ULTRATEX

WALL CLADDING & COATING PTY/LTD

Grey Board EIFS Wall Cladding System

INSTALLATION & TECHNICAL MANUAL

- **EIFS Direct Fix Wall Panel System**
- **EIFS Cavity Wall Panel System**

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Grey Board EIFS Wall Cladding System

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Grey Board EIFS Wall Cladding System

INTRODUCTION

Description

The Ultratex **Grey Board** Walling Cladding System is a complete façade system for use on exterior walls of homes and commercial buildings; it is weatherproof, stable and durable, and it provides good exterior insulation, commonly referred to as Exterior Insulation and Finishing systems (EIFS)

Ultratex **Grey Board** Walling Cladding System is made from expanded polystyrene (EPS), moulded Panels, secured, reinforced and coated with an exterior coating system to give an exterior wall having a durable structure and weatherproof property. It has been tested in accredited laboratories to meet required Australian Standards, and is within the performance requirements of the Building Code of Australia (BCA).

Attribute and Application

Ultratex **Grey Board** Wall Cladding System is quickly and easily installed on Timber framed buildings. It adds minimum weight to the structure and has good R value rating. It contributes to the improvement of the building's energy efficiency by providing first stage insulation and weatherproofing. Ultratex **Grey Board** EPS Panels can accept a range of approved polymeric renders and decorative finishes. This means any number of styles can be achieved amongst them traditional, heritage, and modern.

Grey Board Wall Cladding Systems Summary

Ultratex offers two tested Grey Board Wall cladding systems as follows;

1. **Grey Board EIFS Direct Fix Wall Panel System**
2. **Grey Board EIFS Cavity Wall Panel System (consists of enhanced water management system)**

1. Grey Board EIFS Direct Fix Wall Panel System specifications**;**

Important features

- Consists of Plain Polystyrene (EPS) Panels

General Description

- The Ultratex Grey Board EIFS Direct Fix Wall Panel System is constructed using 75mm or 100mm thick **Plain Polystyrene (EPS) panel fastened and fixed** directly on to he timber stud frame having a Weatherproof Breathable Wall Wrap(Sarking) in between.

- Starter Channel Bead is fixed on to the timber frame in required size.

- The panels are fastened directly into the studs using H8 Class 3 screws and 48mm diameter polypropylene washers at minimum screw spacing's of 300mm.

- The Panel joints are then sealed with Foam Adhesive, Corner angle beads are fixed and the panel surface is rendered with Ultratex Grey Board Render coating system having an embedded Fibre glass mesh placed across the entire panel surface. The render coat has a nominal thickness of 6mm.

Figure 1

Sectional view for Ultratex Grey Board EIFS Direct Fix Wall Panel System

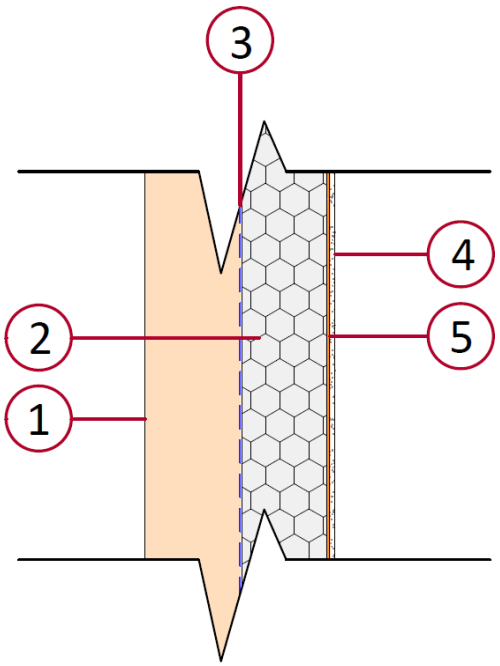


Fig 1 Direct Fix Wall Panel System

1. Timber Stud Frame 90mm x 35mm or as per BCA and AS1684-2006 Timber Frame

2. Plain Polystyrene (EPS) Panel

3. Breathable Wall Wrap (Sarking)

4. Ultratex Grey Board Render coating minimum 6mm thick

5. Fibre Glass Mesh embedded into render – 160gsm 5mm x 5mm

2. **Grey Board EIFS Cavity Wall Panel System specifications**;

Important features

- Consists of Pre-Coated Polystyrene(EPS) Panels
- Consists of Polystyrene(EPS) Batten to create cavity–(for improved water management system)

General Description

- The Ultratex Grey Board EIFS Cavity Wall Cladding System is constructed using 50mm, 75mm or 100mm thick **Pre-Coated Polystyrene (EPS) panel, 25mm thick by 35mm wide H-Grade Polystyrene battens with bottom cavity closer**. Weatherproof Breathable Wall Wrap (Sarking) is fixed directly to the standard timber stud frame

- The 25mm x 35mm battens are directly fixed onto the Breathable Wall Wrap using 2.88mm x 40mm galvanized nails fastened onto the studs.

- Starter Channel Bead is fixed on to the timber frame if required sizes.

- The panels are then fastened and fixed on to the battens and into the timber studs using H8 Class 3 screws and 48mm diameter polypropylene washers at minimum screw spacing of 300mm.

- The panel joints are then sealed with Foam Adhesive, Corner angle bead are fixed and a 200mm strip of 160gsm adhesive fibreglass mesh is placed over panel joints, the system is them rendered with Ultratex Grey Board Render coating system at a nominal thickness of 6mm.

Figure 2

Sectional view for Ultratex Grey Board EIFS Cavity Wall Panel System

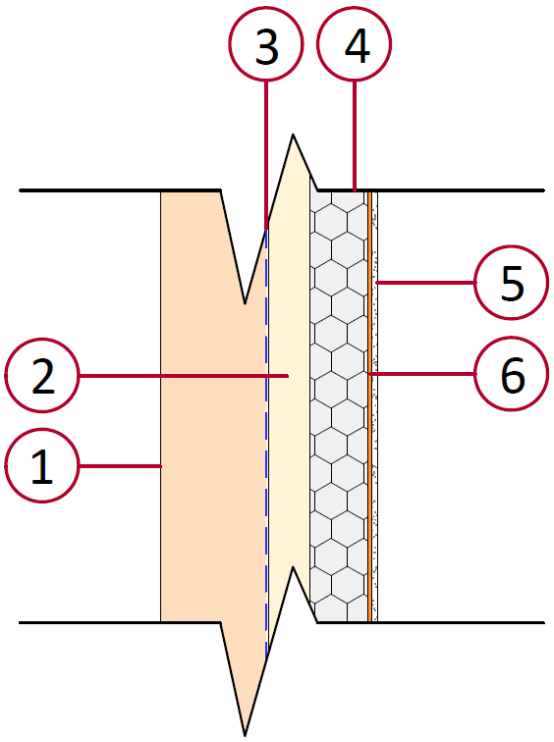


Fig 2 Cavity Wall Panel System

1. Timber Frame
90mm x 35mm or as per BCA and AS1684-2006 Timber Frame

2. Polystyrene Batten 'H' Grade (23Kg/CuM)-25mm Thk X 35mm WD

3. Breathable Wall Wrap (Sarking)

4. Pre-Coated Polystyrene (EPS) panel

5. Ultratex Grey Board Render coating minimum 6mm thick

6. Fibre Glass Mesh embedded into panel render

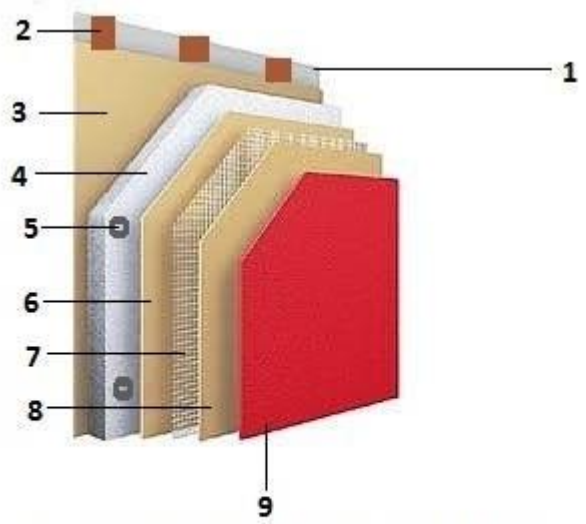
Panel Properties & Thermal Rating

- Ultratex **Grey Board** EPS Panel is an Expanded Polystyrene (EPS) material. The physical properties of the EPS panel comply with AS1366 Part 3-1992 for Rigid Cellular Polystyrene Moulded Class S Grade.
- Ultratex **Grey Board** Wall Cladding System can provide a weatherproof face to a building, when correctly installed with Breathable Wall Wrap (Sarking) and finished with the proper detailed flashings, and approved Coating System as mentioned in this manual.
- The 'R' value is a measure of thermal resistance; it is expressed as a thickness of the material divided by thermal conductivity.

Table: 1 **Material Density & Panel Thermal resistance - 'R' Values**

Density Polystyrene panels 'S' Grade	**R Value at 23°C(m2.K/W)** **Panel thickness**		
	50mm	**75mmPanel**	**100mm Panel**
16.5Kg/cuM	1.32	1.95	2.63
	1.52 coated	2.18 coated	2.9 coated

GREY BOARD WALL CLADDING SYSTEM STAGE VEIW



1. Interior Plaster Board 2. Timber Stud Frame
3. Breathable wall wrap 4. Polystyrene(EPS) Panel
5. Fasteners(Screw+ Washer) 6. Base coat- Grey Board Render
7. Fibre Glass Mesh 8. Base coat- Grey Board Render
9. Finish coat

DESIGN CRITERIA & PRODUCT TESTING

Installation Design

Installation and fixing requirements must – without exception – be in accordance with details stipulated in the manual and as per the requirements of the local building authority and currently prevailing Building codes.

Structural Design & Weatherproofing

The Ultratex **Grey Board** Wall Cladding Systems System structural design and weatherproofing performance was evaluated in accordance through tests performed by VIPAC Engineers & Scientists in their accredited laboratory.

Ultratex EIFS Wall Panel systems tested consist of the following;

System1. Grey Board EIFS Direct Fix Wall Panel System

Report No. 30B-13-0093-TRP-342062- 1

System2. Grey Board EIFS Cavity Wall Panel System

Report No. 30B-13-0093-TRP-341303- 1

As per test report furnished by Vipac Engineers, the Wall panel system complies with following standards;

AS/NZS4284:2008 -Testing of building facades (Clause 8.5 & 8.6)

- Weatherproofing

AS1562.1:1992 (AS4055:2012) Design and Installation of sheet roof and wall cladding

- Resistance to Wind Pressure, Method - AS4040.2:1992 (Resistance to wind pressures for non-cyclonic regions)
- Resistance to Concentrated loads, Method - AS4040.1:1992,
- Resistance to Impact AS1562.3.3:2006, Method - AS4040.5:1992

Table: 2 Ultratex Grey Board EIFS Direct Fix Wall Panel System Configuration

System 1. Ultratex Grey Board EIFS Direct Fix Wall panel System(plain EPS panels)

Wind Category up to N5 (non cyclonic)	
Timber Frame and Stud Size - 90mmX35mm or as per AS 1684:2006 for Timber frames, Galvanised Bracings should be used as per standards.	
Stud Spacing's (max)	600mm
Fastener/Screw Fixing Centres (spacing's)	300mm
Qty of Screws and Washers Per 1.2m x 2.5m panel use 5 fasteners/stud(300cts)	25
Qty of Screws and Washers Within 1200mm from corners of buildings, Per 1.2m x 2.5m panel use 6 fasteners/stud (220mmcts)	30

Edge Fixing Requirements

When the panel is laid horizontally fix screw and washer 50mm from the top and 50mm from the bottom edge of the sheet to centre of screw at maximum of 600mm stud spacing

Fasteners for panel

Each fastener comprises:

- 1 Galvanised H8 Class 3 screws or Stainless steel 316 Class 4 screws for severe grade
- 1 Plastic Washer 48mm Dia

Plain EPS Panel Thickness & Size	Screw Size	Starter Channel Bead Size
75mm X 1.2M X 2.5M	100mm	75mm x 2.5M
100mm X 1.2 X 2.5	125mm	100mm x 2.5M

Table: 3 Ultratex Grey Board EIFS Cavity Wall Panel System Configuration

System 2. Ultratex Grey Board EIFS Cavity Wall panel System(pre-coated EPS panels)

Wind Category up to N5 (non cyclonic)

Timber Frame and Stud Size - 90mmX35mm or as per AS 1684:2006 for Timber frames, Galvanised Bracings should be used as per standards.

