Introduction

Wattyl Granosite / Nu-Age Plasters Nu-Lite exterior cladding solution is a revolutionary new monolithic cladding offering a comprehensive range of solutions for the building industry. With smooth clean lines and the versatility to achieve complex shapes and features demanded by today's Architects and designers, Nu-lite cladding solution is the logical choice for your home, office or business to provide a light crack resistant, aesthetically pleasing weatherproof seal for your building. Wattyl Granosite / Nu-Age Plaster is so confident in the Nu-Lite cladding solution they can offer a 15 Year Manufacturers Warrantee

System Description

The Nu-lite cladding solution is a cavity based monolithic plaster cladding system installed over fibre cement substrate. A 10mm coat of polystyrene saturated polymer based plaster is applied to the substrate followed by a 3-5mm coat of Adhesive Mortar with glass fibre mesh embedded, then finished with a 2-5mm finishing coat.
Nu-Lite is designed to be applied on residential to light commercial structures where domestic construction techniques are applied.
Nu-Lite is completed with a selected acrylic or cement based texture and over coated with GranoImpact, a water based elastomeric membrane paint system to the desired finish colour.

CONTENTS

INDEX OF DETAILS

1. SCOPE AND LIMITATIONS

1.1. Scope

Nu-lite is a Monolithic Proprietary cladding system for use within the following scope:

- On residential and light commercial timber frame buildings.
- On buildings built within the scope limitations set out in NZS 3604 in regard to building height, number of storeys, shape and size.
- On buildings situated in NZS 3604 Building Wind Zones up to, and including 'Very High
- With aluminium and timber window and door joinery.
- With installation carried out only by Wattyl Granosite / Nu-Age Plaster Trained Applicators.

1.2 Site and Structural Requirements

All sites where buildings clad with Nu-lite are to comply with Acceptable Solution E2/AS1.
Clearances below floor level to finished ground are to comply with requirements of NZS 3604:1999
Foundation design to comply with requirements of NZS 3604:1999 or be designed and approved by Structural Engineer.
The Nu-lite system is to be fixed over H3.1 Timber Battens.
Timber framed buildings to be clad with Nu-lite are to be designed in accordance with NZS 3604:1999 or be designed and approved by a structural engineer.

1.3 Bracing

All bracing for structures must comply with NZS 3604:1999 or Designed and approved by structural engineer.

1.4 Wind Loading

Nu-lite is suitable for use in wind zones up to and including Very High (VH) as defined in NZS 3604:1999 in terms of performance relating to external moisture and structure.

2. BUILDING REGULATIONS

The Nu-lite System if used, designed, installed and maintained in accordance with the statements and specifications provided in this manual, will meet, or contribute to meeting the following provisions of the NZBC:

Clause B1 - Structure
Performance B1.3.1, B1.3.2 and B.1.3.4. Nu-Lite meets the requirements for loads arising from self weight, earthquake, wind, human impact and wind

Clause B2 - Durability
Performance B2 .3.1(b), 15 years. Nu-Lite meets this requirement

Clause C3 – Spread of Fire:
Performance C3.3.5. Nu-Lite meets this requirement

Clause E2 External Moisture
Performance E2.3.2. Nu-Lite meets this requirement

Clause F2 Hazardous Building Materials
Performance F2 .3.1. Nu-Lite meets this requirement and will not present a health hazard to people.

For additional Technical information refer to the Nu-Therm BRANZ Appraisal

3. NU-LITE DESIGN INFORMATION

Nu-lite will provide a seamless monolithic finish to the exterior of a building provided sensible design methods are followed.
As Nu-Lite is installed over fibre cement sheet substrate, the substrate manufacturer's instructions must be followed.

3.1 Large wall areas

Avoid large expanses of unbroken exterior wall. Windows, doors and feature components can be incorporated to hide imperfections, which will create a better finish.

3.2 Large Eaves and projecting trim

The addition of eaves dramatically reduces the effects on a buildings elements from sun, wind and rain which can contribute to damage of the exterior cladding. Protection of openings and intersections is recommended by Wattyl Granosite / Nu-Age Plaster to extend the lifespan of the cladding and to reduce the maintenance requirements of the cladding at these points.

3.3 Timber Framing - General

- Timber wall framing must be treated as required by NZS 3602 and B2/AS1.
- Studs must be at a maximum 600 mm centres.
- Dwangs/nogs must be at maximum 800 mm centres.
- All new timber framing must comply with NZS 3604: 1999 timber framed buildings or be to a specific structural design.
- Timber framing must have a moisture content of no more than 24% at the time of application of the plaster.
- Wall framing behind battens where substrate sheets are joined must be nominal 50 mm thickness (i.e. 45 mm minimum finished thickness).

3.4 Tolerances

In order to achieve an acceptable wall finish, it is imperative that framing is straight and true. Framing tolerances must comply with the requirements of NZS 3604: 1999.

3.5 Control Joints

- Horizontal and vertical control joints must be located over structural supports.
- Horizontal and Vertical control joints in the Nu-lite system must be provided at intervals as stated in the fibre cement sheet manufacturers specifications and installation instructions, aligned with any control joint in the structural framing, where building frame movement is likely, or where the system abuts other construction.

NOTE:
Fibre cement manufacturers installation specifications including control joints to be followed at all times.

3.6 Sloping Surfaces
The slope of surfaces such as sills and parapets must be a minimum of 10° from the horizontal if plastered. Parapets and balustrades that are to be capped must be a min. of 5° from the horizontal.

3.7 Electrical Cables
Cables penetrating the cladding system must be installed in conduits or ducts to ensure that any PVC sheathing does not come in contact with the cladding system.

3.8 Fire Protection
• Nu-Lite need not be separated from chimneys and flues, However when used in conjunction with, or attached to, heat sensitive materials, the heat sensitive material must be separated from chimneys and flues in accordance with the requirements of NZBZ Acceptable Solution C/AS1 Part 9 for the protection of combustable materials.
• The system is suitable for use as an external wall cladding system when restricted to:
• Single storey buildings 1 m or more from the boundary for all purpose groups.
• Buildings up to 7 m high, 1 m or more from the boundary, for all purpose groups other than SC and SD.
• Fully sprinklered buildings up to 25 m high, 1 m or more from the boundary for all purpose groups other than SC, SD, SA and SR.
• Buildings containing purpose group SH, with a building height less than 10 m and located 1 m or more from the boundary.

Alternatively, a specific thermal design may be carried out.

3.9 Insulation
The Nu-lite system alone does not meet NZBC Acceptable Solution E3/AS1. Additional wall insulation must be added as specified in the following table.

Climate Zone*	**Requirement**	**Cavity Insulation infill requirement**
1 and 2	1.5m2°C/W	R1.8 Fibreglass batts
3	1.9m2°C/W	R2.2 Fibreglass batts

* As defined in NZS 4218

Alternatively, a specific thermal design may be carried out

3.10 Impact Resistance

• Nu-lite has adequate resistance to hard and soft body impacts likely to occur in normal residential or light commercial use. Where a greater level of impact protection is required a heavier grade of mesh may be used.
• The likelihood of impact damage to the product when used in commercial situations must be considered at the design stage, and appropriate protection such as bollards or barriers provided in vulnerable areas.

3.11 Minimum ground clearances

• At ground level, the bottom edge of the Nu-lite system must be kept clear of paved surfaces, such as footpaths and mowing strips, by a minimum of 100 mm and unpaved surfaces by 175 mm.
• The ground clearances to finished floor levels as set out in NZS 3604 must be adhered to at all times.
• At balcony, deck or low pitch roof/wall junctions, the bottom edge of the Nu-lite system must be kept clear of any adjacent surface, or above the top surface of any adjacent roof flashing by a minimum of 35 mm.

3.12 Handling and Storage

• Bags of plaster, coatings, and other materials or components must be kept dry and protected from damage, preferably stored off the floor on timber pallets or dunnage.
• Bags of Wattyl Granosite / Nu-Age Plaster must be used within the designated shelf life of six months from date of manufacture.

4. NU-LITE UPVC COMPONENT RANGE

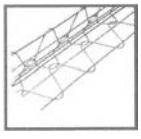
Starter Strips (LW-STARTER)
Wattyl Granosite / Nu-Age Plaster incorporates Nu-Lite Starter Strips into their Nu-lite system. These flashings are located at the base of the wall and cap the compressed cement sheets shielding the edge from the elements and providing screed guides for the applicators. This component sits on top of the cavity battens and is fixed through its back wall into the bottom plate of the wall framing.

Vermin Tray (VERMIN)
This uPVC flashing works in conjunction with the starter strips at the base of the wall. Fitted behind the fibre cement sheet the vermin tray acts as a barrier from the penetration of vermin into the drained and ventilated cavity created by the cladding system. This component is fixed through its back wall into the bottom plate prior to batten installation and is hidden as it sits 20mm above the base of the starter strip. The punchings in the vermin tray provide a ventilation opening area of 1000 mm sq. per lineal metre of wall.

Jamb (LW-JAMB)
This component is fixed vertically over the fibre cement sheet up the side of the windows. This flashing is designed to clip into the aluminium window frame providing a weather barrier, preventing water from penetrating the building envelope at the jamb position.

Sill (LW- Sill)
This component is fixed horizontally over the fibre cement sheet along the bottom of the windows. This flashing is designed to clip into the aluminium window frame providing a weather barrier, preventing water from penetrating the building envelope at the sill position.

Control Joint (CONTROL 14)
As the Nu-lite system is installed over fibre cement sheets, the manufacturers specifications must be followed for control joint locations.
These control joints allow for shrinkage of the framing, expansion and contraction of the cladding substrate. These control joints are put in place to allow controlled movement of the cladding by allowing the rubber centre section of the control joint to flex laterally reducing surface cracking of the plaster.



Widra S.S Corner Bead
This stainless steel component sits on top of the fibre cement sheet at external corner positions and reinforces the plaster at these points from impact damage. The bead is adhered to the external corner with adhesive mortar or liteweight plaster and is set at 10mm allowing applicators to finish the liteweight base coat against the ribs while providing a straight edge to the corner.

5. NU-LITE SYSTEM SPECIFICATIONS

5.1 Fibre Cement Sheet Substrate

Wattyl Granosite / Nu-Age Plaster accepts the following fibre cement sheet substrates for use with the Nu-Lite cladding solution.

- 4.5mm James Hardies Hardibacker
- 4.5mm CSR Stucco Backer sheet
- 4.5mm BGC Fibre Cement Durabacker
- 4.5mm Eterpan

5.2 Cavity Battens

Timber cavity battens are nominal 20 mm thick (minimum 18 mm) by 45 mm wide timber treated to H3.1.

5.3 uPVC Components

Refer to section 4.

Note: A 3mm gap must be maintained between face of fibre cement sheet and back face of aluminium joinery in order to install uPVC flashings.

5.4 Building Paper/Wrap

Building paper or wrap complying with NZBC Acceptable Solution E2/AS1 or NZS 3604, or other BRANZ Appraised breather-type membranes may be used with Nu-lite. Building wrap support - Polypropylene strap must be used where vertical batten spacing exceeds 300mm centres for securing the building wrap in place and preventing bulging of the bulk insulation into the drainage cavity.

Note: additional vertical battens may also be installed to provide support.

5.5 Plasters

Levelling Coat of Liteweight Plaster

A Portland Cement-based plaster, comprising of coarse sand, polystyrene beads and additives, supplied in 25kg bags. Nu-Lite can be trowel applied but for optimum results Nu-Age Plaster recommends pump application of a 10mm levelling coat of the product.

Reinforcing Coat of Adhesive Mortar Coarse

A sand and cement-based plaster, supplied in 25 kg bags. It can be trowel applied but preferably spray applied in a 3-5 mm thick layer followed by embedment of fibreglass mesh reinforcement into the outside surface.

Finishing Coat of Adobe Finish

A sand, cement and lime based plaster, supplied in 25 kg bags. It is trowel applied to give a sculptured finish 3-5 mm in thickness.

Finishing Coat of Sponge Finish

A sand, cement and lime based plaster, supplied in 25 kg bags. It is trowel or spray-applied to a thickness of 2-3 mm.

5.6 Reinforcing Mesh

Alkali-resistant fibreglass mesh supplied by Wattyl Granosite / Nu-Age Plaster must be used with the Nu-lite system. The fibreglass mesh is available in two grades:
4 x 4 mm Green Mesh (150 g/m2), 1200 mm x 50 m rolls
6 x 6 mm Blue Mesh (150 g/m2), 1200 mm x 50 m rolls

5.7 Fixings

Fixing of the fibre cement sheet substrate must be in accordance with the substrate sheet manufacturer's instructions.
Nom. 45x20mm Batten fixings to be min. 50mm in length to provide a 30mm penetration into substrate framing.

5.8 Flashing Tapes

Wattyl Granosite / Nu-Age Plaster accepts all BRANZ appraised flashing tapes for use with the Nu-lite system. The use of flashing tapes around openings, balcony abutments and parapets creates a secondary weather shield acting as a concealed barrier against water penetration through the building envelope.

5.9 Flexible Sealant

BRANZ Appraised flexible sealants must be used to seal control joints and openings, as and where required and stated in the Technical Manuals.

5.10 Window and Door Trim Cavity Airseals

BRANZ Appraised self expanding, moisture cure polyurethane foam airseals suitable for this use must be used to create airseals at the interior face of the window and door joinery trim cavity.

5.11 Weather Protective Paint Coat

See Wattyl Granosite Paintworks Specification Manual.
Application must be carried out in accordance with Wattyl Granosite instructions and must meet the performance requirements of the NZBC.

6. INSTALLATION INSTRUCTIONS

6.1 Building paper/wrap

- Exterior timber framed walls to be wrapped with building paper/wrap and fixed in accordance with NZBC Clause E2 External Moisture.
- Polypropylene strap to be used where batten spacings exceed 450mm centres.

6.2 Window Flashing Tapes

Prior to the installation of the cavity battens, proprietary flexible sill and jamb flashing tapes must be installed around the opening in accordance with the manufacturer's instructions.

6.3 Battens

- A continuous horizontal member can be fixed along the line of the soffit. Alternatively 100mm horizontal batten blocks can be used along the soffit line.
- Vertical members fixed over studs run up to horizontal members at soffit line and mm. 30mm below finished floor level. Vertical battens at a maximum of 600mm centres.
- Horizontal packers 100mm long max. are installed on the dwangs, bottom plate, sill trimmers and lintels and where required for sheet fixing.
- Alternatively additional vertical battens may be used in place of horizontal batten blocks.
- At openings a continuous vertical batten must be installed and fixed with its edge hard against end of aluminium head flashing, providing a stop-end to the head flashing.
- Battens to be fixed to framing every 300mm max. This can be achieved using fibre cement sheet fixings. Battens may be tacked in place until fibre cement sheet is fitted and fixed through fibre cement sheet and batten combined. For fixing sizes see 5.7.
- If additional horizontal batten blocks are required to achieve fixing centres they may be introduced between vertical battens with a mm. of 50mm clearance between end of 100mm max. batten block and any other member.

Note:
All battens to be nominal 20mm. Timber battens to be treated in accordance with NZS 3602.

6.4 Fibre Cement Sheet

See manufacturers documentation for installation instructions.

6.5 uPVC Flashings

Vermin strip

- Vermin strip is to be installed along bottom edge of the vertical battens with back heel against timber bottom plate and the base covering the ends of the battens. Base of Vermin Strip to be installed mm. 30mm below finished floor level. Vermin strip fixed to bottom plate through battens and at intermediate positions if required.

