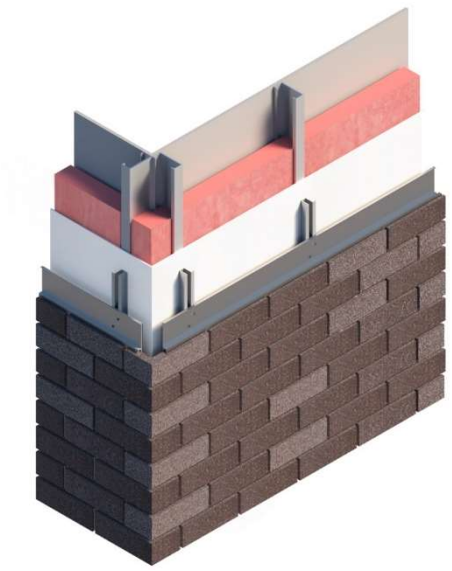
Rails may be cut to suit various lengths required, ensuring suitable end support. Rails shall be installed level and are required to be aligned at each corner, check each rail is level before final fastening.



Prior to continuing to installation of the Empire Brick facings, rails should be cleaned to remove any debris and moisture, and sample facings should be checked that they fit into the rails with suitable clearance for mortar joints and other building features.

8.7 Empire Brick Facings

Empire Brick facings are inserted into the steel rails with the top of the facing first, aligning the facings' top notch with the rail lip, and resting the lower edge of the facing onto the lower rail section.

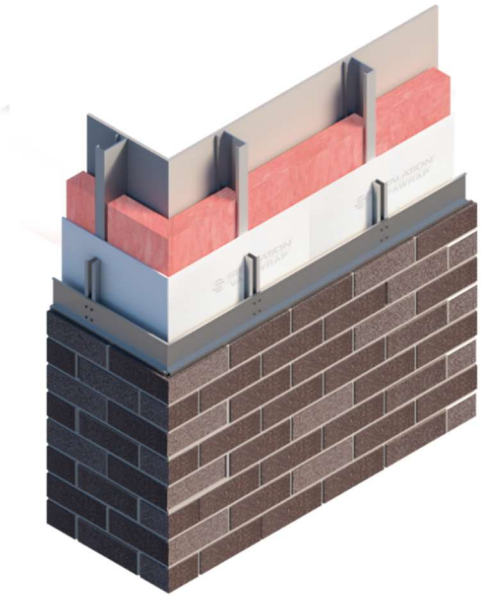


Should any facing become stuck, use a rubber mallet to apply a gentle tap to the bottom of the facing, allowing the facing to slot into place in the rail. Once Empire Brick facings are secured in the rail, they can be shifted into their final place using a gentle tap with a rubber mallet or timber offcut.

Brick facing positions should be set out from the corners on each elevation, adjusting the vertical perpend joint width to suit variations in facing lengths, ideal joint width to be 10mm (±3mm). Refer to typical construction drawing details in section 6 for external and internal corner details.

8.8 Mortar

Mortar is applied to the perpends and course joints using manual or mechanical means. As detailed in section 3.3, mortar recommended is generally M4 grade site mixed mortars (in accordance with AS 3700), other pre-mixed mortars compliant with AS3700 and other relevant standards may also be used.



Mixing, preparation and application of mortar shall be in accordance with standard industry practice and any manufacturers' instructions.

Ensure all mortar joints are filled without air bubbles and tooled / finished to achieve the desired finish, generally Ironed, Weather-struck or Flush joints may be achieved.

Once hardened, cleaning of the walls of any remaining mortar or construction mess may now be conducted.

8.9 Penetrations

All penetrations shall be caulked and sealed using backing rod and an approved caulking sealant joint material.

Penetrations may be drilled or cut into the Empire Brick Cladding system using appropriate masonry cutting or drilling tools. Any penetration larger than 12mm should be formed by removal of the brick facings and cutting through the steel rails behind, taking care not to damage the building structure and/or services.

When fixing items to the external wall (such as clothes lines, distribution boards etc) the loading from such items shall be fixed directly to the substrate, such that no dead load shall be carried by the Empire Brick Cladding system or the Top Hats / vertical supports.

8.10 Windows & Doors

Windows and doors shall be flashed over the top, down both jambs and across the sill with flashing material compliant with AS/NZS2904.

Aluminium window / door header and jamb trims may be installed so the Empire Brick Cladding system butts directly into the trim, a caulking sealant may be used to seal these joints.

At windowsills, a window sill flashing should extend over the top of the Empire Brick Cladding system, to prevent water getting into the wall cavity behind the Empire Brick Rails.

8.11 Control Joints

The provision for movement of and within the building structure is the responsibility of the building design professional and must be confirmed before proceeding with installation of the Empire Brick Cladding system. The location of all control joints is required to be planned prior to commencing installation.

Construction of any wall framing or structure shall be discontinuous behind vertical control joints, including the Empire Brick Rails. All vertical control joints shall be sealed at the external face with backing rod and an approved caulking sealant joint material.

Framing at horizontal control joint locations shall permit vertical movement of the building without causing damage to the Empire Brick Cladding system. Horizontal control joints shall generally be left open to permit airflow into and out of the external wall cavity, flashing may be installed to direct moisture out of the cavity, aesthetic considerations will determine if the flashing is rigid and decorative or flexible and hidden.

8.12 Cleaning

Cleaning should not proceed until the mortar has hardened, approximately 2-3 days after the mortar has been applied.

9 Architectural Specification

Empire Brick Facings Systems

Use: Lightweight Brick Veneer Cladding Systems – Mechanical and/or Adhesive Fix

Source: Empire BRIK Products – Phone: 1800 959 683

Mechanical Fixing

Preparation: Ensure substrate or framing matrix is plumb & level prior to application.

Rail Fixing: Fix manufacturer supplied metal backing / profile railing system to framing / substrate using recommended appropriate fixings. Install rails as per manufacturer's recommendations.

Facings attachment: Attach the grooved brick facings to the metal railing system by engaging the grooves and the fins of the railing system to manufacturers recommendations and standard building practices.

Adhesive Fixing

Preparation: Ensure substrate is plumb & level prior to application. The substrate shall be fully dry and cured, cleaned, free from grease, oil, dirt, curing compounds, form release agents, loosely bound materials and all other surface contaminants prior to commencement of installation.

Spacers: Where and if necessary, use mechanically fixed permanent brick spacers "Brick Lips", available from Empire BRIK products. Designed for Mortar to completely cover spacers in the mortar joints.

Adhesive: Contractor to adhere to structural engineer specified maximum allowable height for adhesive fixed brick slips. Use adhesive and any primer suitable for substrate as per local Adhesive Manufacturer/ Supplier's recommendations.

Joint filling

Joints: Set out masonry with joints of uniform width & the minimum cutting of masonry to create uniform horizontal and vertical joints.

Recommended joint finishes: Ironed, Weather struck or Flush.

Mortar: Mix & apply an M4 (Exposure grade) mortar mix via mortar bag, mortar gun or pump; using mortar flow additive, as required. Fill the joints and tool off, do not smear mortar all over the brick facings as it will not be removed easily.

NOTES

NOTES

DISCLAIMER:

Construction details enclosed are limited to the generalised design specification for Empire Brick Cladding products and are intended for use by a suitably qualified building professional only. Any use of the enclosed is at their own discretion and risk.

Any structural framing shown in the abovementioned details are to be reviewed and reassessed by a registered structural / façade engineer prior to installation.

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