Stud Spacing's (max)	600mm
Fastener/Screw Fixing Centres (spacing's)	300mm
Qty of Screws and Washers Per 1.2m x 2.5m panel use 5 fasteners/stud(300cts)	25
Qty of Screws and Washers Within 1200mm from corners of buildings, Per 1.2m x 2.5m panel use 6 fasteners/stud (220mmcts)	30

Edge Fixing Requirements

When the panel is laid horizontally fix screw and washer 50mm from the top and 50mm from the bottom edge of the sheet to centre of screw at maximum of 600mm stud spacing

Fasteners for panel

Each fastener comprises:

- 1 Galvanised H8 Class 3 screws or Stainless steel 316 Class 4 screws for severe grade
- 1 Plastic Washer 48mm Dia

Batten's for cavity system

- 'H' Grade Polystyrene(23Kg/CuM)
- Size: 25mm thk x 35mm WD x 2.5M

Cavity Closer for cavity system

- 25mm width Perforated aluminium angle L shaped, allows water to leave the cavity, perforated min 1000sqmm per linear metre. Attached to the frame at its bottom plate

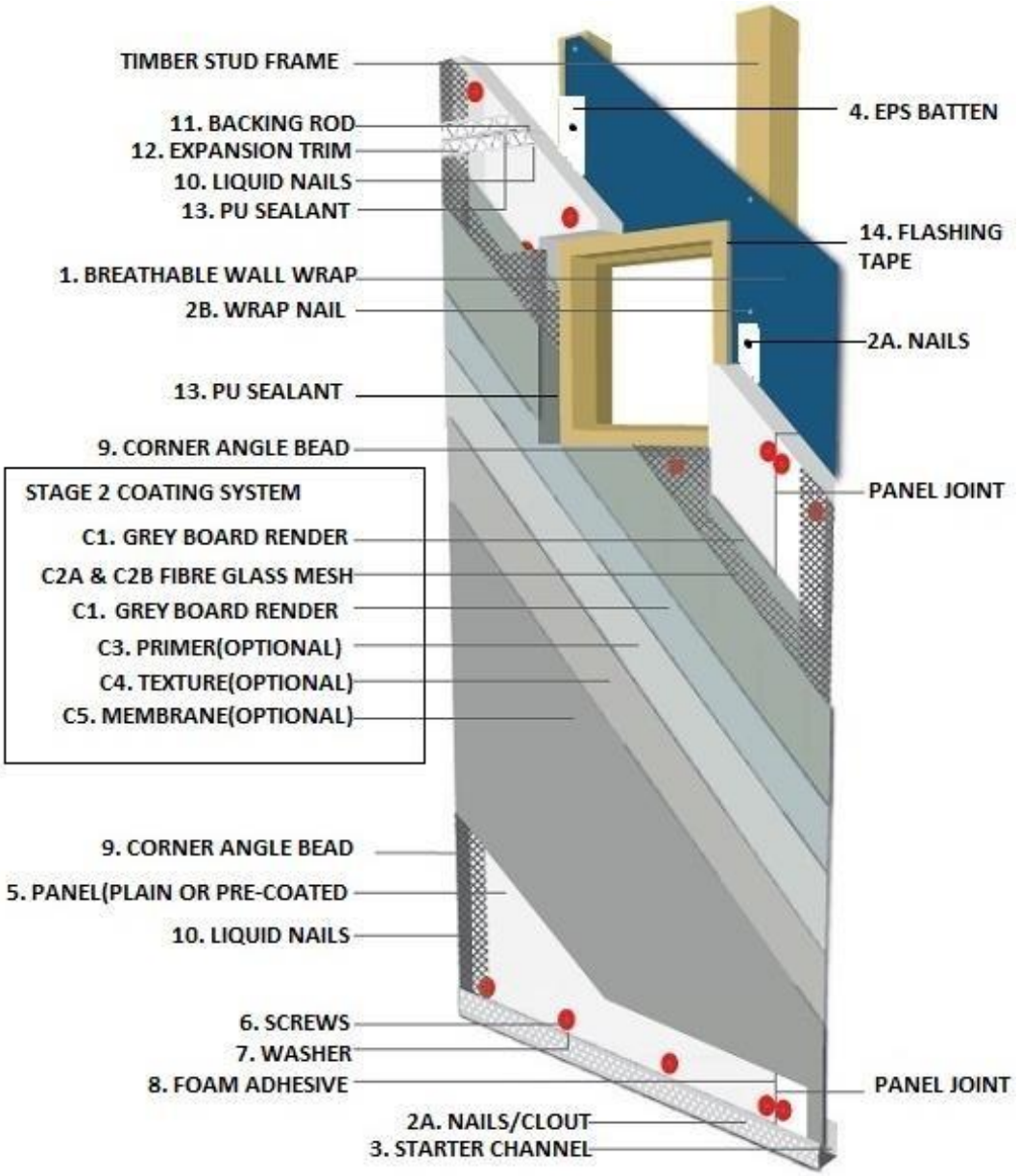
Pre-Coated Panel Thickness & Size	Screw Size	Starter Channel Bead
50mm X 1.2M X 2.5M	100mm	50mm x 2.5M
75mm X 1.2M X 2.5M	125mm	75mm x 2.5M
100mm X 1.2M X 2.5M	150mm	100mm x 2.5M

Design Conditions

- All fastening must be protected against corrosion as set out in Part 4 and Appendix C of AS4773.1:2010 Masonry in small buildings Part 1: Design and particularly;
    - for areas less than 1km from breaking surf; or less than 100m from salt water not subject to breaking surf; or within industrial areas (severe environments); Class 4 (R4) durability classification connectors and accessories shall be used (typically corrosion grade 316 or 316L stainless steel or engineered polymer)
    - for areas 1 km or more but less than 10km from breaking surf or 100m or more but less than 1 km from salt water not subject to breaking surf (marine environments),Class 3 (R3) durability classification connectors and accessories shall be used (typically connectors and accessories galvanised after manufacture -470g/m2 coating mass)
- For fixing of windows in external walls, these must satisfy BCA Volume 2 DtS provision 3.6.0 & *AS 2047—1999; Windows in buildings— Selection and installation.*
- Eaves and soffit linings must satisfy BCA Volume 2 DtS provision 3.5.3.5.
- Flashings to wall openings must satisfy BCA Volume 2 DtS provision 3.5.3.6.
- Windows must satisfy BCA Volume 2 DtS provision 3.6.0 & AS 2047—1999; Windows in buildings— Selection and installation.
- The Ultratex Grey Board Cladding System is combustible as defined in the BCA and AS1530.1 and must be located >900 mm from boundaries, as described in the BCA Part 3.7

ULTRATEX GREY BOARD WALL PANEL SYSTEM OVERVIEW

INSTALLATION & COATING



Grey Board EIFS Wall Cladding System

Material Check List for Grey Board Wall Cladding System Stage 1 - INSTALLATION		
	Image	**Description/Specification/Size**
No.	**Supporting Frame Structure**	**Timber Stud Frame** – 90mm x 35mm (including bracing) The frame structure must be built in accordance with the Building Code of Australia (BCA) and with the relevant Australian Standards, for instance, AS1684-2006 Timber Frame.
1		**Weatherproof Breathable Wall Wrap(Sarking)** • Heavy Duty –AS4200.1.1994 • Sizes: 1.35M X 36.5 & 2.74M X 30.0M • Should be overlapped on studs min 75mm on horizontal joints and 150mm on vertical joints
2A **2B**	 For Starter channel/Battens  For Breathable Wall Wrap	**2A -Nails/Clouts** (for fixing Starter channel & Battens) • Galvanised Steel Flat Head Nails(hot dipped) • Size : 2.8mm x 40mm, Pack Size: 250 or 500/Box **2B – Wrap nails** • Galvanised Foil Fixing Nails for timber(pack-500/Box)
3		**Starter Channel Bead** (in 90 &120 Degree) *For Size refer Table 2 & 3 above* • Aluminium channel, with weep holes • Sizes: 75mm, 100mm & 125mm in 2.5MLengths

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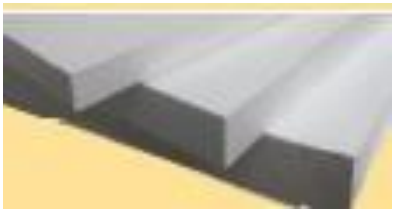
4		**Battens** (only for Cavity System) • Type : 'H'Grade Polystyrene (23Kg/CuM) • Size: 25mm THK X 35mm WD X 2.5M Length
5	 Plain Polystyrene Panel for Direct Fix System  Pre-Coated Panel for Cavity System	**Grey Board Panels** Type: Plain(Raw) & Pre-coated Polystyrene(EPS) panels **Direct Fix System Plain Panel Thickness** / **Cavity System Pre-Coated Panel Thickness** 75mm / 50mm 100mm / 75mm — / 100mm
6		**Fastener - Screws (for fixing panels)** *For Size and Quantity refer Table 2 & 3 above* • Galvanised H8 Class 3 screws • Stainless steel 316 Class 4 screws for Severe Grade • Sizes: 100mm , 125mm and 150mm long
7		**Fasteners - Washers (for fixing panel)** • Plastic (PP) • Size: 48mm Dia

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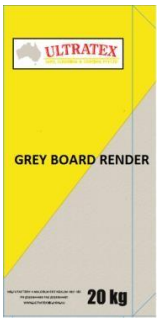
8		**Foam Adhesive** (for panel joints) The adhesive foam is expandable and is a pressurised canister dispensing system, used for panel joints (panel to panel joining). • Fishers - Poly Urethane Adhesive Foam -750ml • Fishers - Gun Cleaner Solvent • Gun applicator
9		**External Corner Angle Bead** • Aluminium -32mmx32mm x 2.7M or 3M Length for Direct Fix System • Aluminium with Mesh(75mmx125mm) for Cavity System • Stainless Steel - for Severe Grade
10		**Liquid Nails(**for fixing corner beads / Expansion trim) • SikaBond (Construction Adhesive) or Selleys Liquid (nail fast set only) • Size: 300g cartridge
11		**Backing Rod** (for expansion joints) • Polyurethane – 10mm Dia X 210LM
12		**Expansion Joint Trim (UPVC)** (for expansion joint) • Plastic Expansion Joint Trims – UPVC • 3M Length
13		**PU Sealant (SIKAFLEX PRO) or equivalent** Used around the windows, doors & Expansion joints Minimum 5mm to max 10mm tolerance to be considered • Sikaflex Pro-Polyurethane paintable Sealant • 600mL Sausage & 310mL Cartridge

14		**Flashing Tape** For use around window and door joinery and all openings on panel for fixtures - to be installed by the installer during installation and building wrap to be tapped and sealed with tape. • Flashing tape is to comply with AS 2904 – 1995 • Bitumen or similar water proof adhesive tape, Aluminium Adhesive Foil Tape • Sizes-75mm x 50M & 100mm x 50M Roll
15		**Damp Proof Course** • Waterproofing between concrete slab • Bitumen PE Roll (as per AS2904-1995) • Sizes: 110mmx 20M & 300mmx 20M Roll

Grey Board EIFS Wall Cladding System

	Stage 2 – COATING SYSTEM	
C1		**Ultratex Grey Board Render(Base Coat application)** • Pack: 20Kg Bag (57 Bags /pallet) • Coats: 2 coats (Render thickness minimum 6mm) • 3.5 to 4 SqM per Bag @ 3-5mm thk
C2A		**Alkali Resistant Fibre Glass Mesh** • Used across entre panel for **Direct fix wall system having plain Polystyrene panels,** embedded into render wet on wet across entire panel, overlapping mesh joints 100mm • Type: 5mm x 5mm – 160GSM • Size: 1.2M x 50M Roll
C2B		**Alkali Resistant Fibre Glass Jointing Mesh** • Used on joints **for Cavity wall system having pre-coated Polystyrene panels** • Type: 5mm x 5mm – 160GSM • Size: 200mm x 50M
C3		**Ultratex Primer – OPTIONAL** • Apply one coat of Primer using a 10-12 mm nap roller • Pack: 15L Pail – Coverage 100SqM/pail @ WFT 75-100uM
C4		**Ultratex Texture – OPTIONAL** • Apply one coat of Trowel Texture or Roll on Text • Pack: 15L –Coverage Medium Trowel Tex> 12SqM/pail
C5		**Ultratex Membrane – OPTIONAL** • Apply one coat of Membrane using a 20-30mm nap roller • Pack: 15L Pail –Coverage 60-70SqM/pail

INSTALLATION AND COATING OVERVIEW GUIDE

INSTALLATION –STAGE 1

Preparation

Prior to installing EPS Panels, ensure that solid blocking are installed as per approved building standards for installation of hot water systems, air-conditioning units, clothes lines, etc. Walls must be (± 5mm) for best results. Breathable Wall Wrap (Sarking) must be fixed to all areas where EPS Panels are being installed, directly on stud frame using foil fixing nails with silver side facing inwards towards stud frame.