Starter Strip

- Starter Strip is installed over top of battens at base of wall with its lowest point mm. 50mm below finished floor level and fixed through the back heel at 300mm centres mm.
- Height from finished ground level is to comply with NZS 3604:1999

6.6 Window flashings

Sill Flashing

- Measure window length and allow an additional 50mm flashing length each side of window.
- On top of the fibre cement sheet, force sill flashing up under window until the flashing return clips into the joinery groove.
- Fix sill flashing in place through back wall using staples, alternatively utilise fibre cement sheet fixings to fix through fibre cement sheet, batten and flashing combined.
- All joins in flashings are to be sealed.

Jamb flashing

- Measure height of window and cut flashing allowing an additional 50mm in jamb flashing length.
- Remove the return clip and depth stop portion of the jamb flashing 50 from the top. This allows the jamb flashing to continue past the aluminium head flashing.
- Install jamb flashings on top of fibre cement sheet, overlapping sill flashing at bottom and with the flashing return clipped into the aluminium window joinery.
- Fix jamb flashings in place through back wall using staples, alternatively utilise fibre cement sheet fixings to fix through fibre cement sheet, batten and flashing combined.

Note:
Where a door opening occurs in an exterior wall, a junction between the jamb flashing and starter strip is required.

Head Flashing

- Install head flashing with back heel hard against timber framing and building paper/wrap. Ends of head flashing must finish against the vertical batten edge and uPVC jamb flashing.
- Flashing tape heel of head flashing to building paper/wrap.
  Run sealant bead along head-batten/jamb intersection.

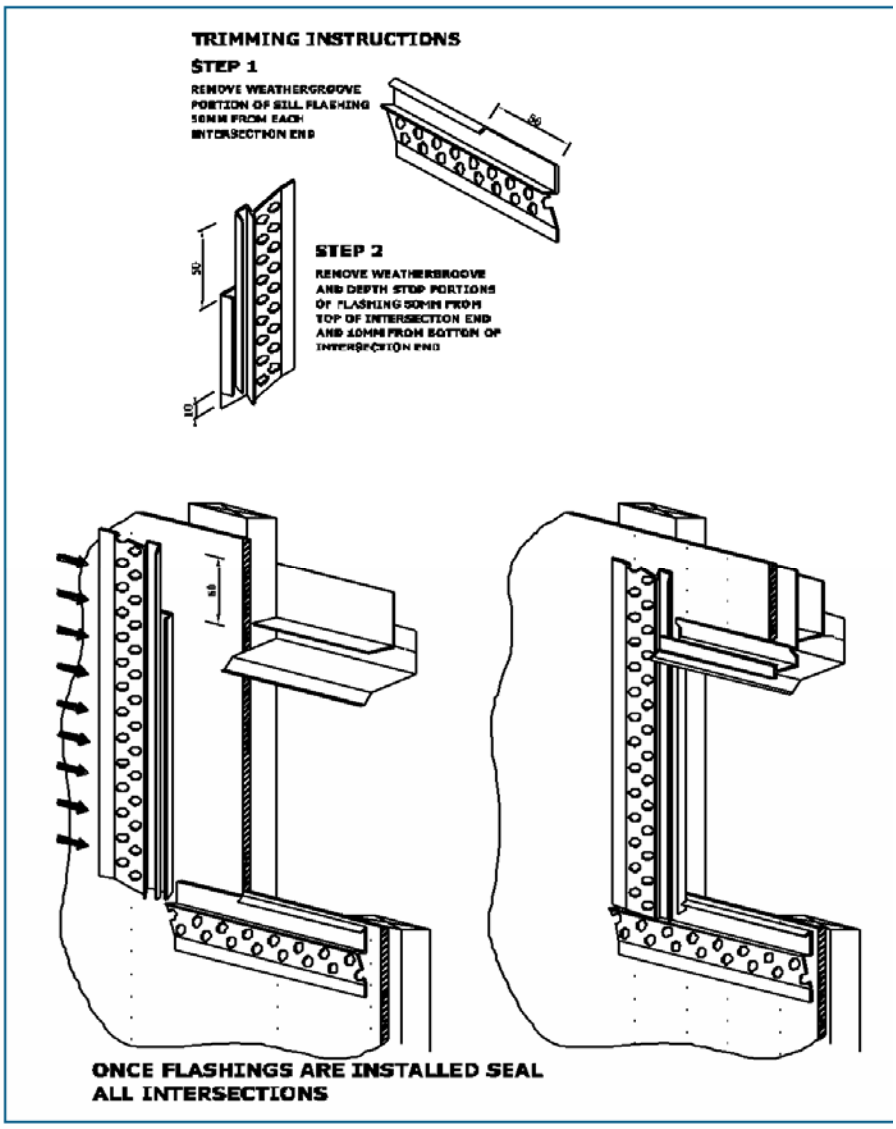


Diagram: Nu-lite Recessed Window Detail

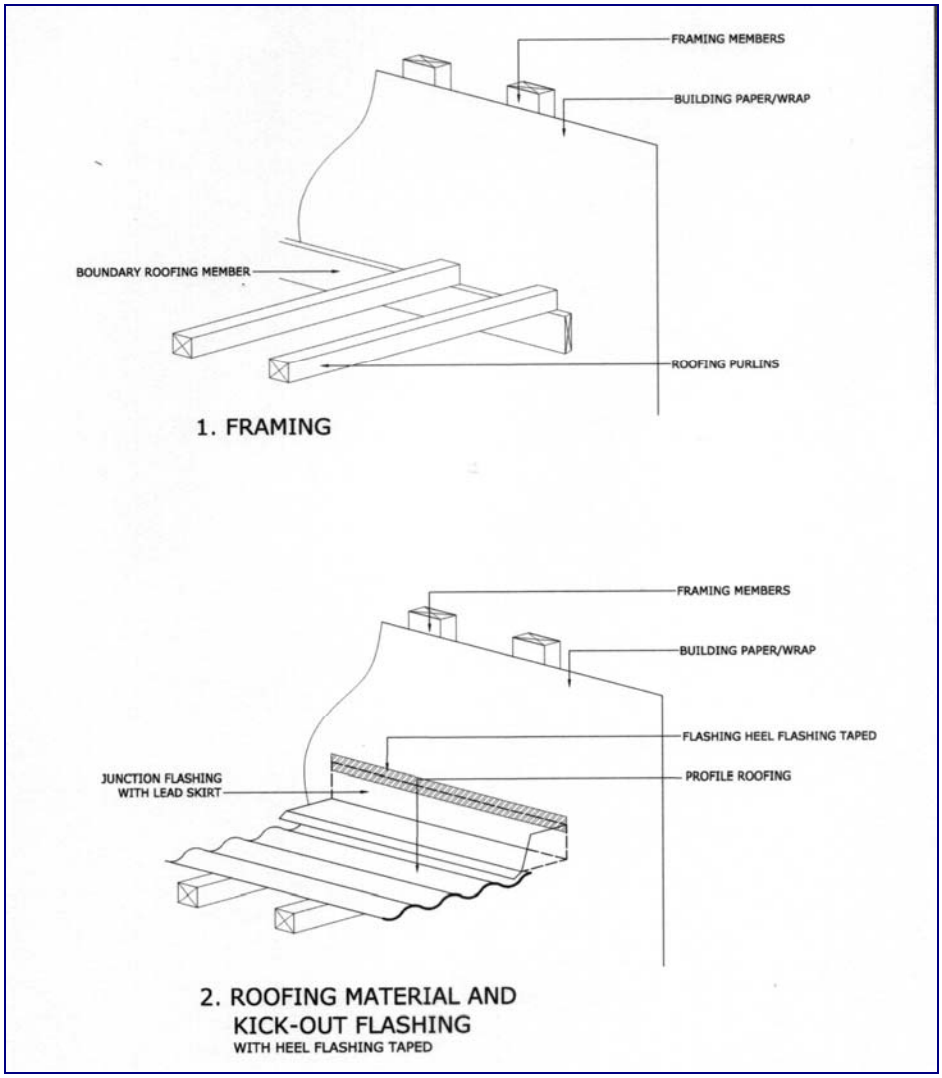
Note: Above windows a vermin tray is required to cap base of battens and prohibit the entry of vermin.

6.7 Stainless Steel Corner Beads

- Widra Stainless Steel corner beads are positioned on external corners to provide additional reinforcing of the plaster at these high risk impact points.
- The beads are cut to length and adhered to the external corner on top of the fibre cement sheet using adhesive mortar or liteweight plaster by dabbing the product through the bead and onto the wall 50mm from the top and approx. 500mm thereafter
- Widra corner beads are set to protrude 10mm from adjacent wall planes and give the applicator screed guides for the liteweight levelling coat.
- 10mm screed guides may be glued on to assist in achieving required thicknesses at soffits and at base of the wall.

6.8 Kick-Out Flashings

Diagram: Roof Kick-Out 1-2



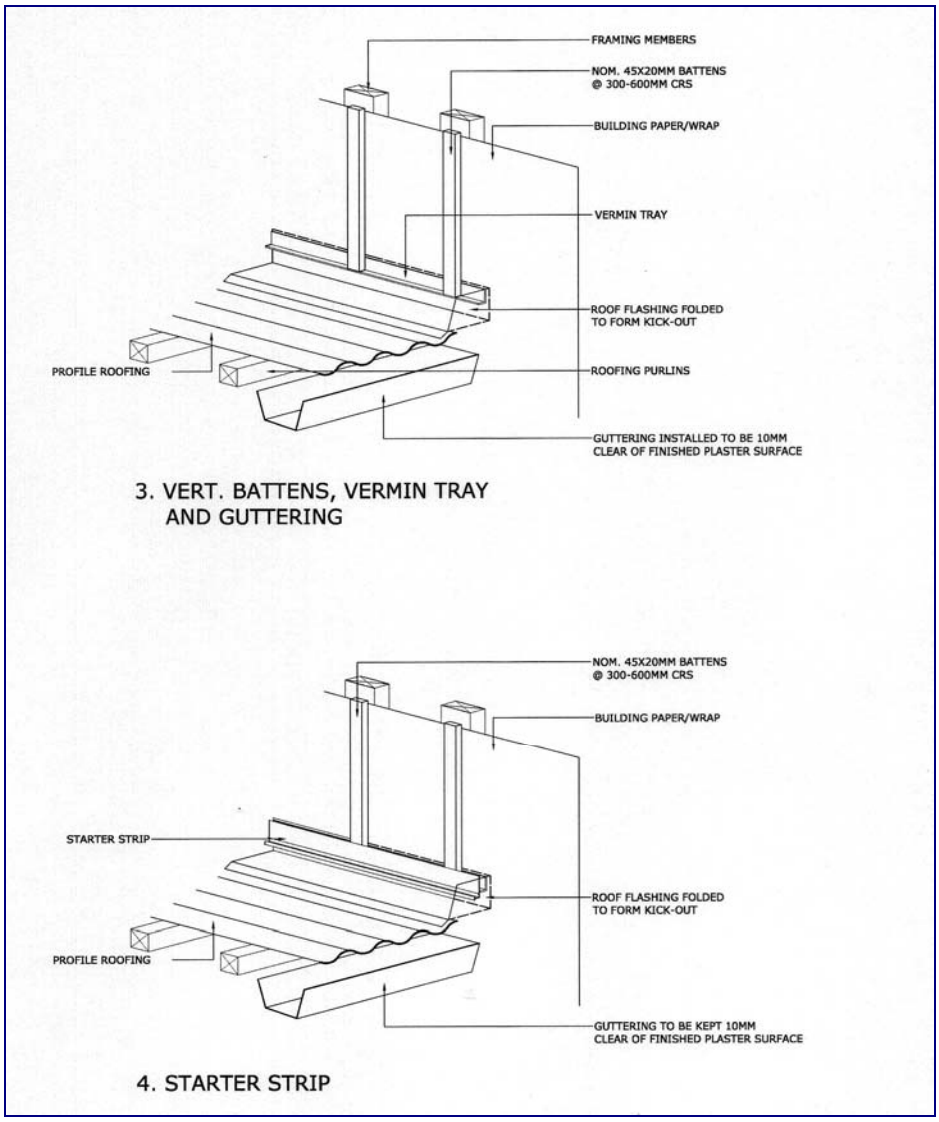


Diagram: Roof Kick-Out 3-4

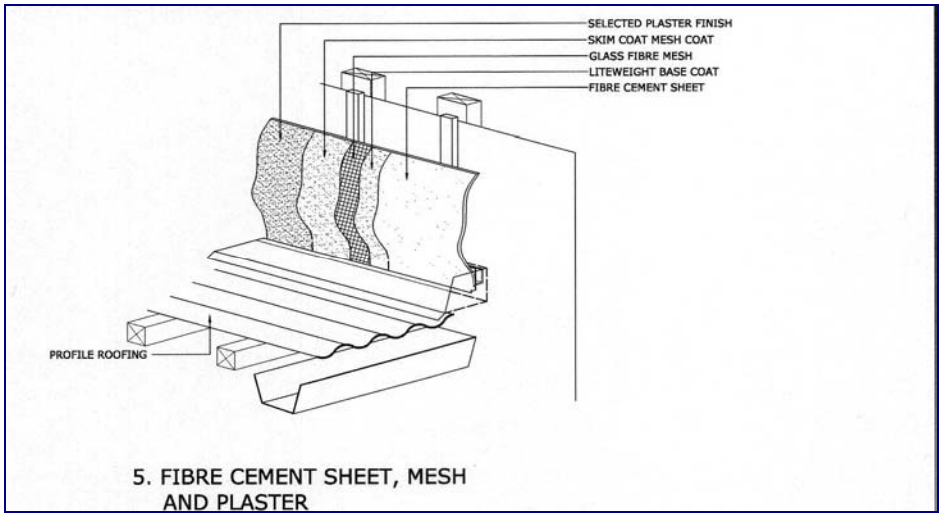


Diagram: Roof Kick-Out 5

6.9 Mesh Layout

- Mesh can be run vertically or horizontally depending on size and shape of the wall to he meshed.
- All laps in mesh to be 100mm mm.
- 300x200mm mesh butterflies to be place on all external corners around openings and penetrations..

Note: Do not run mesh over Control Joints.

6.10 Plaster

The Nu-Lite System is a 14-17mm thick cladding solution comprising of the following:

Levelling Coat of Liteweight Plaster

Liteweight Plaster can be trowel applied but for optimum results Wattyl Granosite / Nu-Age Plaster recommends pump application of nom. 10mm levelling coat of the product.

Reinforcement Coat of Adhesive Mortar

This coat is 3-5mm thick and is spray pumped onto the wall or applied by trowel. Glass fibre mesh is imbedded into the outside surface of this coat.

Finishing Coat of Adobe Finish

A polymer modified Cement and Lime based plaster with additives this finish is applied 3-5mm thick and sculpted with a bull nosed trowel to achieve an undulating finish.

Finishing Coat of Sponge Finish

A polymer modified Cement and Lime base with additives this finish coat is applied 2-3mm thick by spray pump or trowel. The 1mm sponge is then hard floated to achieve a mosaic finish. The 2mm sponge is hard floated then sponged to achieve a sandy grit finish.