Cutting

For most accurate, clean and minimal mess cutting, it's recommended to use a diamond tipped masonry blade or fibre cement blade on a hand power saw. For best results with intricate cutting, a hand saw or hot knife must be used.

Fixing Process

EPS Panels are installed vertically or horizontally. In Direct Fix system, starter channel bead is nailed to the timber frame bottom panels are screwed directly to the stud frame panel via Breathable Wall Wrap (Sarking). In Cavity system, cavity closer is nailed to the frame-bottom plate, battens fixed via Breathable Wall Wrap (Sarking) to the stud frame, starter channel bead are nailed to the bottom plate, panels are there after screwed on to the frame via the 25mm batten as spacers. Screw heads and washers must be slightly recessed into surface of the panel to ensure there are no raised areas and positioned at a maximum of 300mm centres. All joints between Panels must be glued with Expanding Foam Adhesive. All large openings in panel for windows, doors and other penetrations should be filled with expanding foam and sealed with Aluminium Flashing Tape directly to the Wall Wrap (Sarking).
All gaps along the window, doors and other fixtures must be properly sealed with PU Sealant after completion of rendering.

EPS Panels are not to be glued to stud frame. This will allow the frame to expand and contract without stressing the external coating.

Back Blocking of stud joints

Where sheet sides or ends do not finish on a stud, solid back blocking must be installed to strengthen and align joints. Back blocks are cut from off cuts of stud material.
The back blocks can be placed aligned with the joint or placed at 300mm centres perpendicular to the joint. Back blocks are to be nailed securely to the frame.

External Corners Angles, Starting Beads & Cavity Closer

Every external corner and any exposed areas such as windows, doors, roof line etc, must be protected with a Corner Angle Bead. This in turn will protect the panel and provide a clean finish

line for coating. A Starter Channel Bead must be used at the bottom of the EPS Panels which act as a drip mould for moisture to escape as they have weep holes approximately every 200mm.
In case of cavity system, cavity closers have to be installed first to the frame bottom plate via the breathable wrap

Expansion/Control Joints
Correct building practice requires that vertical expansion joints must not exceed 5 metres where the length of a wall is greater than 8 metres. Horizontal expansion joints must not exceed more than 3 metres.
Create a control joint by cutting a grove through the render and mesh above windows, door openings and internal corners. Prior to texture coating, joint must be filled with a flexible sealant. It is imperative that an expansion joint occurs when EPS Panels meets other substrates.

After the installation and preparation of the EPS Panels, the Panels have to be coated as per Coating System. AS FOLLOWS;

COATING SYSTEM – STAGE 2
Grey Board Coating system consists of the following steps; (Step1. Mandatory)
Step1. Grey Board Render –Base coat – C1 & C2A & C2B Grey Board Render plus Mesh
Step2. Primer coat – Ultratex Primer – C2 – optional-Apply one coat of Primer
Step3. Texture coat – Ultratex Texture – C3 – optional-Apply one coat of Texture
Step3. Top Coat – Ultratex Membrane – C4 – optional-Apply one coat of Membrane

For Direct Fix Wall Panel System (Type of Panel: Plain Polystyrene)
Product: C1 and C2A

- Application – Base coat: 2 coats Coat's of Grey Board Render with Mesh embedded across entire panel (using 1.2M x 50M roll)
- Add one (1) 20kg bag of Grey Board Render to 3.5 - 4.0 litres of clean water using a power stirrer to mix until the consistency is smooth and lump free. Allow the mix to stand for 5 minutes, remix before use or before adjusting consistency if required.
- Apply a 3-5mm basecoat of Grey Board Render onto the panel using a steel trowel with enough pressure to adhere the product. Whilst the basecoat is wet embed a full layer of alkali resistant 160gm/m² (5mm x 5mm) fibreglass mesh ensuring that the mesh pieces overlap by a minimum of 100mm at mesh joints. Panel joints should be evenly covered with the same embedded mesh (avoid overlap of mesh joints near the main panel joint). Strips of mesh at 45 degree angle or equivalent, 300mm long by 150mm wide, should be embedded across the corner of all window and door openings.
- In the same sequence apply another coat of Render at a thickness of 2-3mm on top of the full mesh, embedding the mesh between these layers of Render. On setting use a straight edge and screed surface, thereafter using a polystyrene float, finish the surface to give an even and level finish.

- Grey Board Render should be of minimum 6mm thick.
- Do not apply render over expansion joints.
- Grey Board Render should be completely dry before application of top coats.

For Cavity Wall panel System: (Type of Panel: Pre-coated)
Products: C1 & C2B

- Application - Base coat: 2 coats of Grey Board Render with 200 mm Mesh embedded on panel joints only.
- Apply a 3-5mm basecoat of Grey Board Render onto the panel using a steel trowel with enough pressure to adhere the product. Whilst the basecoat is wet embed 200mm Mesh across panel joint only (160gm/m² (5mm x 5mm) fibreglass mesh). Panel joints should be evenly covered with the same embedded mesh (avoid overlap of mesh joints near the main panel joint). Strips of mesh at 45 degree angle or equivalent, 300mm long by 150mm wide, should be embedded across the corner of all window and door openings.
- In the same sequence apply another coat of Render at a thickness of 2-3mm on top of the full mesh, embedding the mesh between these layers of Render. On setting use a straight edge and screed surface, thereafter using a polystyrene float, finish the surface to give an even and level finish.
- Grey Board Render should be of minimum 6mm thick.
- Do not apply render over expansion joints
- Grey Board Render should be completely dry before application of top coats.

For Details of Render Application Refer to Product Data Sheet on Grey Board Render in this manual.

Application of **Ultratex Primer, Ultratex Texture and Ultratex Membrane** are optional products for both the systems and can be replaced by products equivalent to the Ultratex Brand, it is however important to apply the recommended coating system for exterior performance and durability.

INSTALLATION AND FIXING DETAILS

Figure 3A - **HORIZONTAL JOINT** - SECTION VIEW – **Direct Fix System**

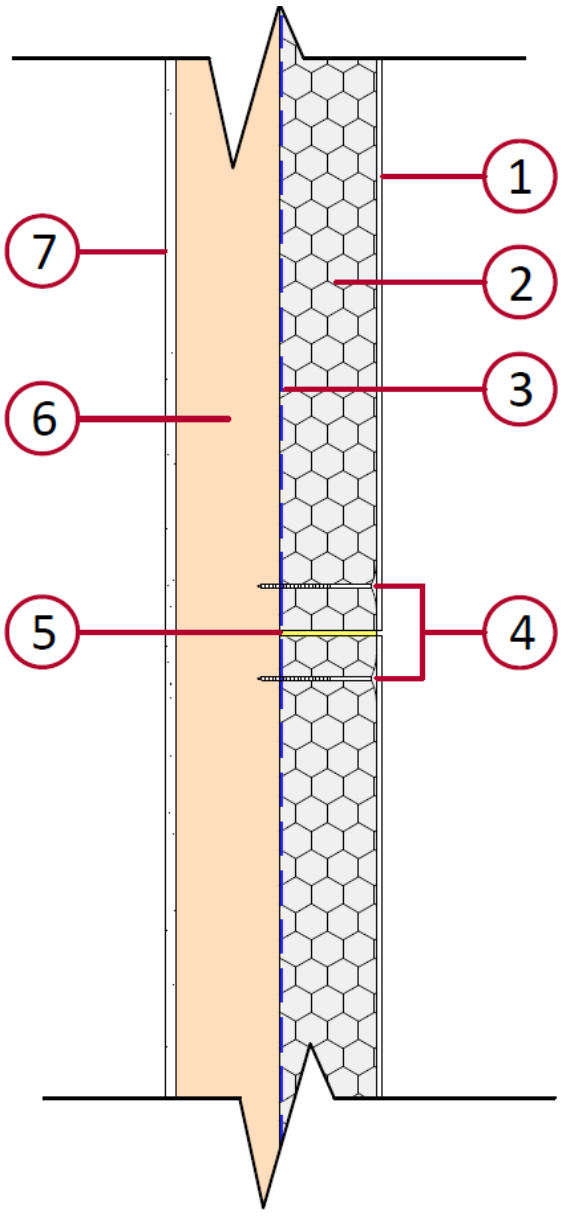


Fig 3A Horizontal Joint - Direct fix System

1. Grey Board Render coating minimum 6mm thick with embedded Mesh.
2. Plain Polystyrene (EPS) Panel
3. Breathable Wall Wrap (Sarking)
4. Fasteners- Screws and Washers
5. Foam Adhesive (panel joint)
6. Standard Timber Stud Frame 90mm x 35mm
7. Internal plaster board

Figure 3B - **HORIZONTAL JOINT** - SECTION VIEW – **Cavity System**

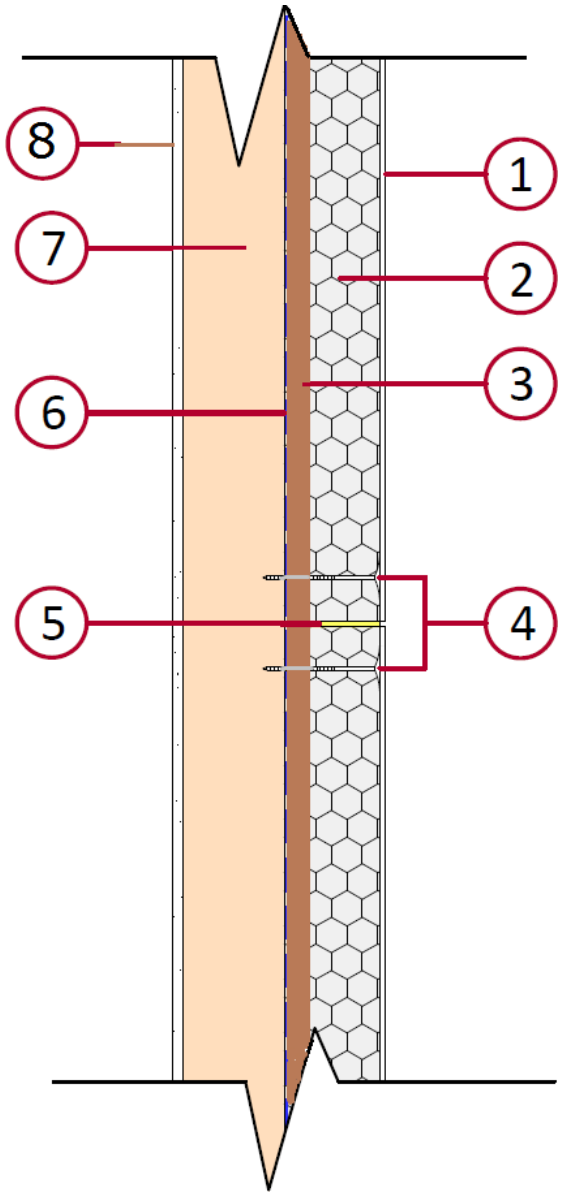


Fig 3B Horizontal Joint - Cavity System

1. Grey Board Render coating minimum 6mm thick with embedded Mesh.
2. Plain Polystyrene (EPS) Panel
3. Batten EPS -'H' grade 25mm x 35mm
4. Fasteners- Screws and Washers
5. Foam Adhesive (panel joint)
6. Breathable Wall Wrap (Sarking)
7. Standard Timber Stud Frame 90mm x 35mm
8. Internal plaster board

Figure 4A – **VERTICAL JOINT** - SECTION VEIW – **Direct Fix System**

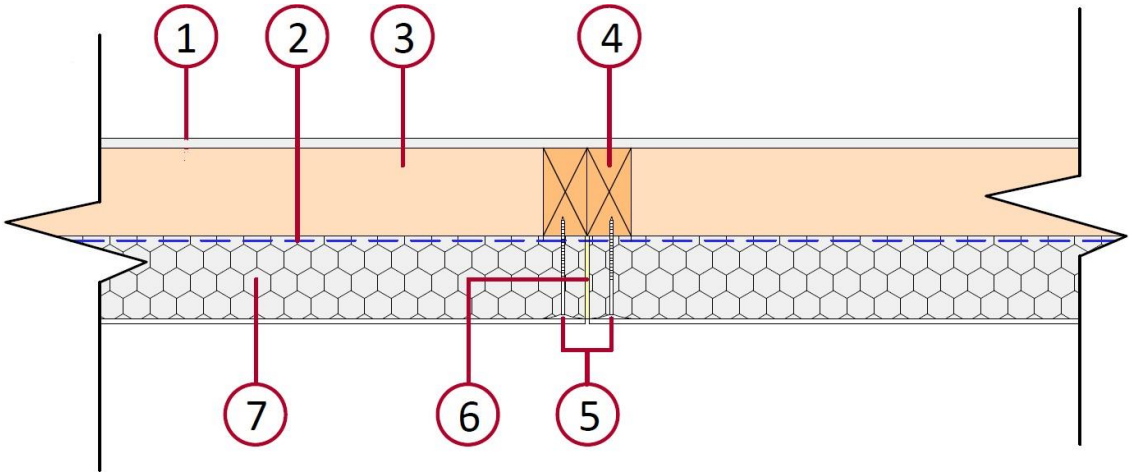


Fig 4 Vertical Joint-Direct Fix System

1. Internal Plaster Board
2. Breathable Wall Wrap (Sarking)
3. Standard Timber Stud Frame 90mm x 35mm
4. Double Stud –Back Block 90mmx45mm
5. Fasteners –Screws and washers
6. Foam Adhesive (panel joint)
7. Plain Polystyrene EPS Panel

Figure 4B – **VERTICAL JOINT** - SECTION VEIW – **Cavity System**

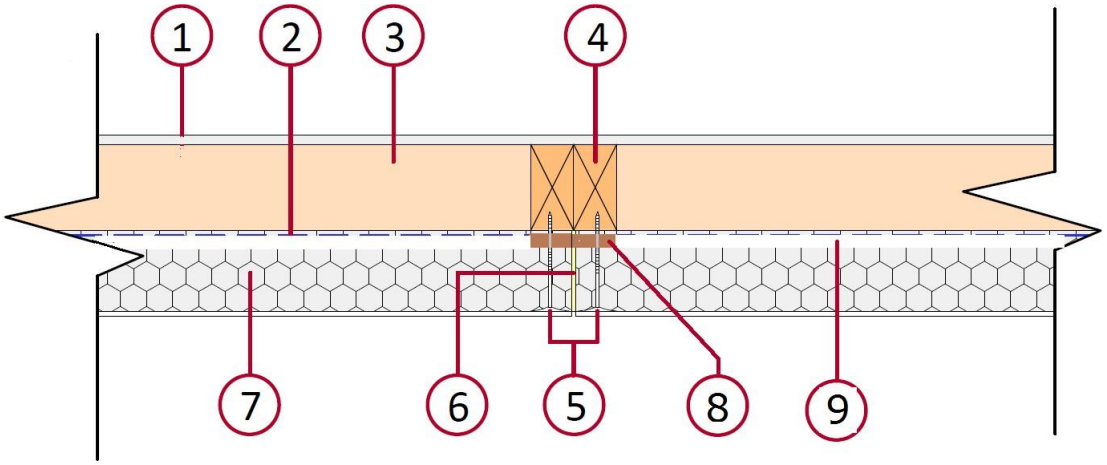


Fig 4B Vertical Joint-Direct Fix System

1. Internal Plaster Board
2. Breathable Wall Wrap (Sarking)
3. Standard Timber Stud Frame 90mm x 35mm
4. Double Stud –Back Block 90mmx45mm
5. Fasteners –Screws and washers
6. Foam Adhesive (panel joint)
7. Plain Polystyrene EPS Panel
8. Batten EPS -'H' grade 25mm x 35mm
9. Cavity – 25mm

Figure 5A– **INTERNAL CORNER** - PLAN VEIW – **Direct Fix System**

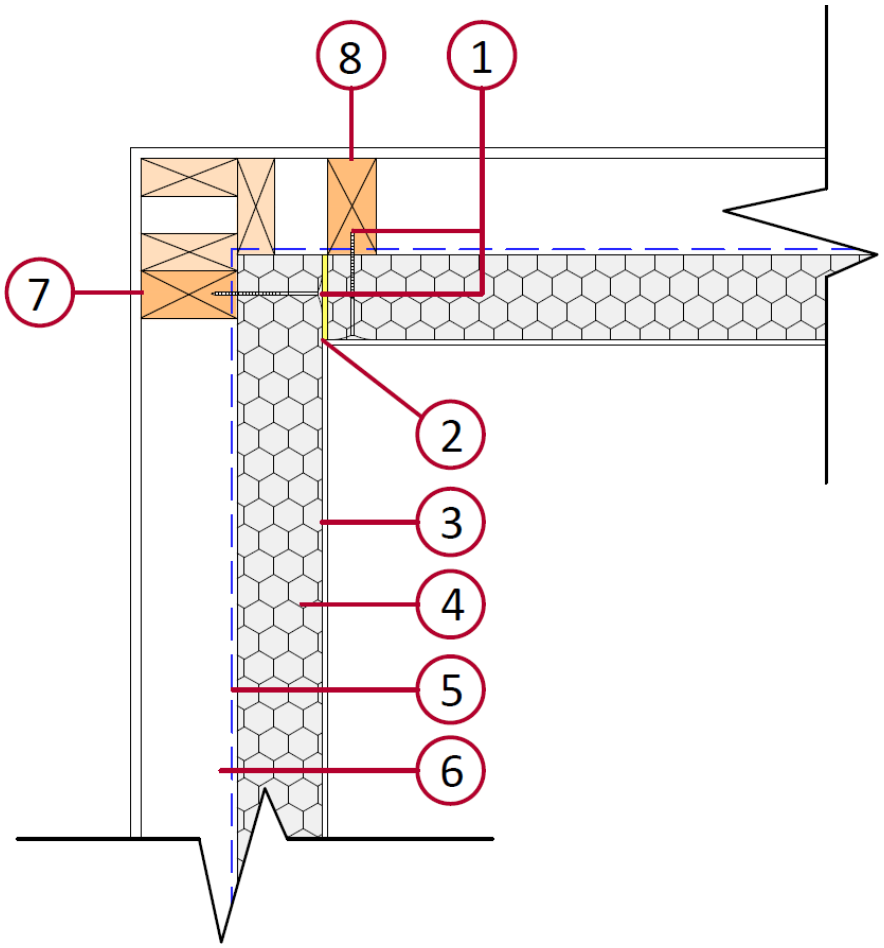


Fig 5A Internal Corner Direct Fix System

1. Fasteners – Screws and Washer
2. Foam Adhesive(panel joint)
3. Grey Board Render coating minimum 6mm thick with embedded Mesh.
4. Plain EPS Panel
5. Breathable Wall Wrap
6. Standard Timber Stud Frame 90mm x 35mm
7. & 8. Stud –Back Block 90mmx45mm

Figure 5B– **INTERNAL CORNER** - PLAN VEIW – **Cavity System**

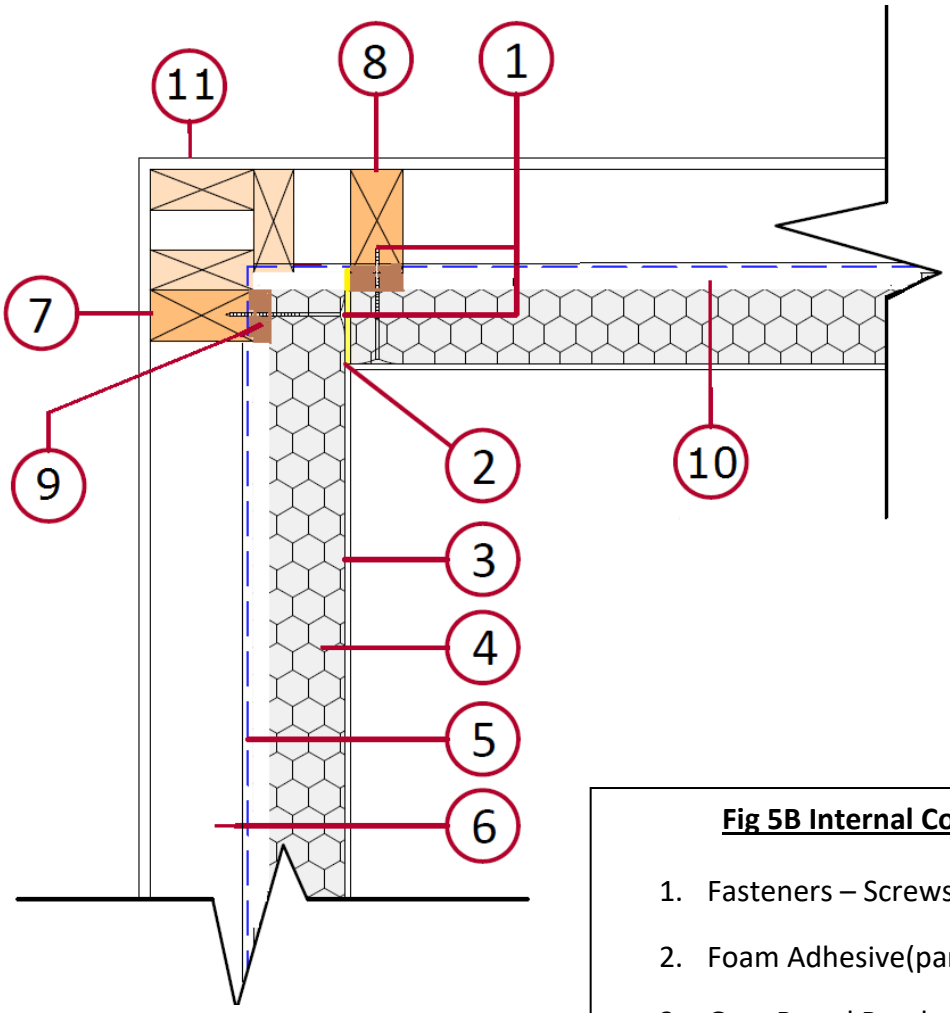


Fig 5B Internal Corner Cavity System

1. Fasteners – Screws and Washer
2. Foam Adhesive(panel joint)
3. Grey Board Render coating minimum 6mm thick with embedded Mesh.
4. Plain EPS Panel
5. Breathable Wall Wrap
6. Standard Timber Stud Frame 90mm x 35mm
7. Stud –Back Block 90mmx45mm
8. Stud –Back Block 90mmx45mm
9. Batten EPS -'H' grade 25mm x 35mm
10. Cavity – 25mm