A Weather Protective Paint coat

See Wattyl Granosite Paintworks Specification Manual

Preparation Prior to application of plaster

- All external corners must be reinforced with Widra Stainless Steel corner beads and fixed to the substrate with Liteweight plaster.
- Wall plane should be checked with a straight edge and should comply with the tolerances set out on 3.4.
- All uPVC starter strips should be coated with Flashing primer/Key Coat.
- All external joinery must be fixed in place with flashings installed and sealant applied to all intersections where required.
- Wipe surface of all aluminium joinery with an appropriate product prior to application to ensure good adherence of sealants.
- Masking tape must be used to protect all joinery, soffit linings, guttering etc which may be subject to splashing and overspray.
- The surface of all fibre cement sheet must be clean, dry and free of dust (eg. Concrete cutting residues), laitance, release oils and soil before the application of plaster.
- If corners are to be rounded then EPS screed guides may be used to ensure correct thickness is applied.
- If EPS screed guides are used and left in place after leveling coat of plaster has been applied a reinforcement coat of adhesive mortar containing mesh reinforcement must be applied over.

Note: Plastering should not take place when outside temperatures are or are considered to be within the next 24 hours outside the temperature range of 5-35°C.

Mixing of Plaster

- Wattyl Granosite / Nu-Age Plaster products are supplied in 25kg bags and must be mixed with clean fresh water.
- Mixing, if by hand must be carried out in accordance with NZS 4251 Clause 2.4.3.4 however machine mixing is recommended to produce a more consistent quality mix.
- Mixing must be carried out in accordance with the instructions on the back of each bag, together with those of the mixing machine manufacturer.
- All tools and mixing equipment to be washed cleaned frequently.

Application of Plaster — General

- Application must be carried out in accordance with the instruction on the back of each bag. All Nu-lite plasters may be trowel applied but machine application is recommended to give better quality results.
- Any plaster not used within one hour of mixing must be discarded.
- Plaster must be applied only if the air temperature is between 5°C and 35°C at the time of application and is likely to remain so for the 24 hours following the application. Plaster should be applied on the shady side of the building following the path of the sun. If this is not possible shade cloths must be used.
- Plaster surfaces must be protected from rain and hot drying winds for at least 24 hours following application.
- Each plaster coat must be cured in accordance with the instructions on the back of each bag, prior to the application of the next plaster coat. A controlled rate of drying is required to prevent cracking of the plaster.
- Fibreglass reinforcing mesh must not bridge control or expansion joints.
- Mesh Butterflies must be applied at corners of openings e.g. windows and doors. In addition to the full reinforcement mesh coat.

Application of Plaster — General (continued)
- Following the commencement of plaster application it is essential that no vibration (e.g. nailing of internal linings) be permitted to the substrates supporting the plaster until at least seven days following application of the plaster.

Levelling Coat of Liteweight Plaster
- The Liteweight Plaster coat is applied directly onto the fibre cement sheet preferably pumped then screeded using an 'H' aluminium straight edge 1 .2-2m long to a thickness of 11-12mm. Applying the liteweight levelling coat thicker than screed guides gives you a surface to cut back into a flat plane.
- Cutting back of the plaster can be done after sufficient drying has taken place using an aluminium trapeze edge 1 .5-2m long.
- Carefully expose the stainless steel beads (or screed rails) using a grid plane then lightly run the grid plane over wall area taking care not to dig holes in fresh plaster. Complete the levelling with a trapezium, straight edge checking for straightness horizontally and vertically.
- One 25kg bag of Liteweight Plaster will cover an area of approximately 2msq. at a thickness of 10mm.
- Liteweight Plaster must be protected from rain for the first 24 hours and from hot drying winds and direct sun for the first 16 hours to aid curing.
- Follow instructions on back of the bag for curing times.

Reinforcing Coat of Adhesive Mortar
- Adhesive Mortar is applied approximately 3-5mm thick over the Liteweight Plaster levelling coat, fibre glass mesh is trowelled into this coat bedding the mesh, to ensure the mesh is fully encapsulated an additional coat may be required.
- A 25 kg bag of Adhesive Mortar at a thickness of 3-5mm will cover approximately 4msq
- Adhesive Mortar must be protected from rain for the first 24 hours and from hot drying winds and direct sun for the first 16 hours to aid curing.
- Follow instructions on back of the bag for curing times.

Finishing Coats
These consist of:
• 1mm Finish
• 2mm Finish
• Adobe Finish

Applying 1mm finish
- This is done by applying the plaster over a determined set area.
- The plaster is lightly trowelled tight to the wall.
- A hard plastic float is then used to achieve a random or drag finish
- Alternatively a sponge can be used to finish the wall.
- A 25 kg bag of 1mm Sponge Finish at a thickness of 2-3mm will cover approximately l0msq

Applying 2mm Finish
- This is done by applying the plaster over a determined set area.
- The plaster is lightly trowelled tight to the wall.
- A sponge is then used to achieve a textured, sandy finish
- A 25 kg bag of 2mm Sponge Finish at a thickness of 2-3mm will cover approximately 6-7msq.
- All finishes must be protected from rain for the first 24 hours and from hot drying winds and direct sun for the first 16 hours to aid curing.
- Follow instructions on back of the bag for curing times.

Applying Adobe Finish
- Adobe finish is applied over Skim Coat and used to create a variety of sculptured finishes. Application can be done by two methods

The first method:
• applying the Adobe over a determined set area at 3-5mm.
• then a trowel is used to create a sculptured trowel finish.

The second method:
• Utilise the same procedure as above, then use a sponge to create a textured sandy effect.
- A 25 kg bag of Adobe at a thickness of 3-5mm will cover approximately 3-4msq.
- All finishes must be protected from rain for the first 24 hours and from hot drying winds and direct sun for the first 16 hours to aid curing.
- Follow instructions on back of the bag for curing times.

7. AREAS WHERE ADDITIONAL CARE IS REQUIRED

7.1 Windows

- Ensure the flashing tape is correctly installed as per manufacturer's instruction with no creases or gaps and is properly adhered to building paper/wrap.
- Ensure the uPVC window flashings are correctly installed, as per Section 6.6, and seal all intersections with an appropriate sealant.
- Check the window installer has installed a PEF rod and air seal around the internal face of the trim cavity.
- Check the window manufacturer has made the aluminium head flashing to suit the cavity size. The aluminium head flashing must sit back against the wall framing and flashing taped or a second layer of building paper/wrap must be installed over the upstand as per the specifications.
- Ensure a 3-5mm gap is maintained between face of fibre cement sheet and back face of aluminium joinery in order to install uPVC flashings.

7.2 Parapets/Balustrades

- All parapets and balustrades are to be sealed with flashing tape prior to plastering. Flexible flashing tapes to be used at intersections and change of direction, along majority of capped parapet. See details 7, 8, 9 and 10.
- Parapets/balustrades which are exposed to the weather on both sides are to be constructed with H3.1 treated framing members.
- Parapets and balustrades must be protected with a metal parapet cap fixed through the sides. See details 7 and 8 of Nu-lite Technical Manual.
- Wattyl Granosite / Nu-age Plaster strongly recommends the use of metal capping to all parapets and balustrades.

7.3 Roofs

- At inter-storey roofs the apron flashing is required to extend behind the base of the cladding as stated in E2/AS1.

7.4 Intersection with other claddings

- Special care is required at junctions with other claddings. The accurate design of these junctions is critical to prohibit water from entering the building envelope. These details and any others not shown in this manual are the responsibility of the building designer.

7.5 Damage to cladding system

- Any damage or cracking of the cladding system will require immediate attention and repair in order to prohibit water entry.
- Damage to the paint coating system will provide a point of vulnerability to the cladding system and must be repaired immediately to avoid further damage.

7.6 Penetrations

- Any pipe, electrical or other penetrations must be sealed with flashing tape before cladding. In all cases conduit pipe should be installed to protect and seal penetrations through the cladding. See Detail 17 and 18 of Nu-lite Technical Manual.

8. RESPONSIBILITIES

This section outlines the individual responsibilities throughout each stage of the cladding process and clarifies stages where inspections must be made to ensure roles have been fulfilled and workmanship remains of a high standard.

8.1 Designer

- Responsible for the building design.
- Contact Wattyl Granosite for any updated details to the Nu-lite system.
- Inform window manufacturers of the window and door reveal dimensions.
- Inform window manufacturers of correct head flashing dimensions (the head flashing must extend across the cavity and sit against the wall framing not on top of the batten).

8.2 Builder

- Ensure walls are straight and true, braced and fixed appropriately.
- Install building paper/wrap ensuring the bottom edge of the wrap overhangs the bottom plate by mm. 50 mm.
- Ensure all laps in building paper/wrap are minimum 200mm and are lapped to shed water down the cavity.
- Install flexible jamb and sill flashing tapes.
- Fix Polypropylene strapping vertically between the studs if span exceed 300mm.

This strapping helps prevent the cavity from being closed off during the installation of insulation into the wall framing cavity.

- Where waterproofing agents are required (e.g. edges of concrete foundations etc), ensure the surface is coated with an appropriate product.
- Where lead flashings are used (at inter-storey roofs etc), planing of the timber studs may be required to recess the lead flashings to reduce the build-up of flashing thickness. (If the lead flashings are not recessed, the lead thickness can cause the base of the wall to bow out).

8.3 Batten Installer /Fibre cement sheet fixer

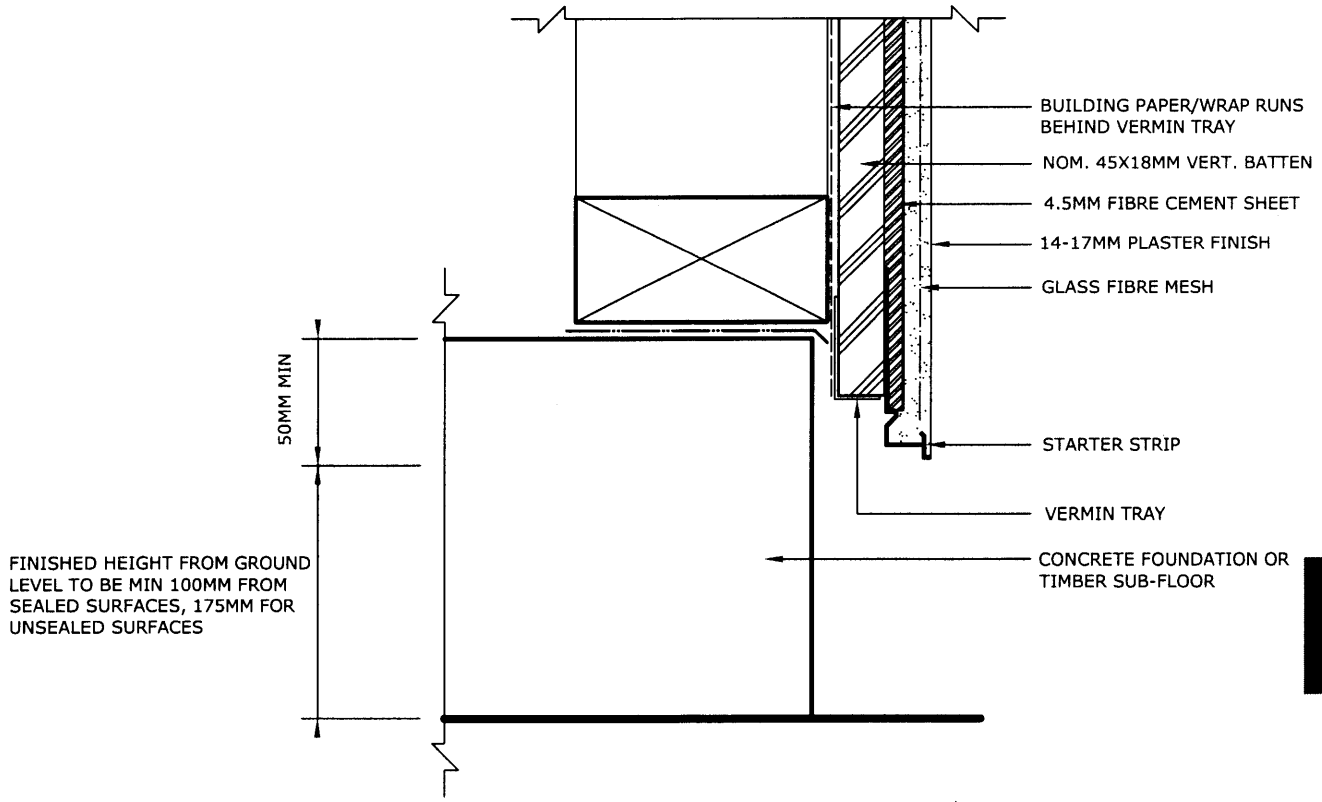
- At the base of the wall, ensure the bottom of the cavity battens are a minimum 30 mm below the bottom plate.
- Ensure horizontal packers are 100 mm maximum installed only where required for sheet fixing.
- Ensure the vermin strip and starter strips are fixed to the bottom plate.
- Joins and intersections in uPVC flashings are to be sealed with an appropriate flexible sealant.
- Ensure all vertical joints in fibre cement sheet are made over a vertical batten.
- Ensure battens are correctly installed at control joints and no fixing of fibre cement sheet is made to the inter-storey structure.
- Ensure flashings are installed according to Nu-lite detailed drawings and Technical Documentation.
- Ensure fibre cement sheet is installed as per manufacturer's instructions.

8.4 Applicator

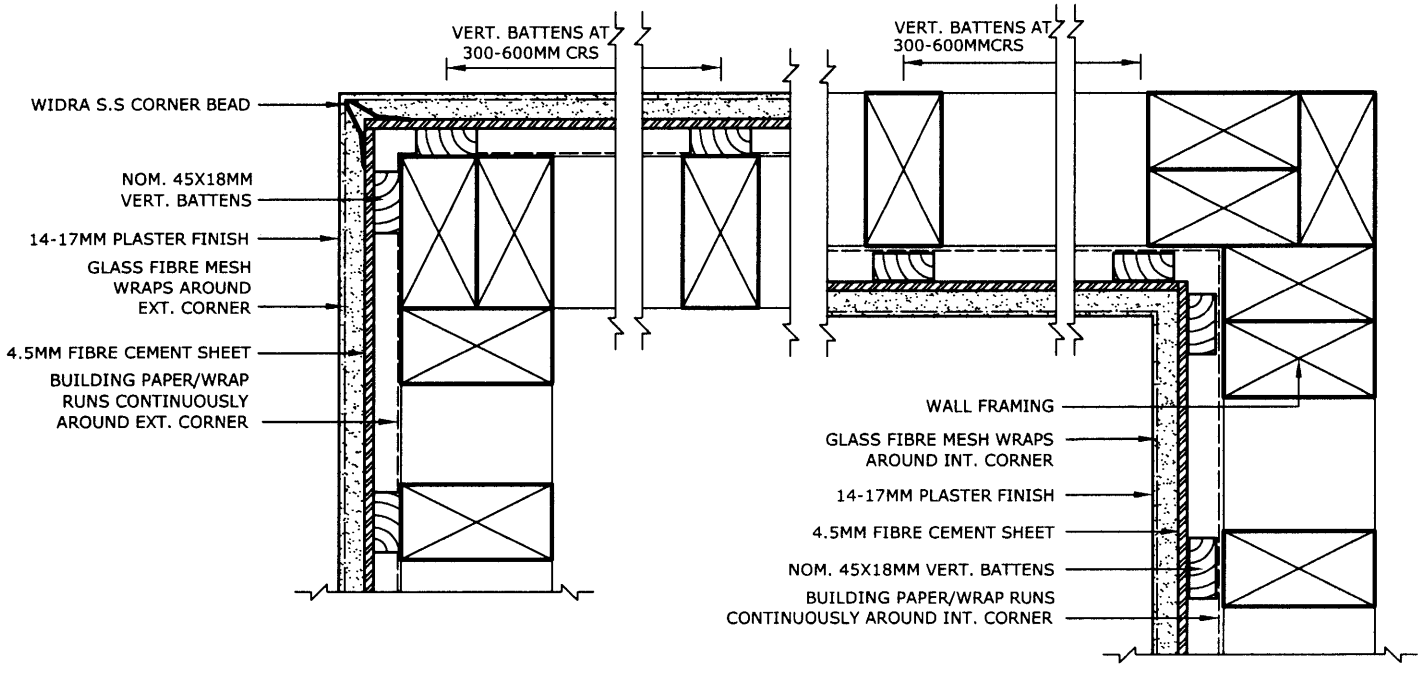
- Ensure plaster coats are applied to the correct thicknesses as stated in the Nu-lite technical manuals.
- Ensure mesh is applied at the appropriate stage and laps are minimum 100mm.
- Apply finishing coats as per the Wattyl Granosite / Nu-Age Plaster specifications.
- Ensure the plaster is adequately cured as per Wattyl Granosite / Nu-Age plaster specifications
- Dispose of empty plaster bags correctly.