Figure 6A – **EXTERNAL CORNER** – PLAN VIEW – **Direct Fix System**

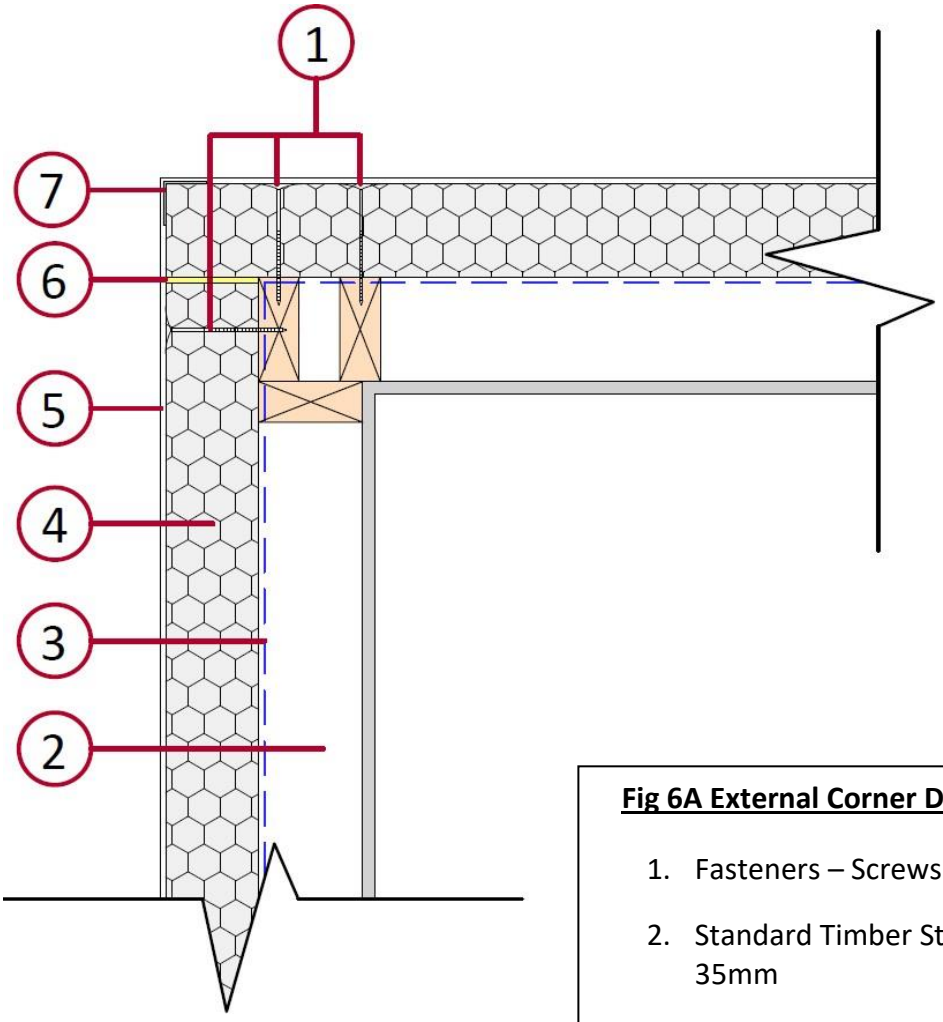


Fig 6A External Corner Direct Fix System

1. Fasteners – Screws and Washer
2. Standard Timber Stud Frame 90mm x 35mm
3. Breathable Wall Wrap
4. Plain EPS Panel
5. Grey Board Render coating minimum 6mm thick with embedded Mesh.
6. Foam Adhesive (panel joint)
7. External Corner Angle Bead

Figure 6B – **EXTERNAL CORNER** – PLAN VIEW – **Cavity System**

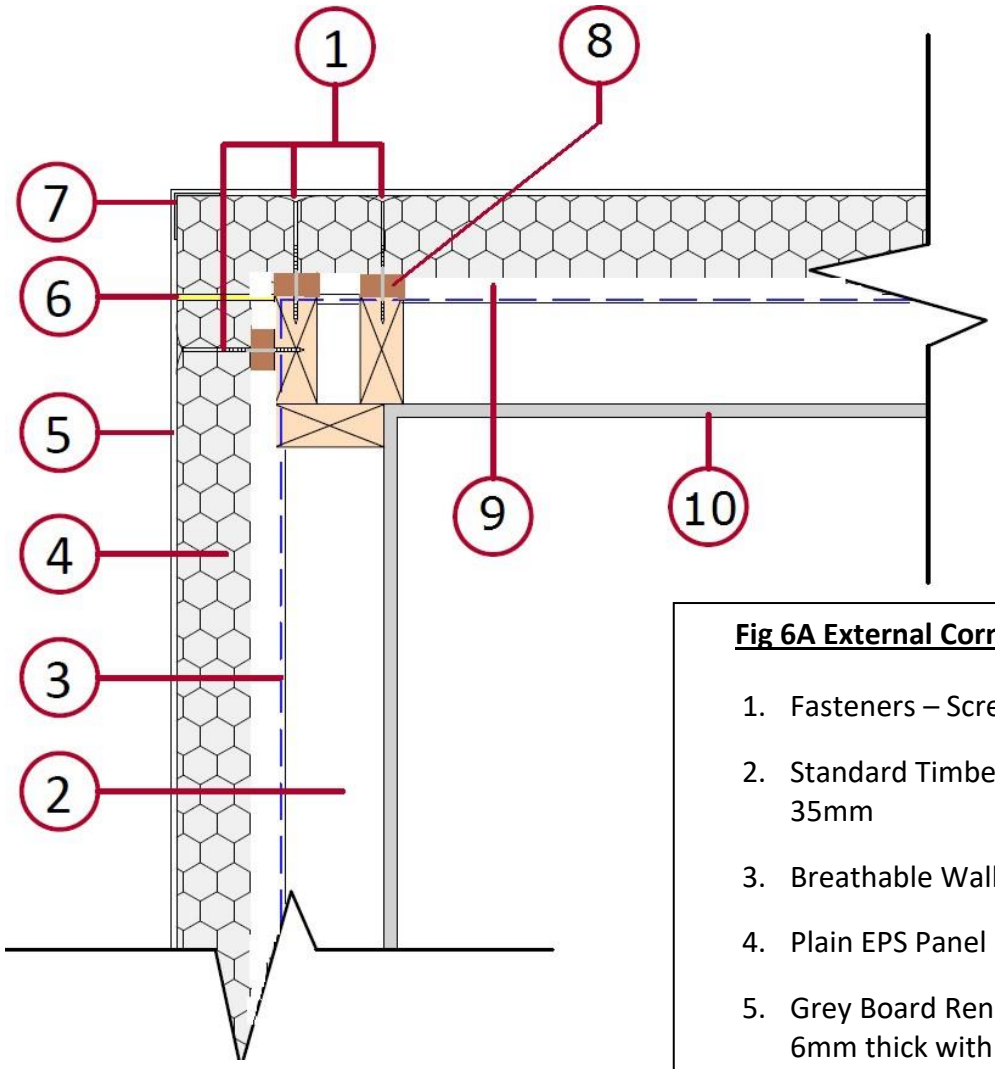


Fig 6A External Corner Cavity System

1. Fasteners – Screws and Washer
2. Standard Timber Stud Frame 90mm x 35mm
3. Breathable Wall Wrap
4. Plain EPS Panel
5. Grey Board Render coating minimum 6mm thick with embedded Mesh.
6. Foam Adhesive (panel joint)
7. External Corner Angle Bead
8. Batten EPS -'H' grade 25mm x 35mm
9. Cavity – 25mm
10. Internal Plaster Board

Figure7 – **PANEL AND BRICK EXTERNAL CORNER** –PLAIN VEIW - **Direct Fix System**

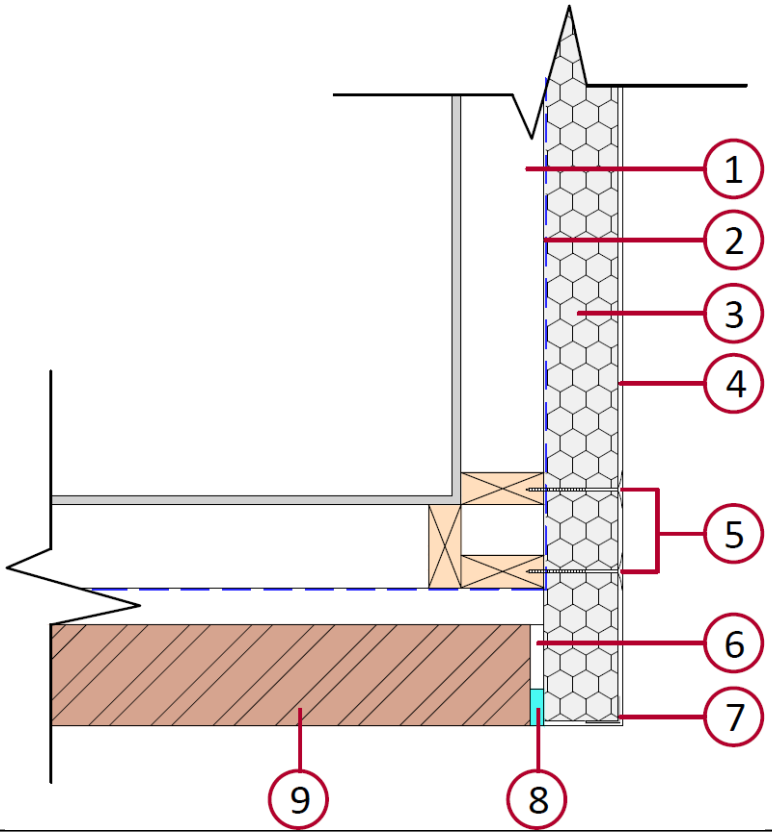


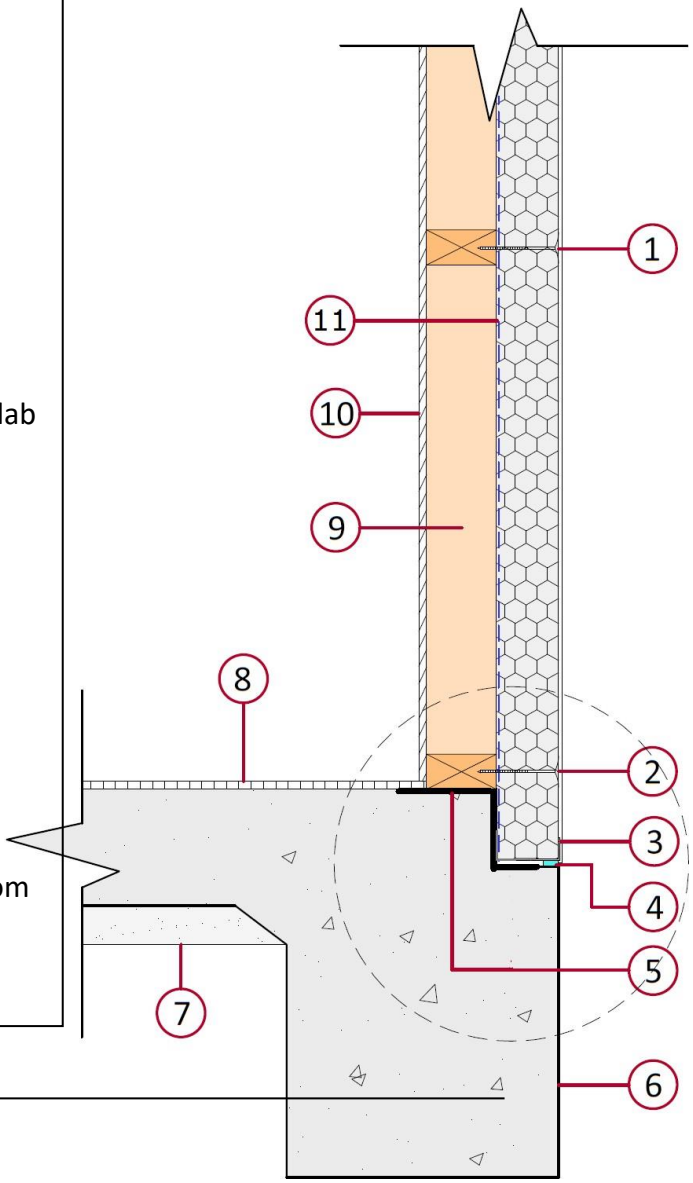
Fig 7 Panel & Brick External Corner- Direct Fix system

1. Standard Timber Stud Frame 90mm x 35mm
2. Breathable Wall Wrap
3. Plain EPS Panel
4. Grey Board Render coating minimum 6mm thick with embedded Mesh.
5. Fasteners – Screws and Washers
6. Cavity between substrate-8mm to 10mm for sealing
7. External Corner Angle Bead
8. Corking with backing rod and filled with PU Sealant (Sikaflex Pro)
9. Brick Veneer

Figure 8A – **PANEL REBATE SLAB DETAILS** – SECTION VIEW – **Direct Fix System**

Fig 8A Panel Rebate Slab Details-Direct Fix System

1. Fasteners – Screws and Washers
2. Fasteners – Screws and Washers
3. Starter Channel Bead – 90°
4. Corking with backing rod and filled with PU Sealant (Sikaflex Pro) minimum 8-10mm gap
5. Damp proof course between concrete slab and EPS panel
6. Concrete Footing system
7. Sand Bed
8. Floor Finish
9. Standard Timber Stud Frame 90mm x 35mm
10. Internal plaster Board
11. Breathable Wall Wrap(Sarking) till bottom starter channel bead.

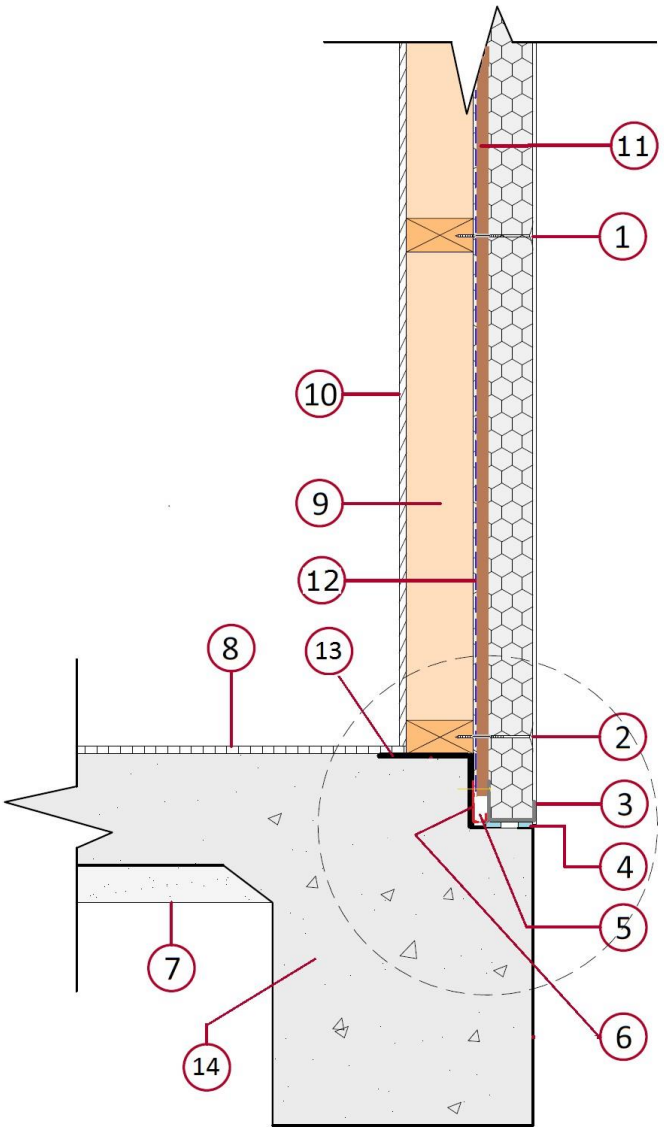


Note: EPS Panel to be minimum 100mm from Ground Level

Figure 8B – **PANEL REBATE SLAB DETAILS** – SECTION VIEW – **Cavity System**

Fig 8B Panel Rebate Slab Details-Cavity System

1. Fasteners – Screws and Washers
2. Fasteners – Screws and Washers
3. Starter Channel Bead – 90º
4. Corking with backing rod and filled with PU Sealant (Sikaflex Pro) minimum 8-10mm gap
5. Cavity drain
6. Cavity closer -25mm
7. Sand Bed
8. Floor Finish
9. Standard Timber Stud Frame 90mm x 35mm
10. Internal plaster Board
11. Breathable Wall Wrap(Sarking) till bottom starter channel bead.
12. Batten EPS -'H' grade 25mm x 35mm
13. Damp proof course between concrete slab and EPS panel
14. Concrete Footing system



Note: EPS Panel to be minimum 100mm from Ground Level

Figure 8B1 **PANEL REBATE SLAB DETAILS** – SECTION VIEW – **Cavity System**

Magnified view cavity system drain

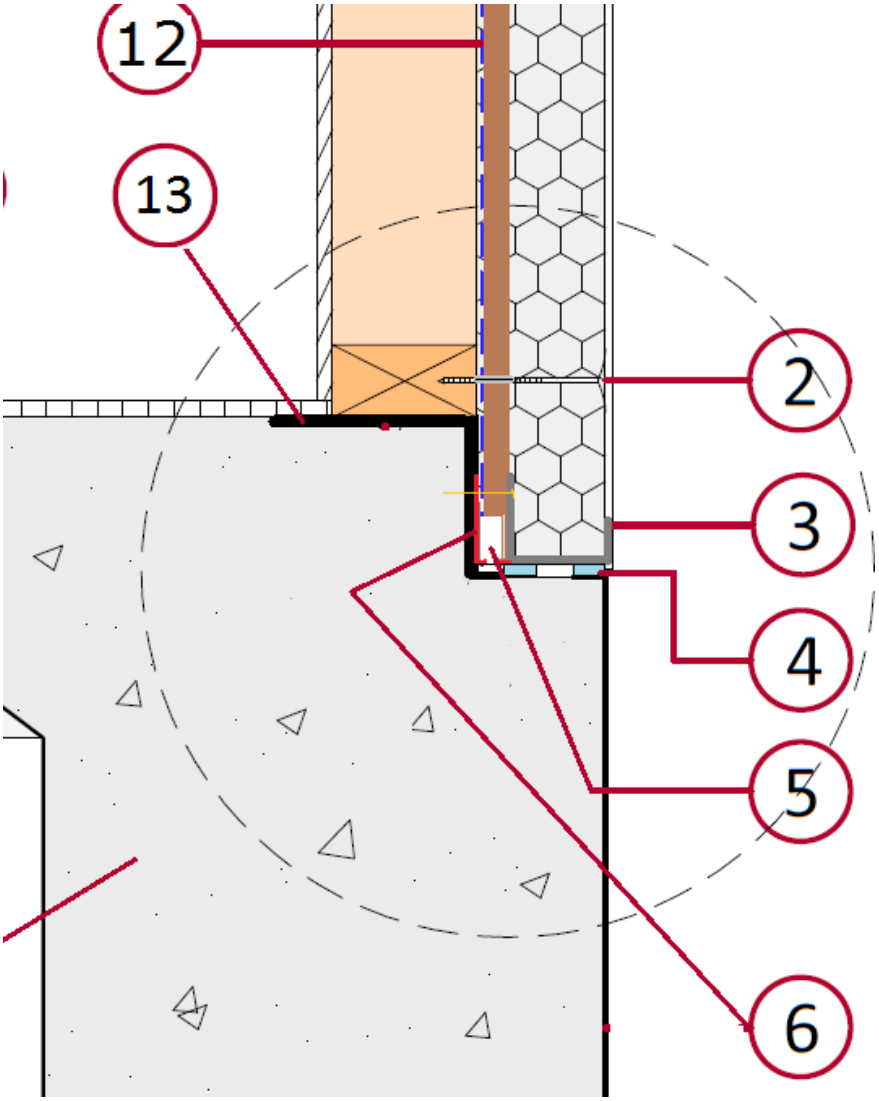
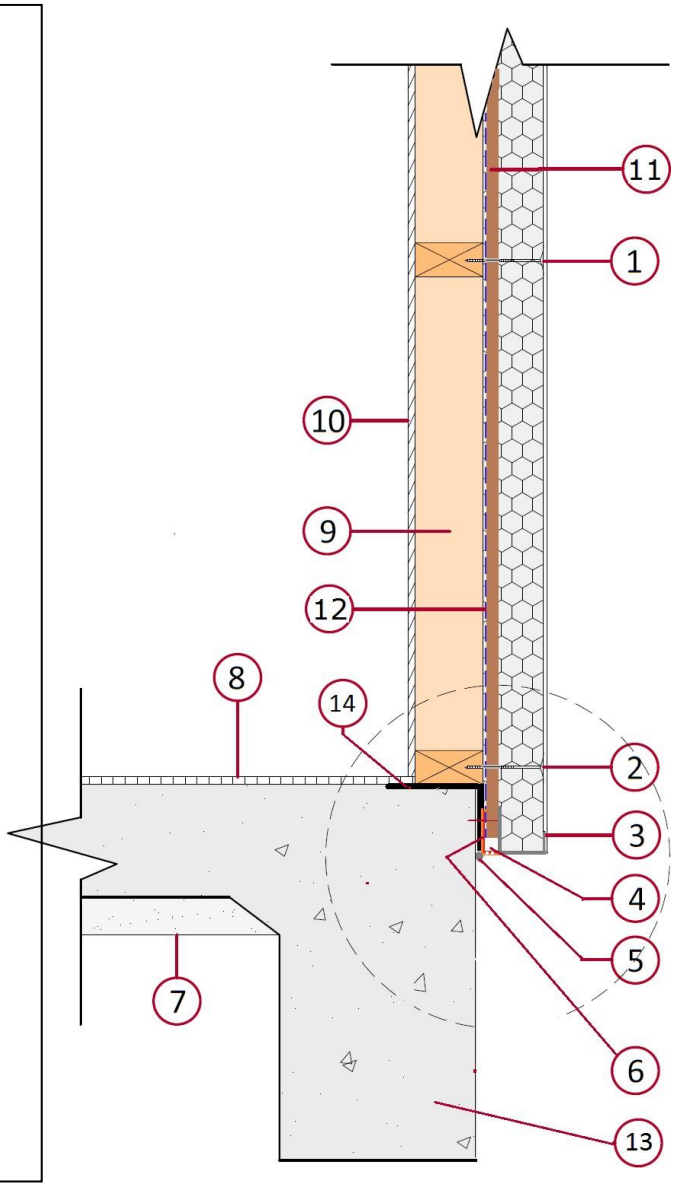


Figure 8C – **PANEL SLAB EDGE DETAILS** – SECTION VIEW – **Cavity System**

Fig 8C Panel Slab Edge Details-Cavity System

1. Fasteners – Screws and Washers
2. Fasteners – Screws and Washers
3. Starter Channel Bead – 90°
4. Cavity drain
5. Corking filled with PU Sealant (Sikaflex Pro)
6. Cavity closer -25mm
7. Sand Bed
8. Floor Finish
9. Standard Timber Stud Frame 90mm x 35mm
10. Internal plaster Board
11. Breathable Wall Wrap(Sarking) till bottom starter channel bead.
12. Batten EPS -'H' grade 25mm x 35mm
13. Concrete Footing system
14. Damp proof course between concrete slab and EPS panel