8.5 Paint Applicator

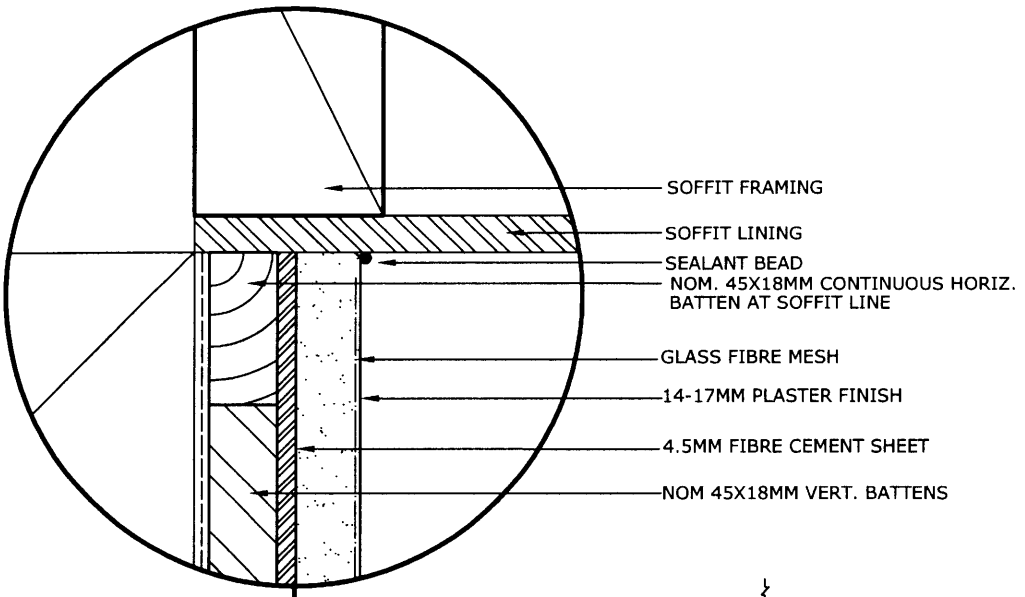
- Ensure plaster system has undergone the adequate curing and drying period before applying paint finish.
- Gently brush down finished plastered areas with soft bristled broom to remove any loose particles before painting.
- See Wattyl Granosite Paintworks Specification Manual


BUILDING PAPER/WRAP RUNS BEHIND VERMIN TRAY
NOM. 45X18MM VERT. BATTEN
4.5MM FIBRE CEMENT SHEET
14-17MM PLASTER FINISH
GLASS FIBRE MESH
50MM MIN
STARTER STRIP
VERMIN TRAY
FINISHED HEIGHT FROM GROUND LEVEL TO BE MIN 100MM FROM SEALED SURFACES, 175MM FOR UNSEALED SURFACES
CONCRETE FOUNDATION OR TIMBER SUB-FLOOR

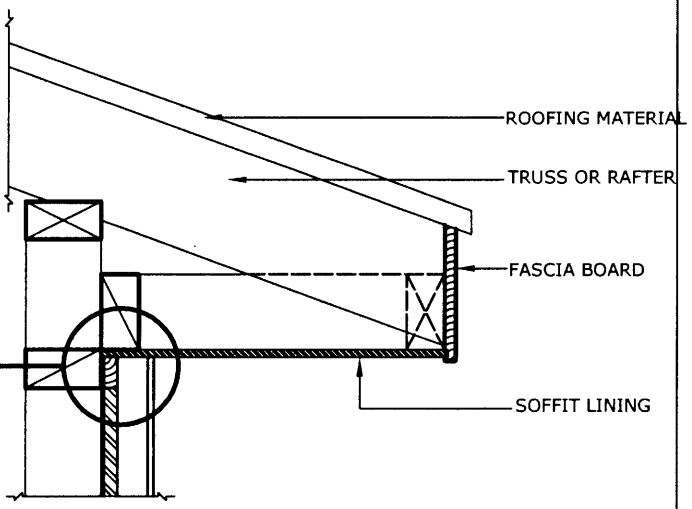
1


VERT. BATTENS AT 300-600MM CRS
VERT. BATTENS AT 300-600MMCRS
WIDRA S.S CORNER BEAD
NOM. 45X18MM VERT. BATTENS
14-17MM PLASTER FINISH
GLASS FIBRE MESH WRAPS AROUND EXT. CORNER
4.5MM FIBRE CEMENT SHEET
BUILDING PAPER/WRAP RUNS CONTINUOUSLY AROUND EXT. CORNER
WALL FRAMING
GLASS FIBRE MESH WRAPS AROUND INT. CORNER
14-17MM PLASTER FINISH
4.5MM FIBRE CEMENT SHEET
NOM. 45X18MM VERT. BATTENS
BUILDING PAPER/WRAP RUNS CONTINUOUSLY AROUND INT. CORNER

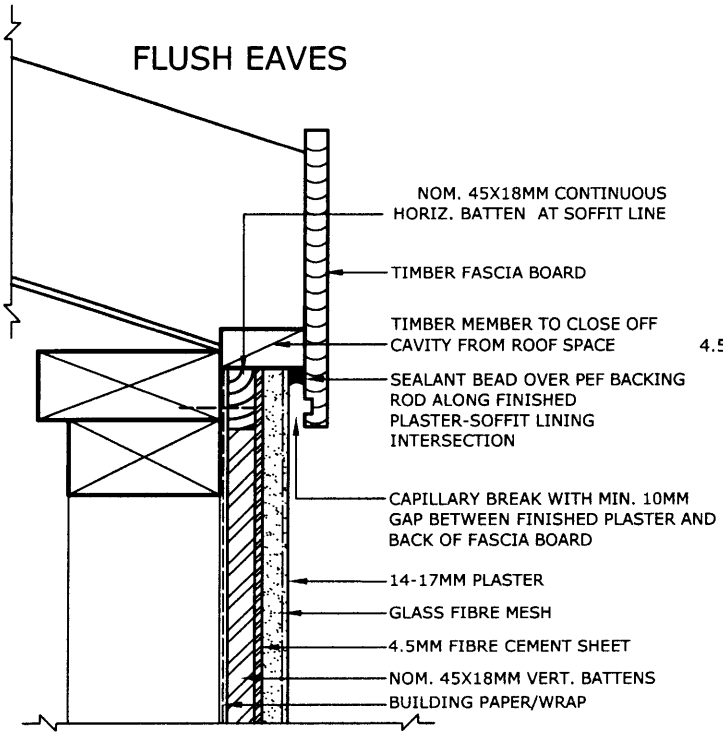
2

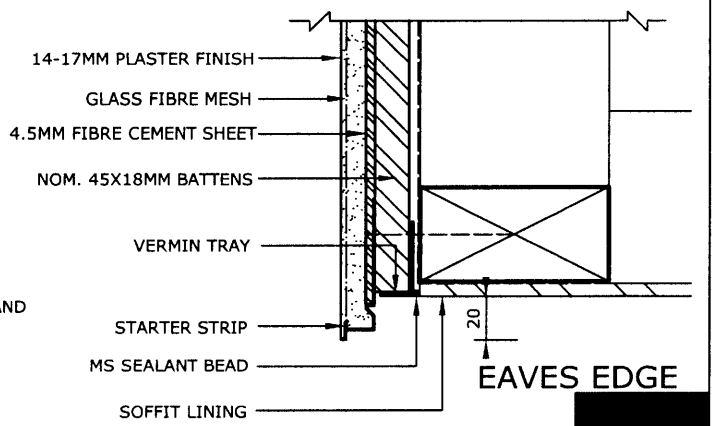


BOXED EAVES

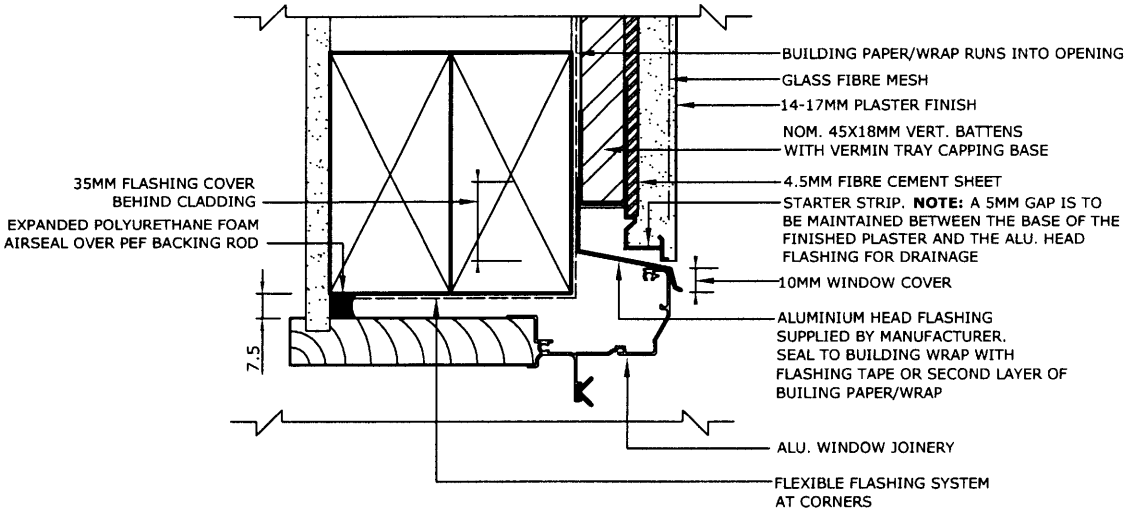


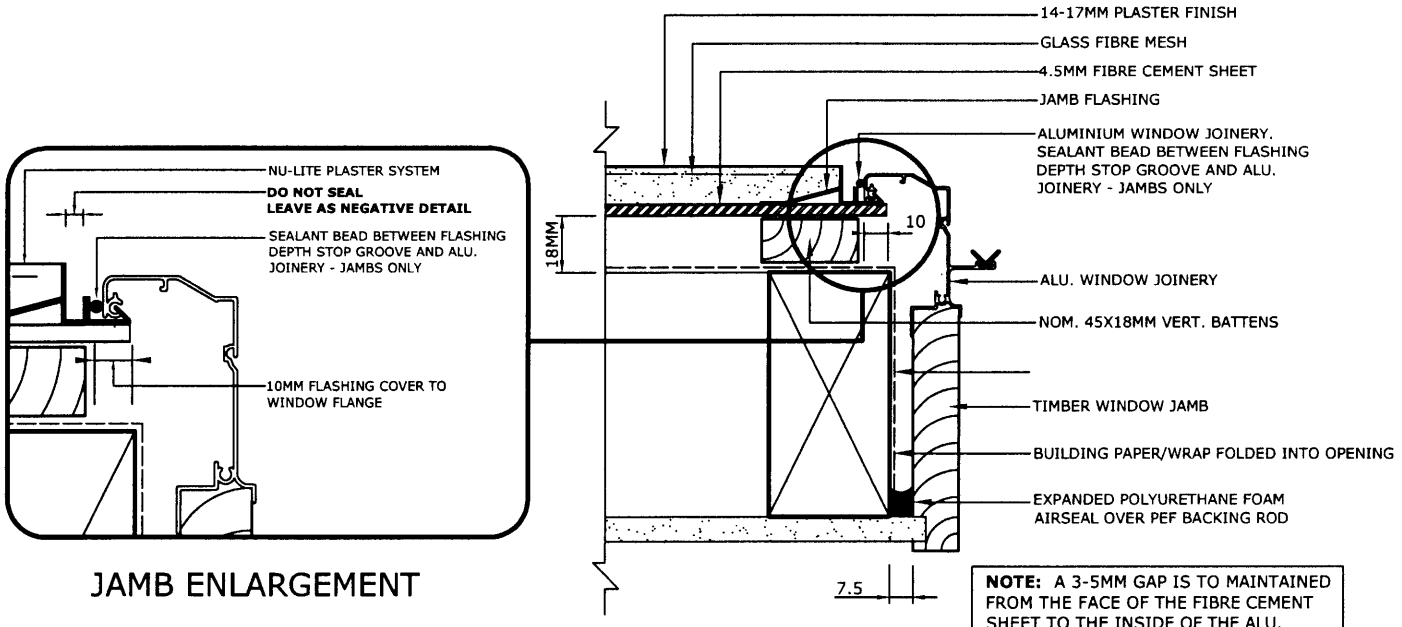
FLUSH EAVES





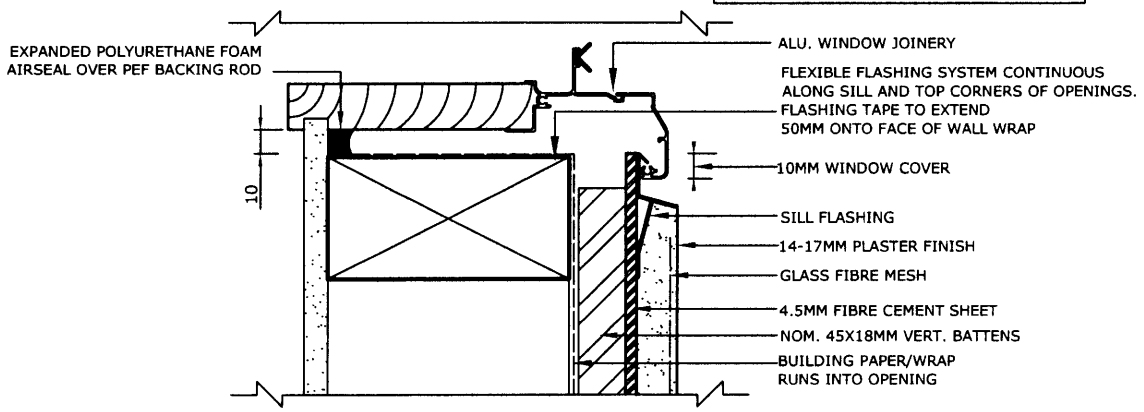
EAVES EDGE



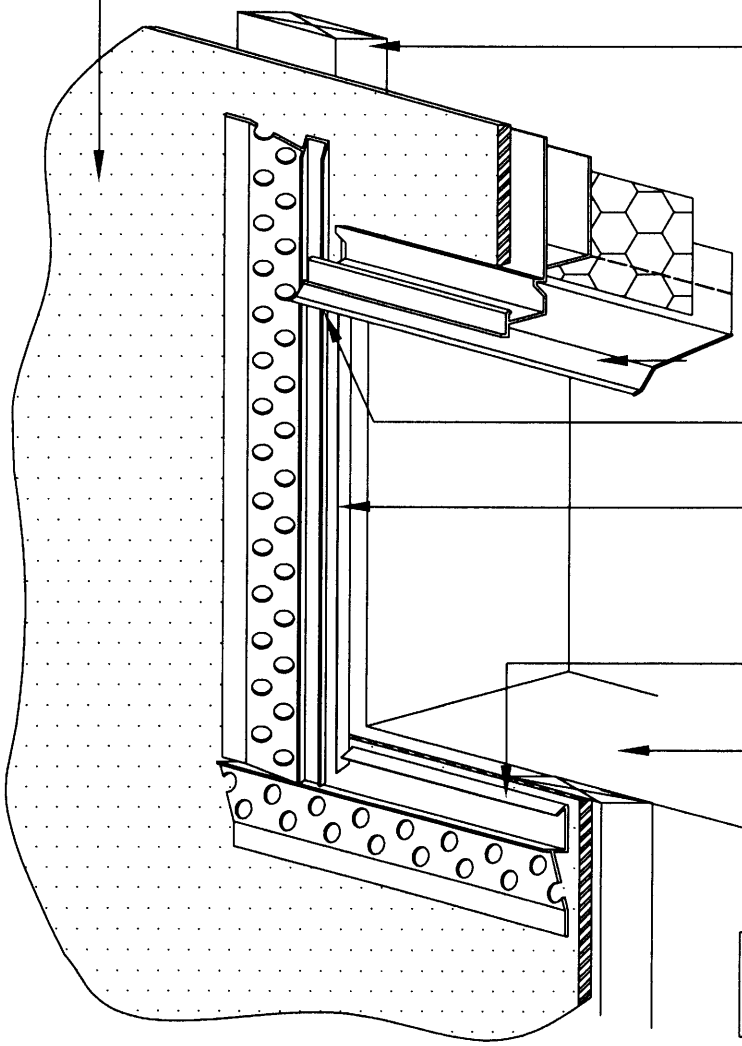


JAMB ENLARGEMENT

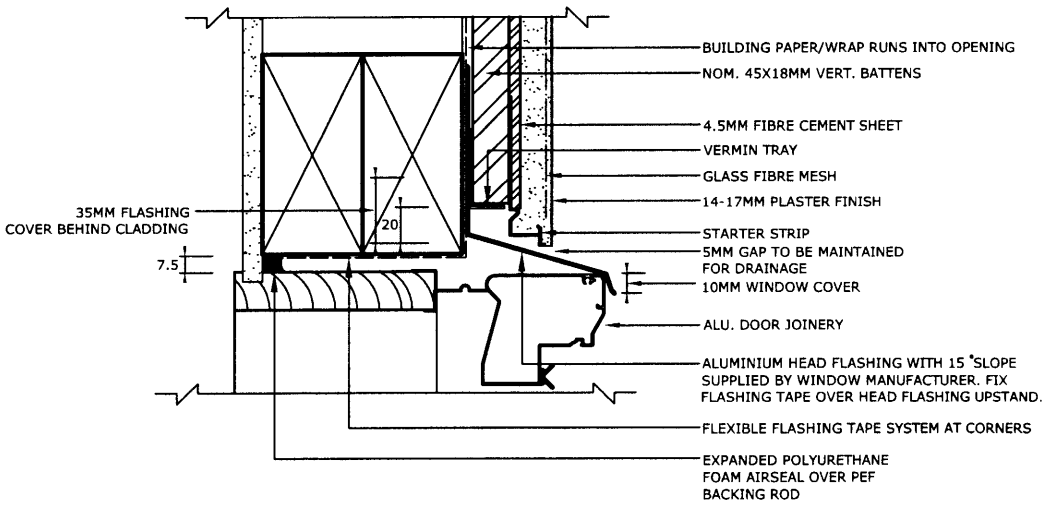
NOTE: A 3-5MM GAP IS TO MAINTAINED FROM THE FACE OF THE FIBRE CEMENT SHEET TO THE INSIDE OF THE ALU. JOINERY PROFILE TO FIT FLASHINGS

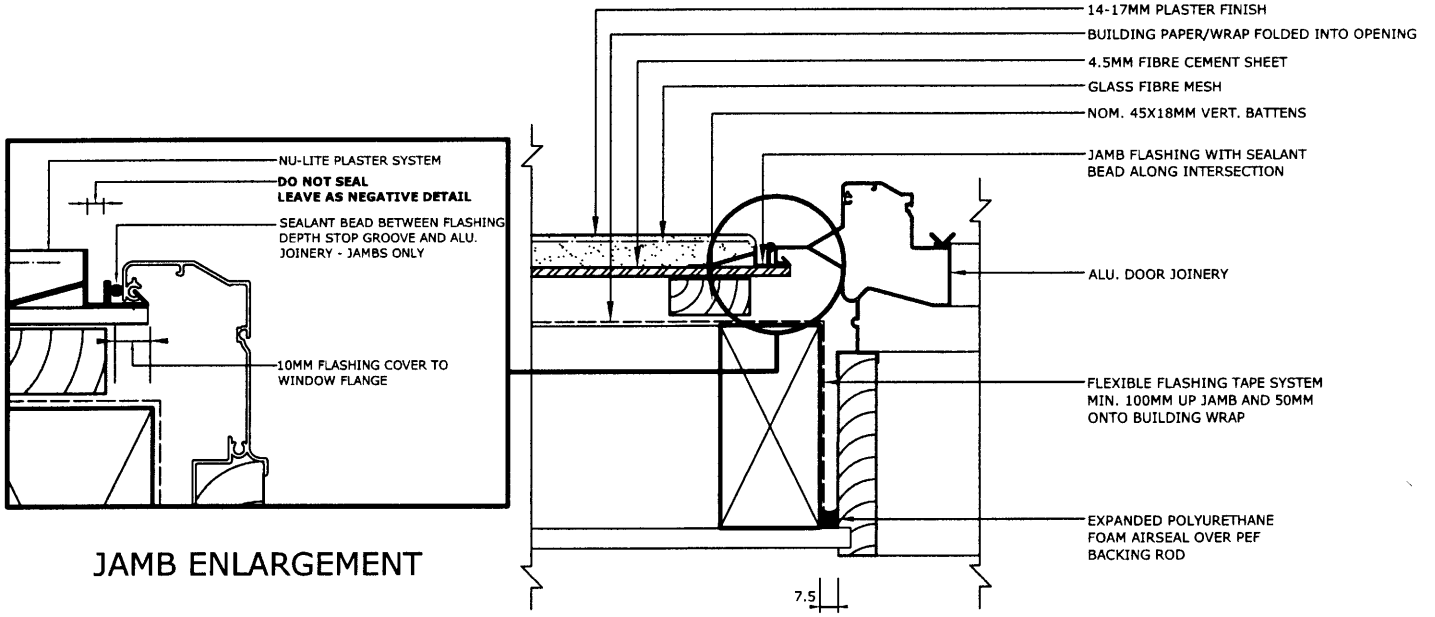


NOTE: A SLOPED SILL TRIMMER IS REQUIRED WHEN THE GLAZING POCKET OF THE WINDOW/DOOR FRAME IS POSITIONED BACK PAST THE LINE OF THE WALL FRAME. A FLAT SILL TRIMMER MAY BE USED IN ALL OTHER CIRCUMSTANCES. **REFER TO WINDOW MANUFACTURERS FOR METHOD OF FIXING SUPPORT.**