Note: EPS Panel to be minimum 100mm from Ground Level

Figure 8C1 – **PANEL SLAB EDGE DETAILS** – SECTION VIEW – **Cavity System**

Magnified view cavity system drain

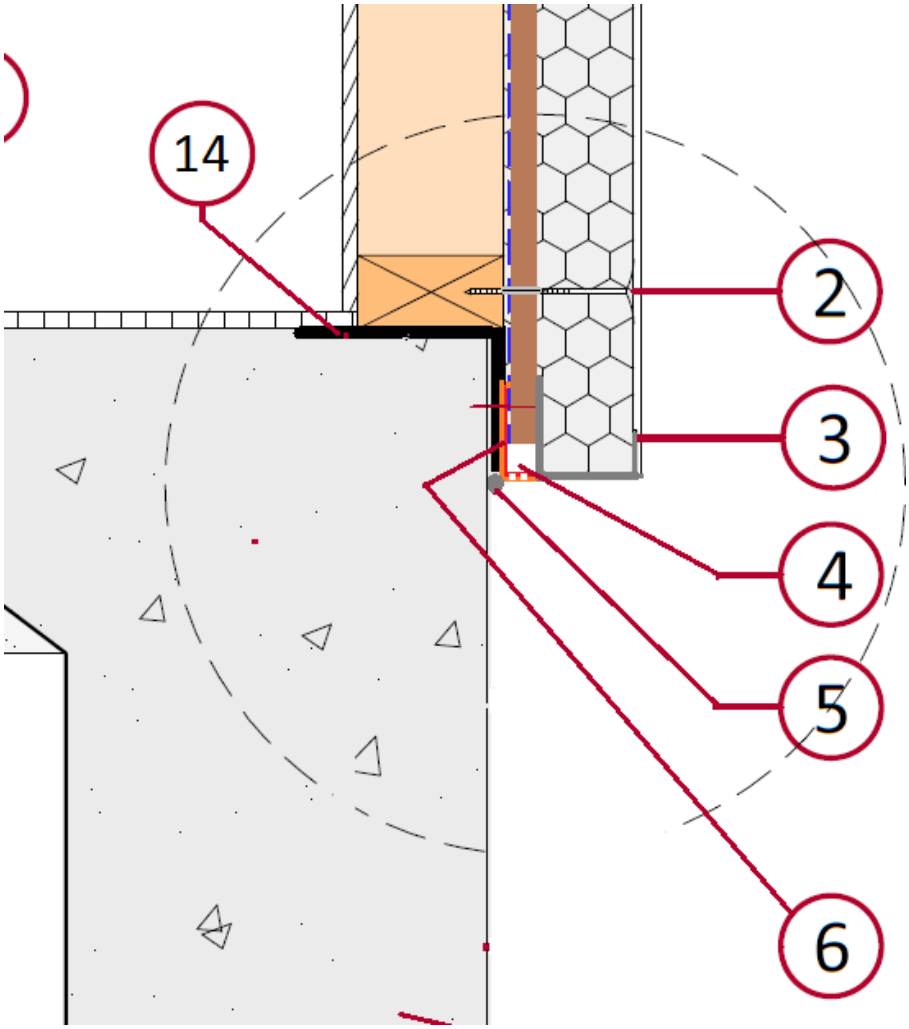


Figure 9A– **PANEL TO MASONARY DETAILS** – SECTION VIEW – **Direct Fix System**

Fig 9A Panel to Masonry Details-Direct Fix System

1. Breathable Wall Wrap
2. Plain EPS Panel
3. Starter Channel Bead 120°
4. Flashing
5. Masonry veneer
6. Cavity between brick veneer and timber frame
7. Standard Timber Stud Frame 90mmx 35mm
8. Timber Stud Frame top plate
9. Timber Floor Framing to AS 1684

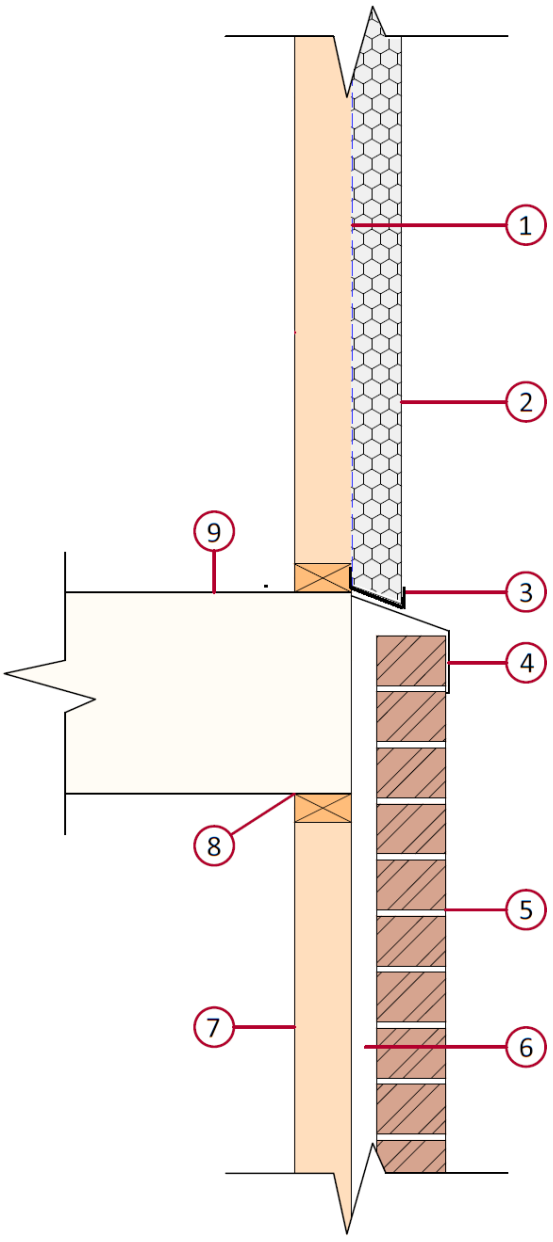


Figure 9B– **PANEL TO MASONARY DETAILS** – SECTION VIEW – **Cavity System**

Fig 9B Panel To Masonry Details-Cavity System

1. Breathable Wall Wrap
2. Plain EPS Panel
3. Starter Channel Bead 120°
4. Flashing
5. Masonry veneer
6. Cavity between brick veneer and timber frame
7. Standard Timber Stud Frame 90mmx 35mm
8. Timber Stud Frame top plate
9. Timber Floor Framing to AS 1684
10. Batten EPS -'H' grade 25mm x 35mm

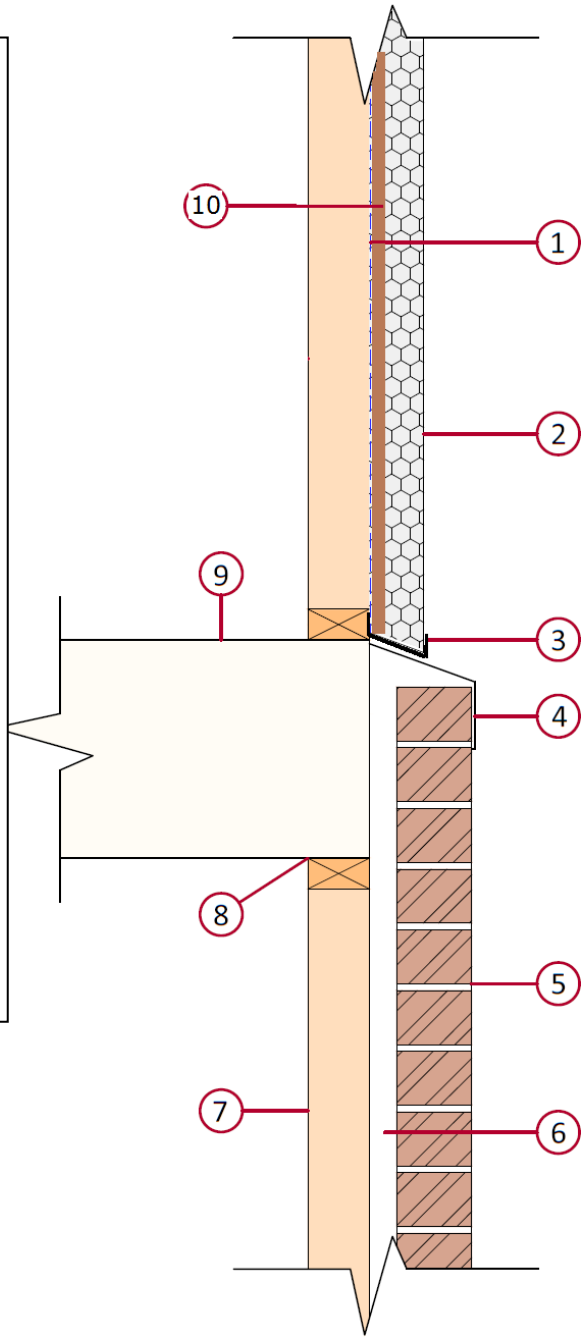


Figure 10A – **PARAPET FLASHING DETAILS** – SECTION VIEW – **Direct Fix System**

Fig 10A Parapet Flashing Details-

Direct Fix System

1. Flashing to cap over parapet Wall and extend to box gutter
2. 2.Timber Packer
3. EPS Panel
4. Breathable Wall Wrap
5. Fastener - Screw and Washer
6. Grey Board Render coating minimum 6mm thick with embedded Mesh.
7. Roofing Material
8. Box Gutter
9. Standard Timber Stud Frame 90mmx35mm

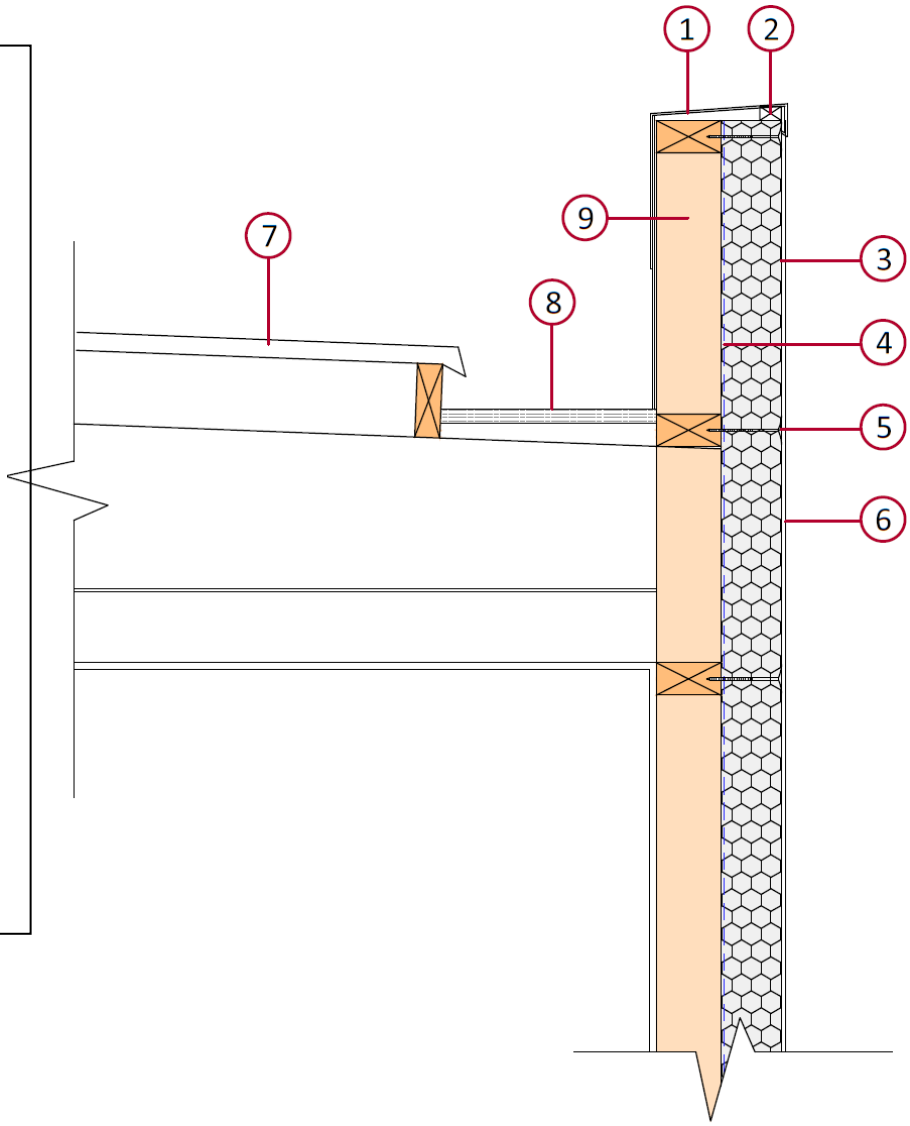
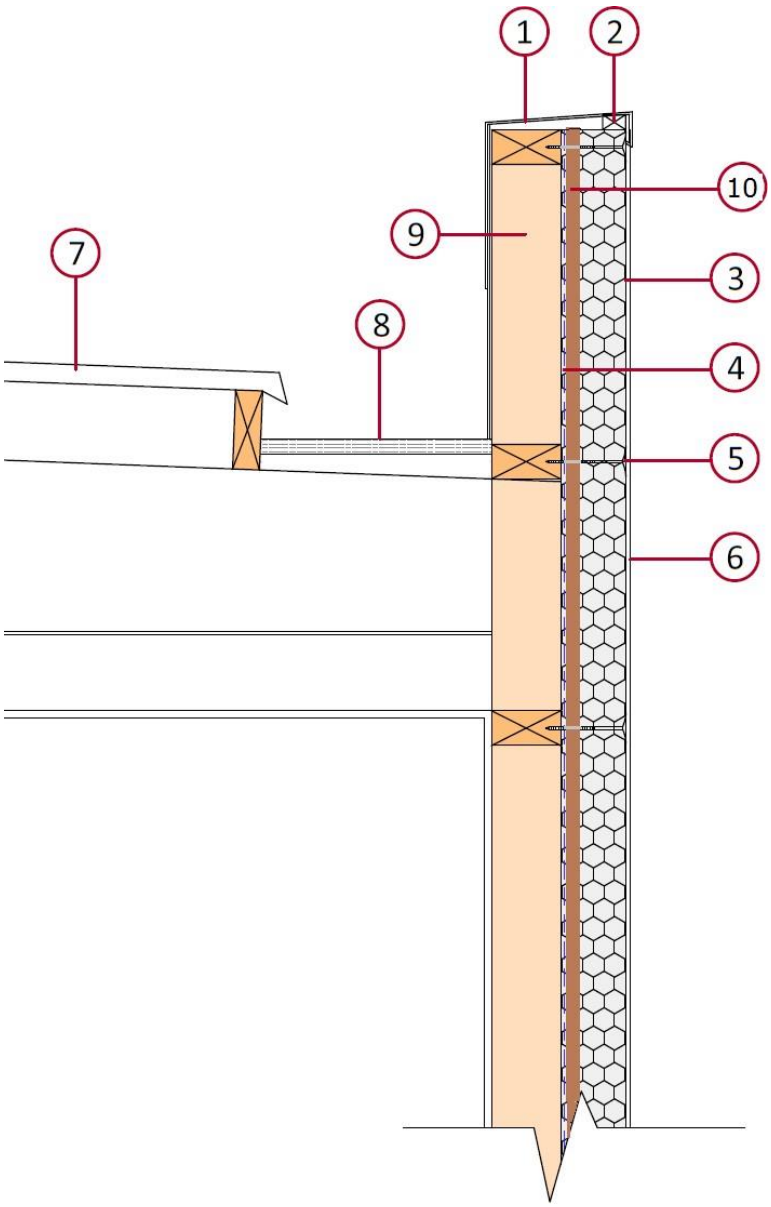