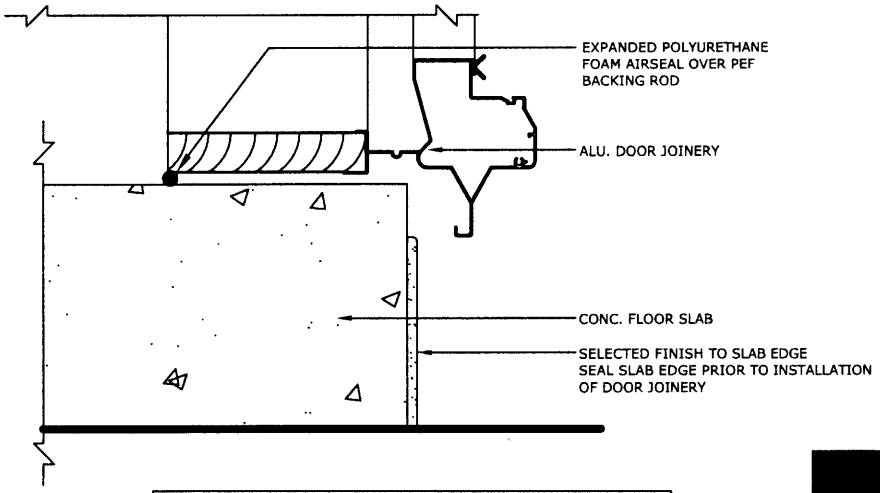


NOTE: SEALANT BEAD ALONG JAMB-SILL FLASHING JUNCTION ON FACE OF FLASHING AND BEHIND, PRIOR TO INSTALLATION OF EPS

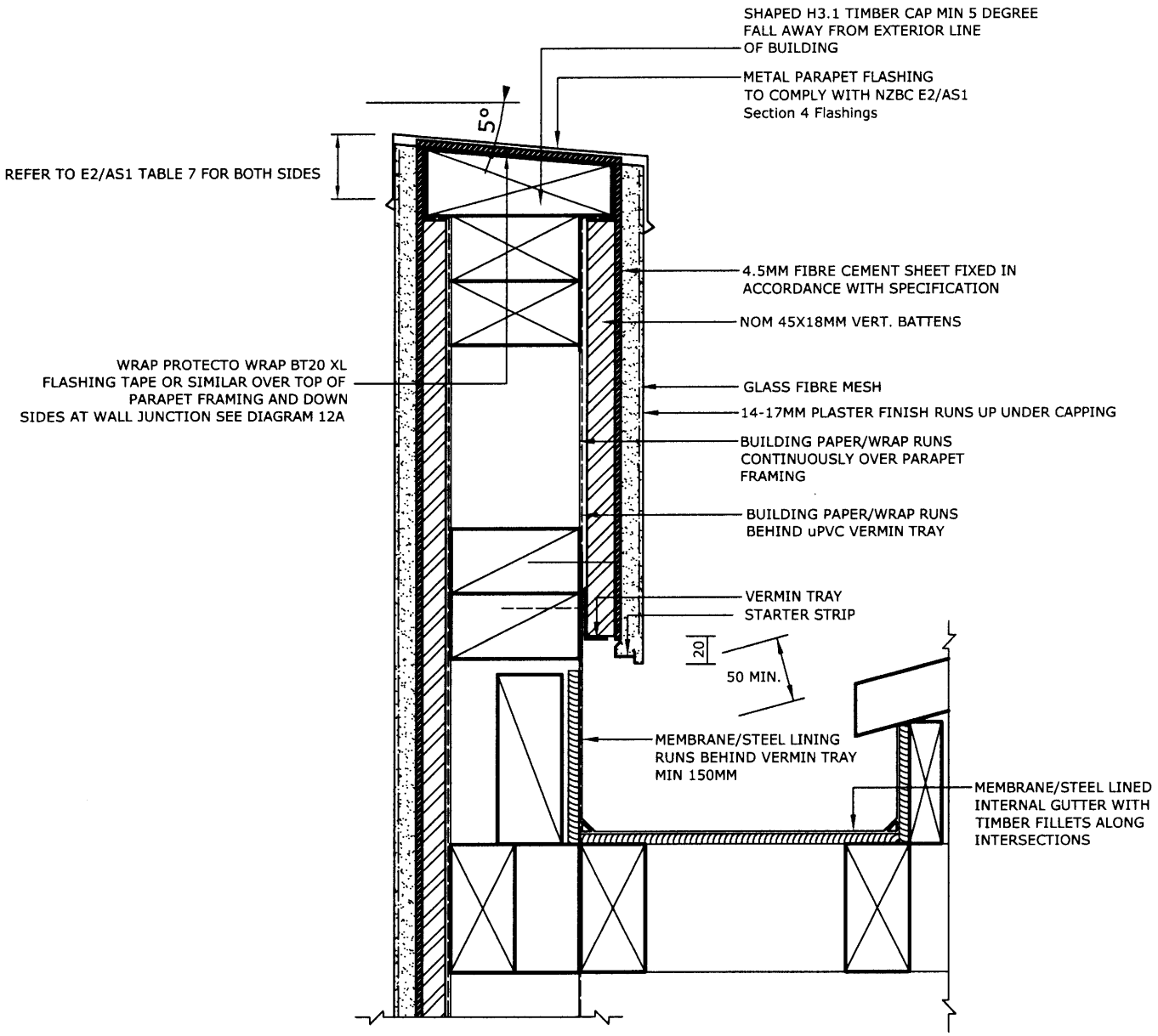


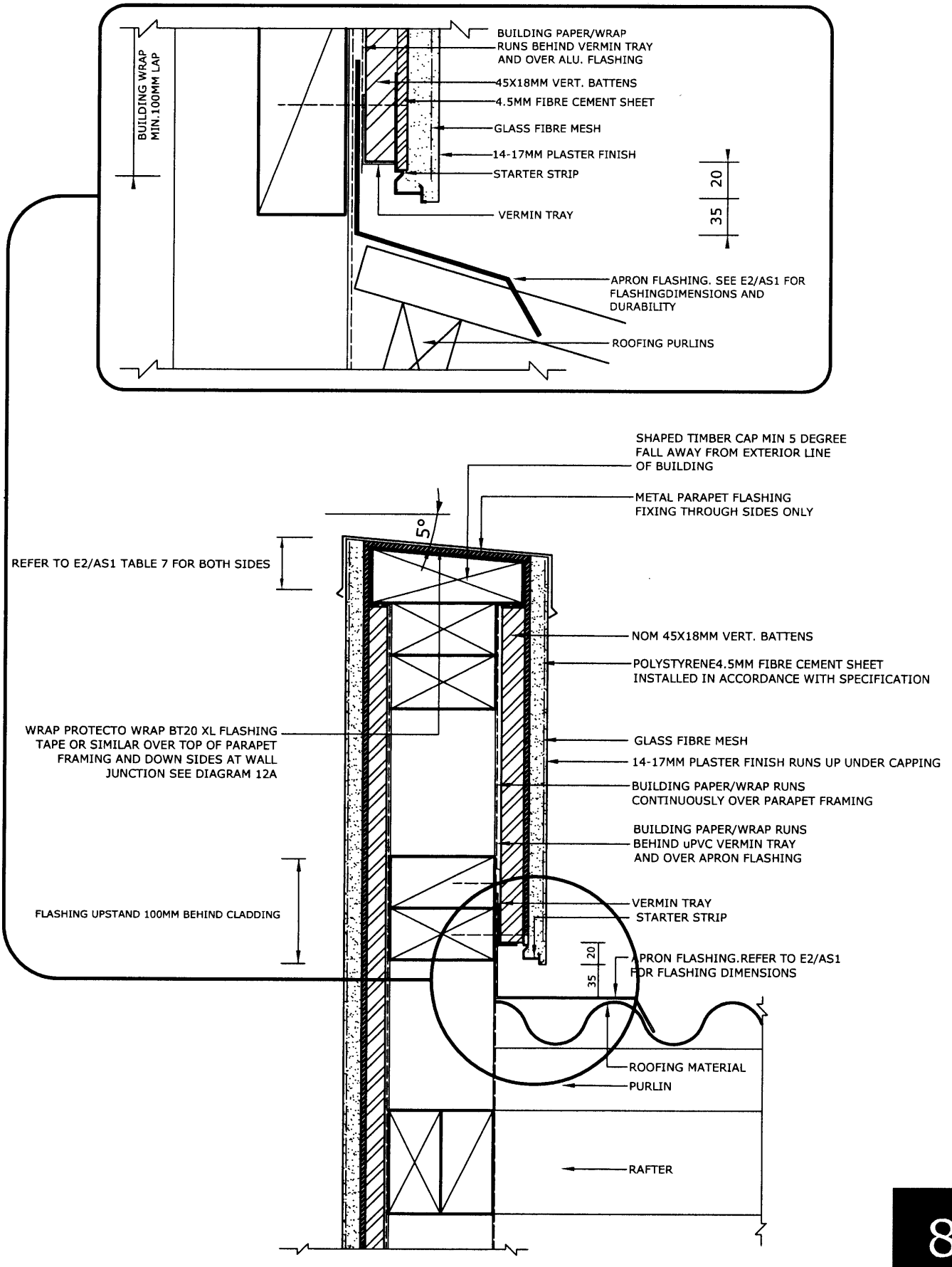


JAMB ENLARGEMENT



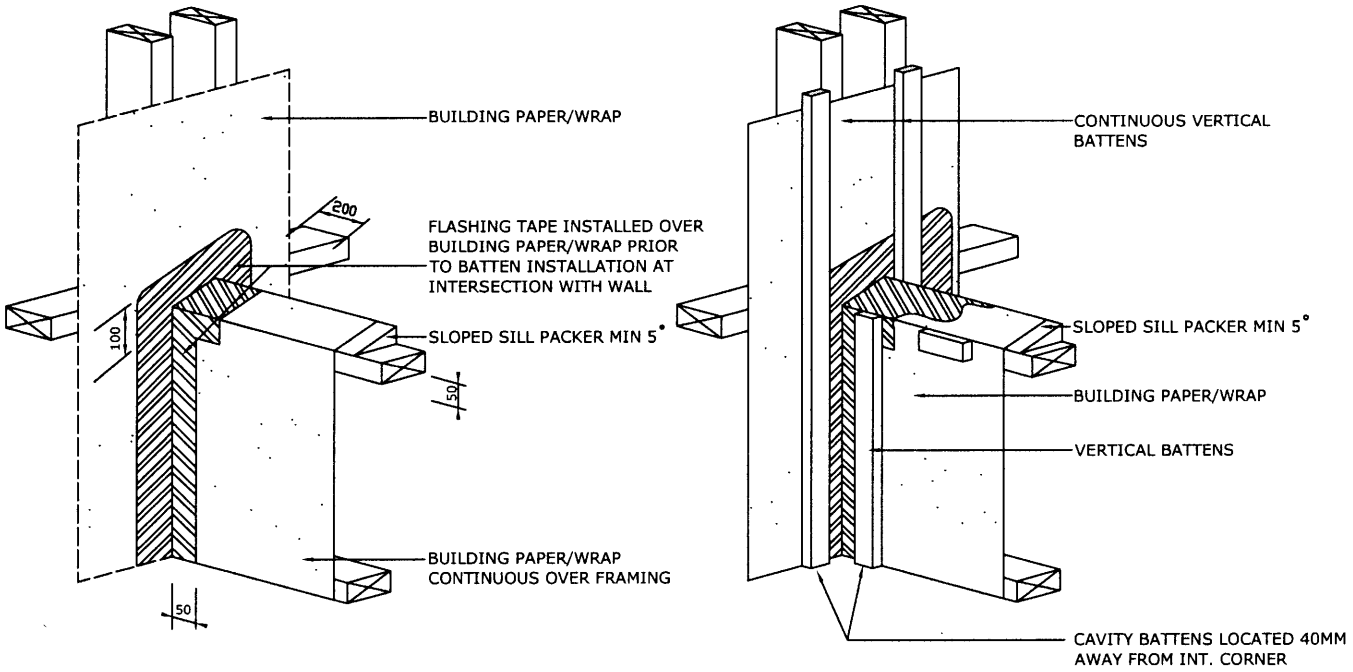
NOTE: FOR TIMBER FLOORS, A SLOPE WILL BE NEED TO BE FORMED IN THE FLOOR FINISH IF THE GLAZING POCKET OF THE DOOR FRAME IS LOCATED BACK PAST THE LINE OF THE FLOOR EDGE. **REFER TO WINDOW MANUFACTURERS FOR METHOD OF FIXING SUPPORT.**

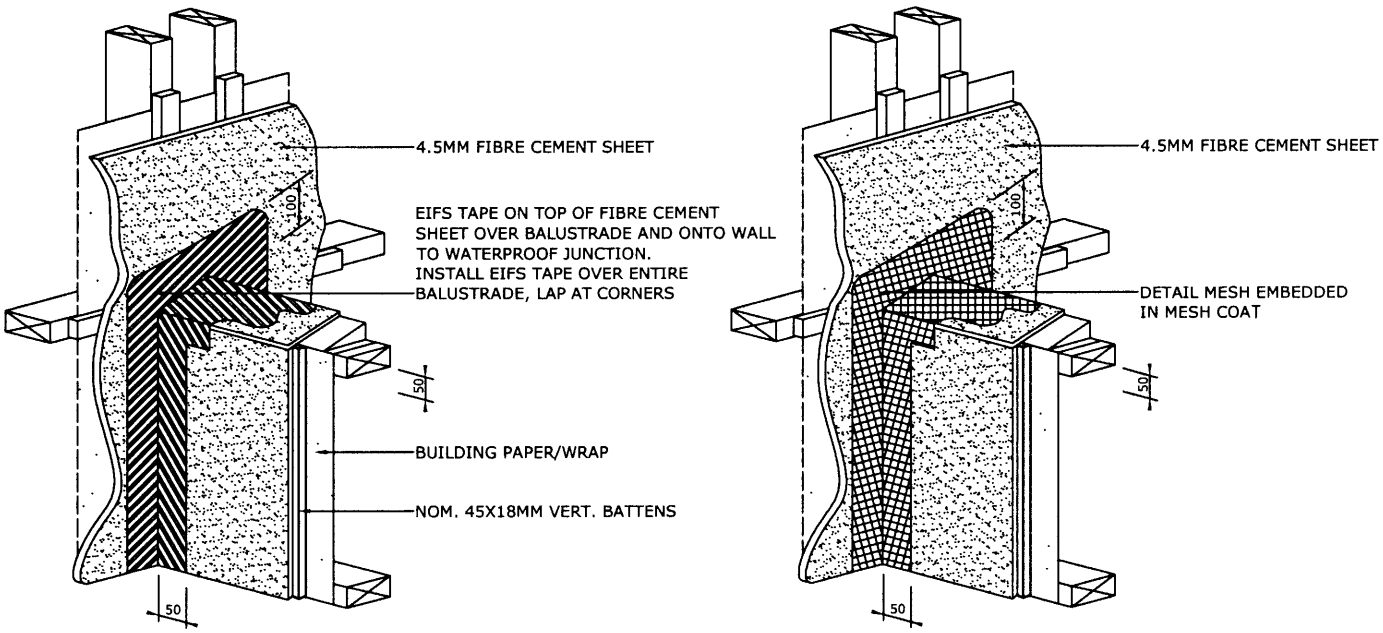

SHAPED H3.1 TIMBER CAP MIN 5 DEGREE FALL AWAY FROM EXTERIOR LINE OF BUILDING
METAL PARAPET FLASHING TO COMPLY WITH NZBC E2/AS1 Section 4 Flashings
5°
REFER TO E2/AS1 TABLE 7 FOR BOTH SIDES
4.5MM FIBRE CEMENT SHEET FIXED IN ACCORDANCE WITH SPECIFICATION
NOM 45X18MM VERT. BATTENS
WRAP PROTECTO WRAP BT20 XL FLASHING TAPE OR SIMILAR OVER TOP OF PARAPET FRAMING AND DOWN SIDES AT WALL JUNCTION SEE DIAGRAM 12A
GLASS FIBRE MESH
14-17MM PLASTER FINISH RUNS UP UNDER CAPPING
BUILDING PAPER/WRAP RUNS CONTINUOUSLY OVER PARAPET FRAMING
BUILDING PAPER/WRAP RUNS BEHIND uPVC VERMIN TRAY
VERMIN TRAY
STARTER STRIP
20
50 MIN.
MEMBRANE/STEEL LINING RUNS BEHIND VERMIN TRAY MIN 150MM
MEMBRANE/STEEL LINED INTERNAL GUTTER WITH TIMBER FILLETS ALONG INTERSECTIONS



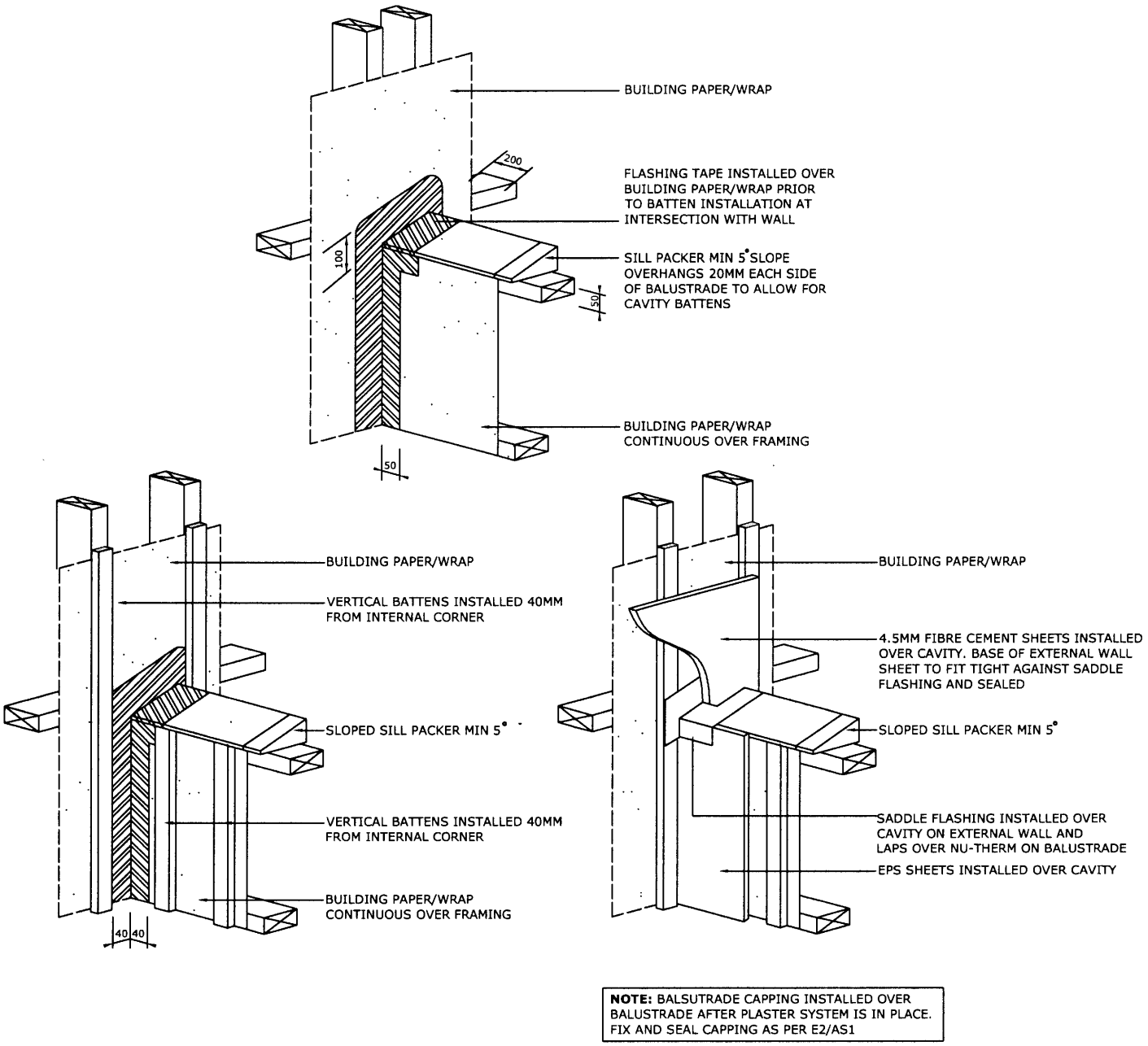
Version 5

FILE NAME: PARAPET-ROOF JUNCTION DETAIL

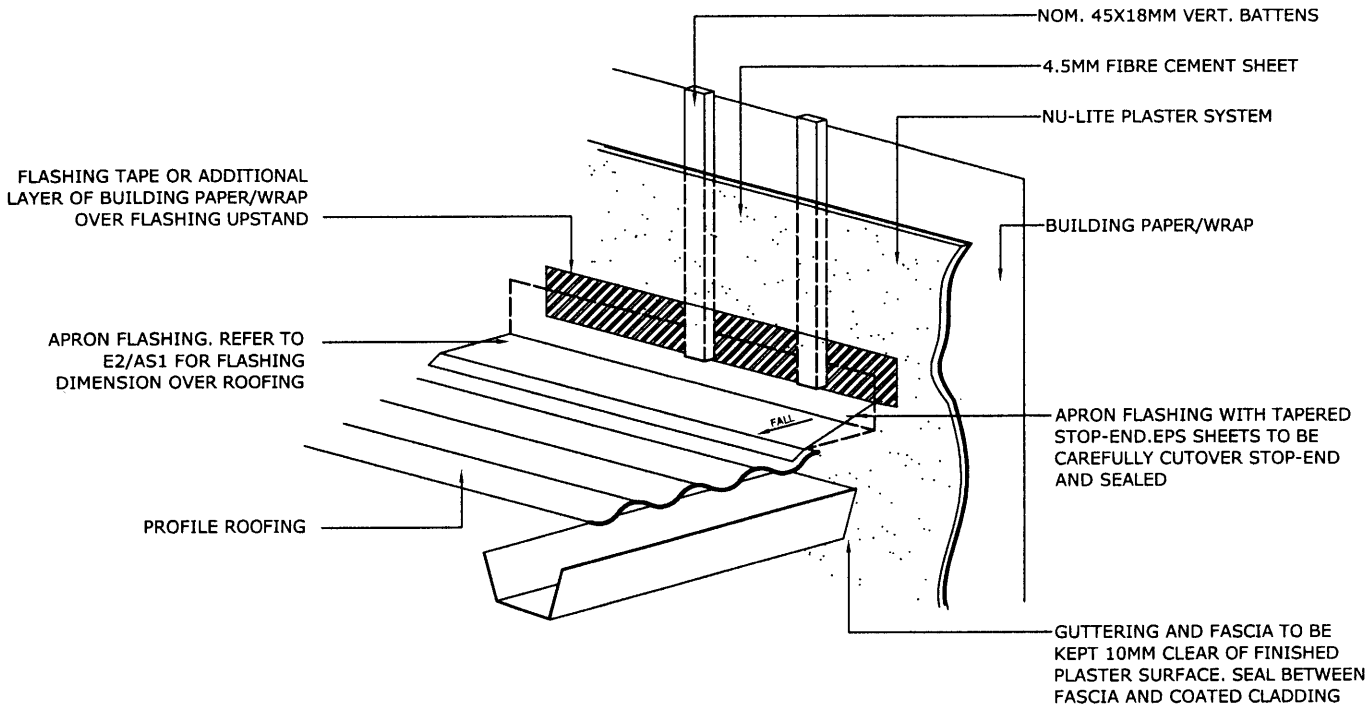




NOTE:
MESHING JUNCTION WITH DETAIL MESH THEN MESHING AS PER NORMAL PROVIDES ADDITIONAL REINFORCMENT AT THE JUNCTION WHERE MOVEMENT MAY OCCUR

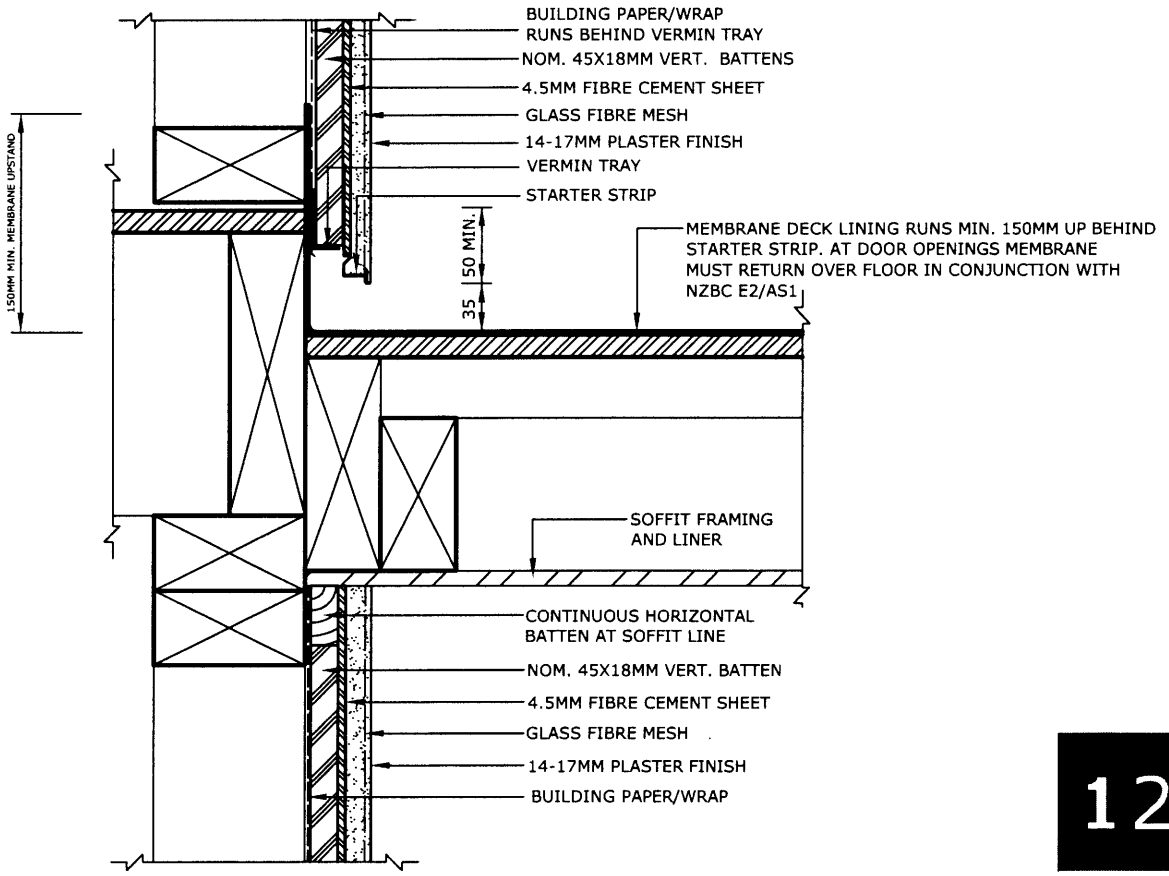


NOTE: BALSUTRADE CAPPING INSTALLED OVER BALUSTRADE AFTER PLASTER SYSTEM IS IN PLACE. FIX AND SEAL CAPPING AS PER E2/AS1

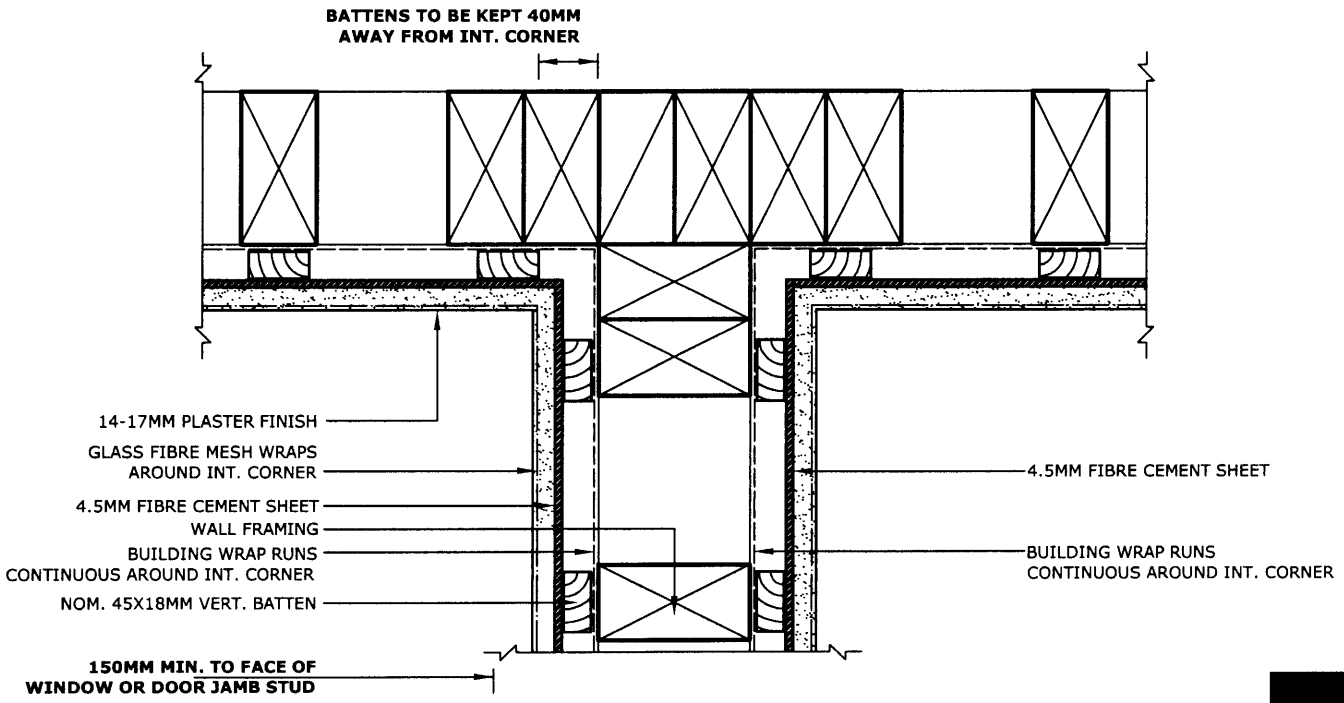


NOTE: FOR ADDITIONAL INFORMATION PERTAINING TO THIS DETAIL SEE INSTALLATION INSTRUCTIONS OF NU-LITE TECHNICAL MANUAL

FILE NAME: ROOF FLASHING KICK-OUT DETAIL

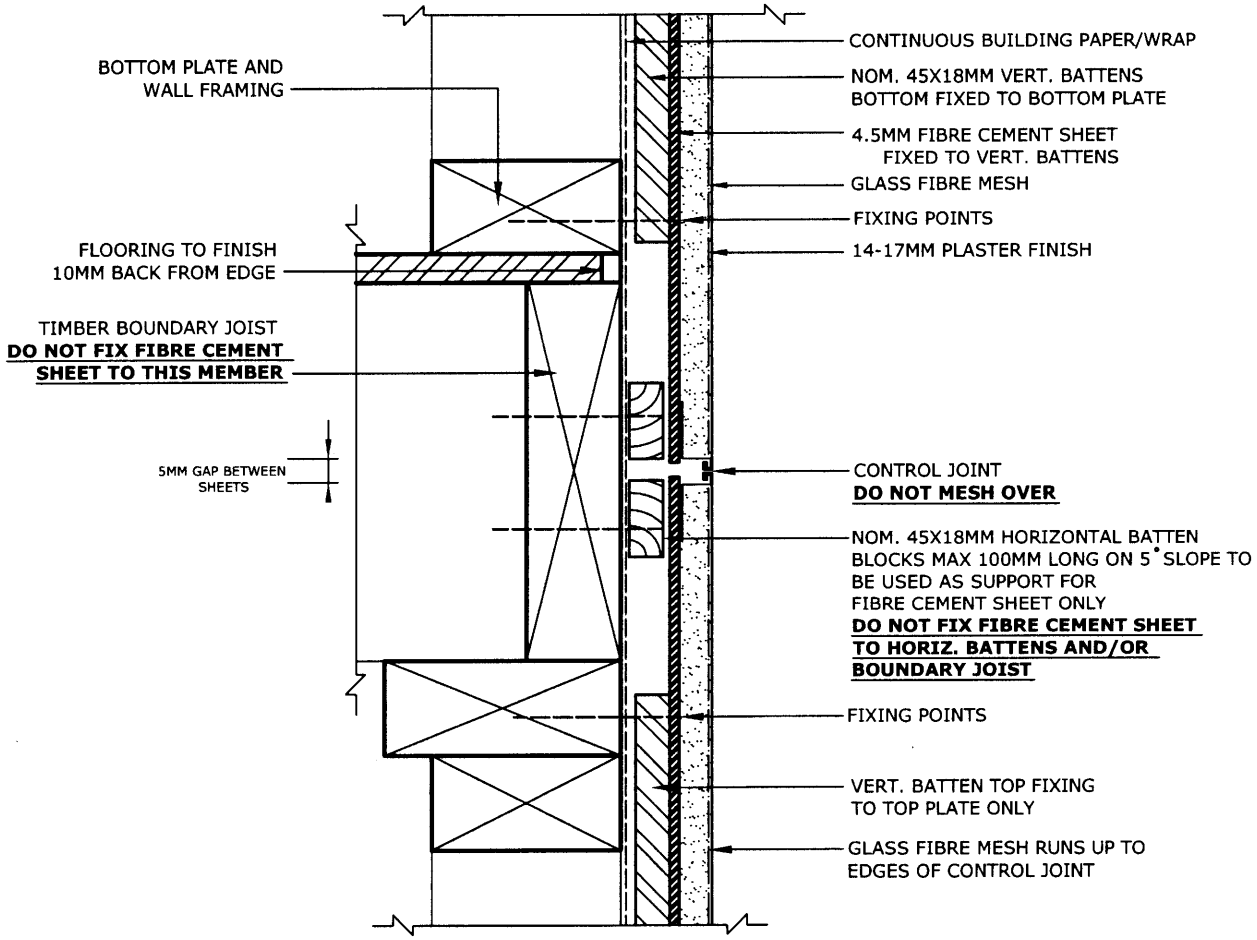


12

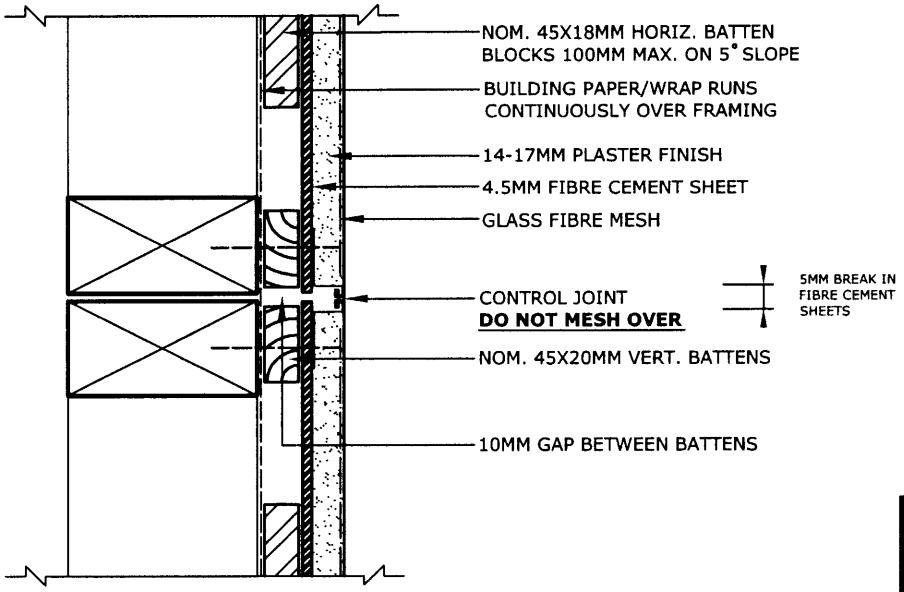


THIS DETAIL IS FOR ENCLOSED DECK TO BALUSTRADE JUNCTIONS

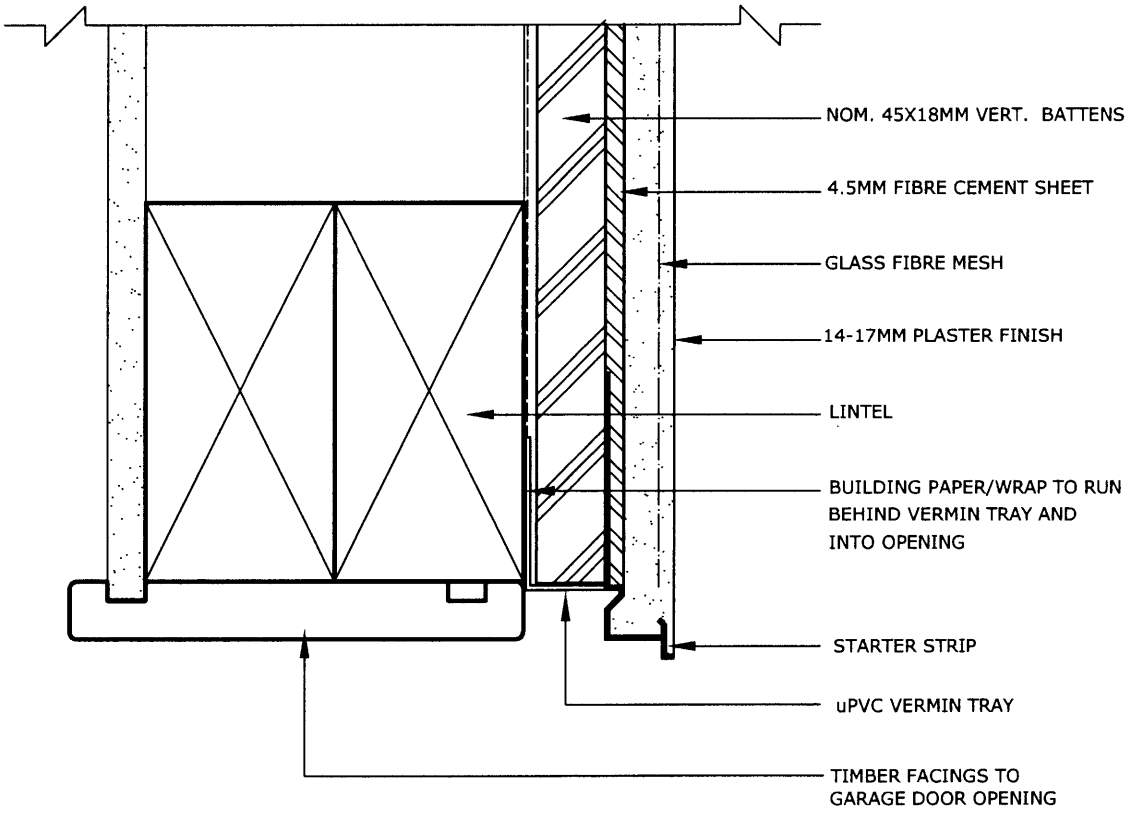
13

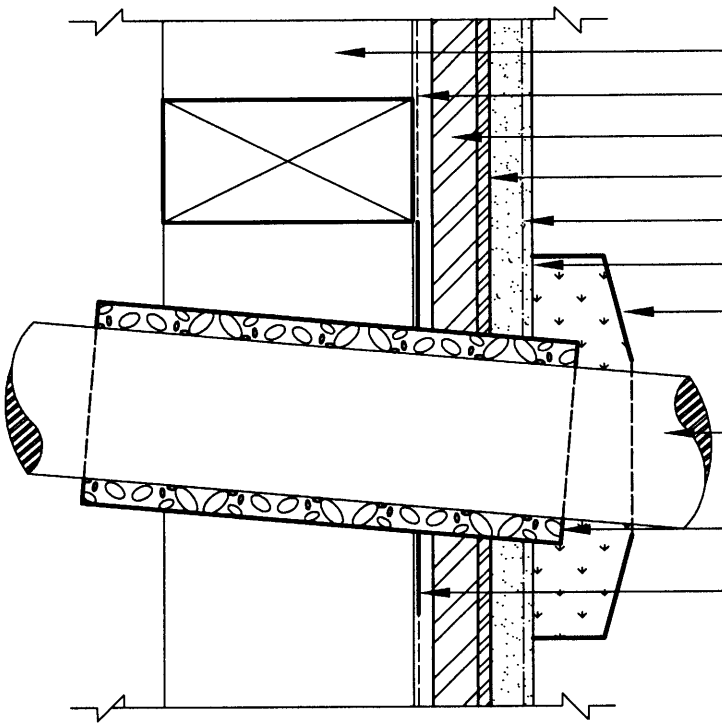

CONTINUOUS BUILDING PAPER/WRAP
BOTTOM PLATE AND WALL FRAMING
NOM. 45X18MM VERT. BATTENS BOTTOM FIXED TO BOTTOM PLATE
4.5MM FIBRE CEMENT SHEET FIXED TO VERT. BATTENS
GLASS FIBRE MESH
FIXING POINTS
FLOORING TO FINISH 10MM BACK FROM EDGE
14-17MM PLASTER FINISH
TIMBER BOUNDARY JOIST
DO NOT FIX FIBRE CEMENT SHEET TO THIS MEMBER
5MM GAP BETWEEN SHEETS
CONTROL JOINT
DO NOT MESH OVER
NOM. 45X18MM HORIZONTAL BATTEN BLOCKS MAX 100MM LONG ON 5° SLOPE TO BE USED AS SUPPORT FOR FIBRE CEMENT SHEET ONLY
DO NOT FIX FIBRE CEMENT SHEET TO HORIZ. BATTENS AND/OR BOUNDARY JOIST
FIXING POINTS
VERT. BATTEN TOP FIXING TO TOP PLATE ONLY
GLASS FIBRE MESH RUNS UP TO EDGES OF CONTROL JOINT

14

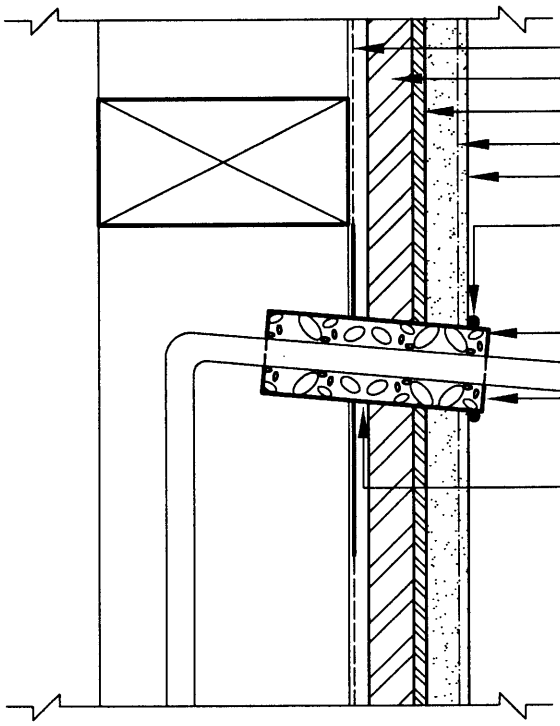

NOM. 45X18MM HORIZ. BATTEN BLOCKS 100MM MAX. ON 5° SLOPE
BUILDING PAPER/WRAP RUNS CONTINUOUSLY OVER FRAMING
14-17MM PLASTER FINISH
4.5MM FIBRE CEMENT SHEET
GLASS FIBRE MESH