Figure 10B – **PARAPET FLASHING DETAILS** – SECTION VIEW – **Cavity System**

Fig 10A Parapet Flashing Details-

Cavity System

1. Flashing to cap over parapet
   Wall and extend to box gutter
2. Timber Packer
3. EPS Panel
4. Breathable Wall Wrap
5. Fastener - Screw and Washer
6. Grey Board Render coating minimum 6mm thick with embedded Mesh.
7. Roofing Material
8. Box Gutter
9. Standard Timber Stud Frame 90mmx35mm
10. Batten EPS -'H' grade 25mm x 35mm



GREY BOARD RENDER –Application Data Sheet

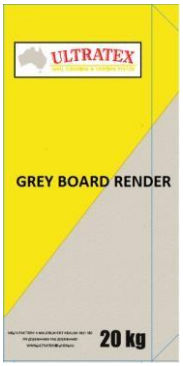
PRODUCT DESCRIPTION

Forming part of the Ultratex Grey Board EIFS Wall Cladding System, Ultratex Grey Board Render is a superior quality cement based, Polymer modified render containing washed and graded medium silica sand, acrylic powder and proprietary additives. It is made solely for the wall cladding system and has been tested to comply with required Australian Standards to satisfy requirements of BCA, Ultratex products are manufactured to stringent quality standards, from the highest quality raw materials available, all of which are blended to accurate specifications to ensure product performance and reliability is "built into every bag, every time"! Ultratex Grey Board Render provides the ideal base for the subsequent application of variety of top coat's including Ultratex Decorative Textures and Top coat.

SUBSTRATE PREPARATION

- Areas not to be coated should be masked and protected.
- All surfaces to be rendered must be clean, sound and free from contaminants including; oil, mould release, dust, dirt, silicone, mud, grease, salt, efflorescence, animal droppings and any loose or flaking material.

PACKING: Type: Paper Sack/Bag
Weight: 20Kg net per Bag



COVERAGE

Grey Board Render: 3-4 SqM per Bag @ 3-5mm thk

APPLICATION INSTRUCTIONS

Installation and important requirements:

• Panel must be installed as specified in the Ultratex Grey Board Technical Manual installation & fixing section taking in view of all control joints, specified angles and fixtures etc, involved in the setting up of the wall.

• Building workmanship must comply with relevant Building codes.

- Mix one (1) 20kg bag of Ultratex Grey Board Render to @ 3.5 - 4 litres of clean water using a power stirrer
- Add the Dry Mix to water steadily while mixing with a power stirrer until the consistency is smooth and lump free.
- Allow the mix to stand for 5 minutes, remix before use or before adjusting consistency if required.

For Direct Fix Wall Panel System (Type of Panel: Plain Polystyrene)

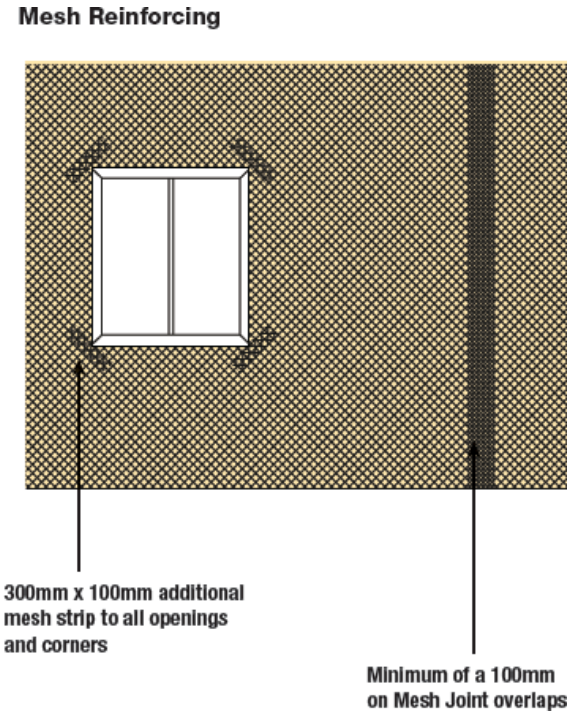
- Application – Base coat: 2 coats Coat's of Poly Board Render with Mesh embedded across entire panel (using 1.2M x 50M roll)
- Apply a 3-5mm basecoat of Grey Board Render onto the panel using a steel trowel with enough pressure to adhere the product. Whilst the basecoat is wet embed a full layer of alkali resistant 160gm/m² (5mm x 5mm) fibreglass mesh ensuring that the mesh pieces overlap by a minimum of 100mm at mesh joints. Panel joints should be evenly covered with the same embedded mesh (avoid overlap of mesh joints near the main panel joint). Strips of mesh at 45 degree angle or

equivalent, 300mm long by 100mm wide, should be embedded across the corner of all window and door openings.

- In the same sequence apply another coat of Render at a thickness of 2-3mm on top of the full mesh, embedding the mesh between these layers of Render. On setting use a straight edge and screed surface, thereafter using a polystyrene float, finish the surface to give an even and level finish.
- Grey Board Render should be of minimum 6mm thick.
- Do not apply render over expansion joints
- Grey Board Render should be completely dry before application of top coats.

For Cavity Wall panel System: (Type of Panel: Pre-coated)

- Application - Base coat: 2 coats of Poly Board Render with 200 mm Mesh embedded on panel joints only. (Pre-coated panel has a mesh embedded across the entre panel)
- Apply a 3-5mm basecoat of Poly Board Render onto the panel using a steel trowel with enough pressure to adhere the product. Whilst the basecoat is wet embed 200mm Mesh across panel joint only (160gm/m² 5mm x 5mm fibre glass mesh). Panel joints should be evenly covered with the same embedded mesh (avoid overlap of mesh joints near the main panel joint). Strips of mesh at 45 degree angle or equivalent, 300mm long by 100mm wide, should be embedded across the corner of all window and door openings.



- In the same sequence apply another coat of Render at a thickness of 2-3mm. On setting use a straight edge and screed surface, thereafter using a polystyrene float, finish the surface to give an even and level finish.
- Grey Board Render should be of minimum 6mm thick.
- Do not apply render over expansion joints Grey Board Render should be completely dry before application of top coats.

Pot Life

- When mixed with water the maximum pot life is two (2) hours, do not add more water to extend pot life as this will reduce the strength and durability of the finished render.

Clean-Up

- Clean up with water

Important Notes

- Do not apply *Render* on unprotected surfaces when rain is anticipated within 6 hours of completion of the day's work, longer in damp, cold +/or humid conditions
- Avoid application in full sun, on hot surfaces or in hot windy conditions
- Application should be carried out on a day with temperatures above 10°C and below 30°C
- Coated area must be protected from damage until the completion of the project; finished work must be protected from rain, frost and severe weather conditions until fully dried
- Primer/ Paint coatings should not be applied to mineral coating until sufficiently hardened and dried.
- General Guide to hardening/drying –Allow 1 day per mm thickness (will reach maximum strength in 28 days from application)

SAFTEY AND HANDELING

This material is hazardous according to criteria of NOHSC. Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail.

For further information or Material Safety Data Sheet please call (03) 9364 4489 or visit www.Ultratexvic.com.au

Please Refer to Material Safety Data Sheet before use;

When working with **Render** observe the usual precautions for handling cement based mortars & renders including:

- Avoid inhalation of the dust, wear suitable respiratory protection mask, avoid prolonged skin contact with wet mortar and eye contact (contains sand based crystalline silica)
- Wear protective clothing to minimize skin contact and wear goggles where splatter is likely

FIRST AID MEASURES

Ingestion

If swallowed, wash out mouth with water. Do **NOT** induce vomiting. Drink at least two (2) glasses of water. Seek medical attention.

Eye

Wash with copious amount of water for 15 minutes holding eyelid(s) open. Take care not to rinse contaminated water into non-affected eye. Seek medical attention.

Advice to Doctor

Treat symptomatically

SAFETY AND HANDLING

The use of PPP Personal Protective Equipment is recommended throughout the transportation and installation process of the Ultratex Grey Board Wall Cladding System.




HANDLING

The EPS panels shall be handled with care during the installation process. This must be done in order to prevent edge damage or fracture. Particular care is required during windy or poor weather conditions as unsecured panels can be severely damaged. Risk assessment is to be initially carried out before commencement of work with site personnel prior to installation.

STORAGE

EPS panels being exposed continuously may result in deterioration and minor fretting of exposed edges of EPS which is to be removed prior to coating. All panels delivered to site are to be stored flat and evenly supported. Protection from damage, soiling or direct sunlight is to be considered by covering panels or likewise.

TRANSPORTATION

During transportation of EPS panels, crushing of the edge of the sheet with ropes is to be avoided, this can be done by the use of heavy folded cardboard made into an angle or truck ends in order to protect the edge. Panels are also to be well retrained to avoid them falling off / flying off.

WASTE MANAGEMENT

Distribution of waste material including dust and off-cuts is to be prevented through the preparation for removal and legal disposal of waste EPS panels is not resistant to hydrocarbons, chlorinated hydrocarbons, ketones or esters.