5MM BREAK IN FIBRE CEMENT SHEETS
CONTROL JOINT
DO NOT MESH OVER
NOM. 45X20MM VERT. BATTENS
10MM GAP BETWEEN BATTENS

15

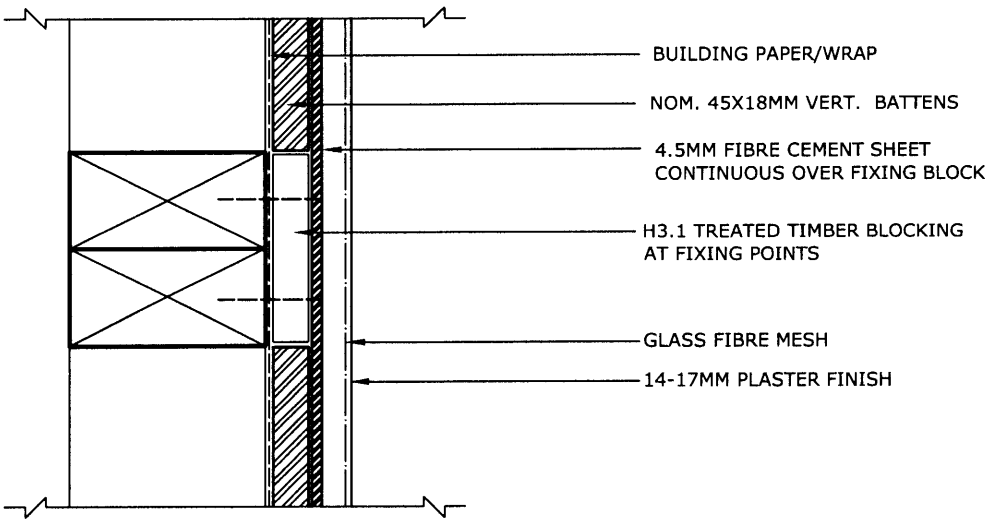

NOM. 45X18MM VERT. BATTENS
4.5MM FIBRE CEMENT SHEET
GLASS FIBRE MESH
14-17MM PLASTER FINISH
LINTEL
BUILDING PAPER/WRAP TO RUN
BEHIND VERMIN TRAY AND
INTO OPENING
STARTER STRIP
uPVC VERMIN TRAY
TIMBER FACINGS TO
GARAGE DOOR OPENING


TIMBER WALL FRAMING
BUILDING PAPER/WRAP
NOM. 45X18MM VERT. BATTENS
4.5MM FIBRE CEMENT SHEET
GLASS FIBRE MESH
14-17MM PLASTER FINISH
uPVC PLUMBERS FLANGE FILLED WITH SEALANT AND FITTED OVER PENETRATION TO FINISHED PLASTER
PENETRATING PIPE AND CONDUIT ON 5 DEGREE SLOPE
uPVC SLEEVE FILLED WITH SELF EXPANDING FOAM MATERIAL
FLASHING TAPE 25MM AROUND PENETRATION AND 100MM ONTO BUILDING WRAP

17


BUILDING PAPER/WRAP
NOM. 45X18MM VERT. BATTENS
4.5MM FIBRE CEMENT SHEET
GLASS FIBRE MESH
14-17MM PLASTER FINISH
SEALANT BEAD AROUND PLASTER CONDUIT INTERSECTION
uPVC PLUMBERS FLANGE FILLED WITH SEALANT AND FITTED OVER PENETRATION TO FINISHED PLASTER
ELECTRICAL CABLE
uPVC CONDUIT PIPE AN 5° SLOPE AND FILLED WITH SELF EXPANDING FOAM MATERIAL
FLASHING TAPE 25MM AROUND PENETRATION AND 100MM ONTO BUILDING WRAP

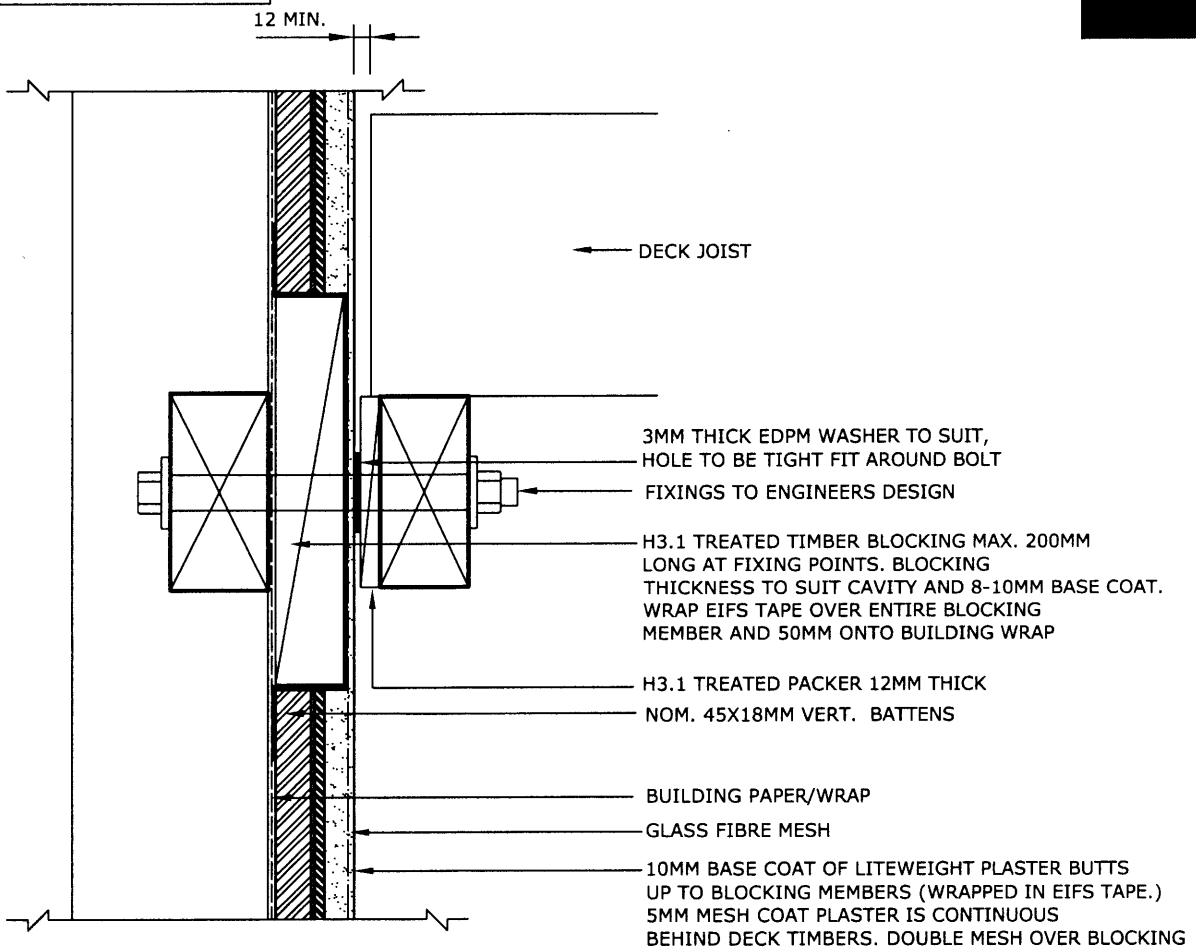
18



NOTE: THIS DETAIL IS FOR THE FIXING OF MAX 50KG LOADS PER BLOCKING MEMBER. FOR ADDITIONAL LOADS SUCH AS SAIL ANCHOR POINTS ETC CONSULTATION WITH WATTYL GRANOSITE / NU-AGE PLASTER IS REQUIRED.

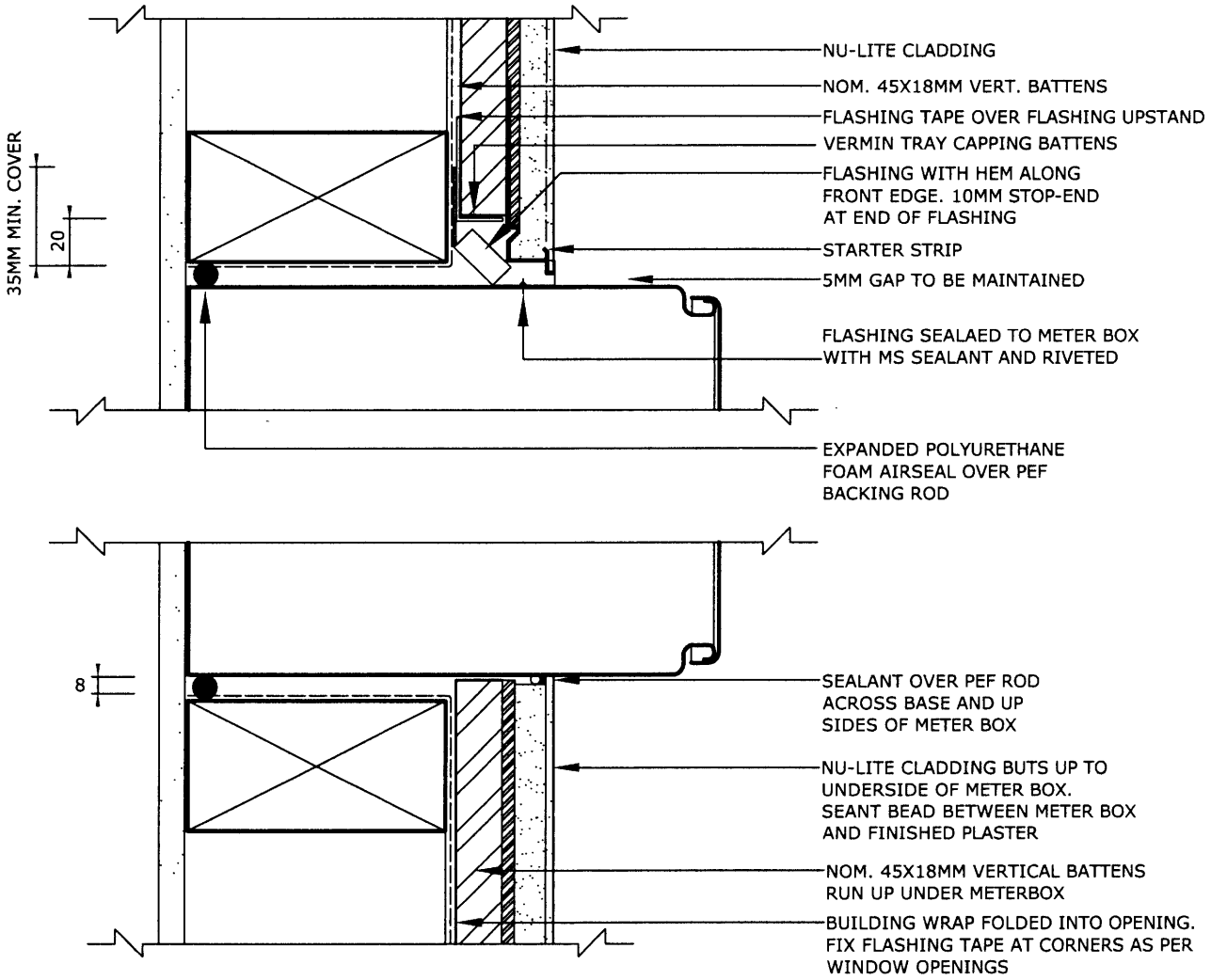
FIXING BLOCK

19

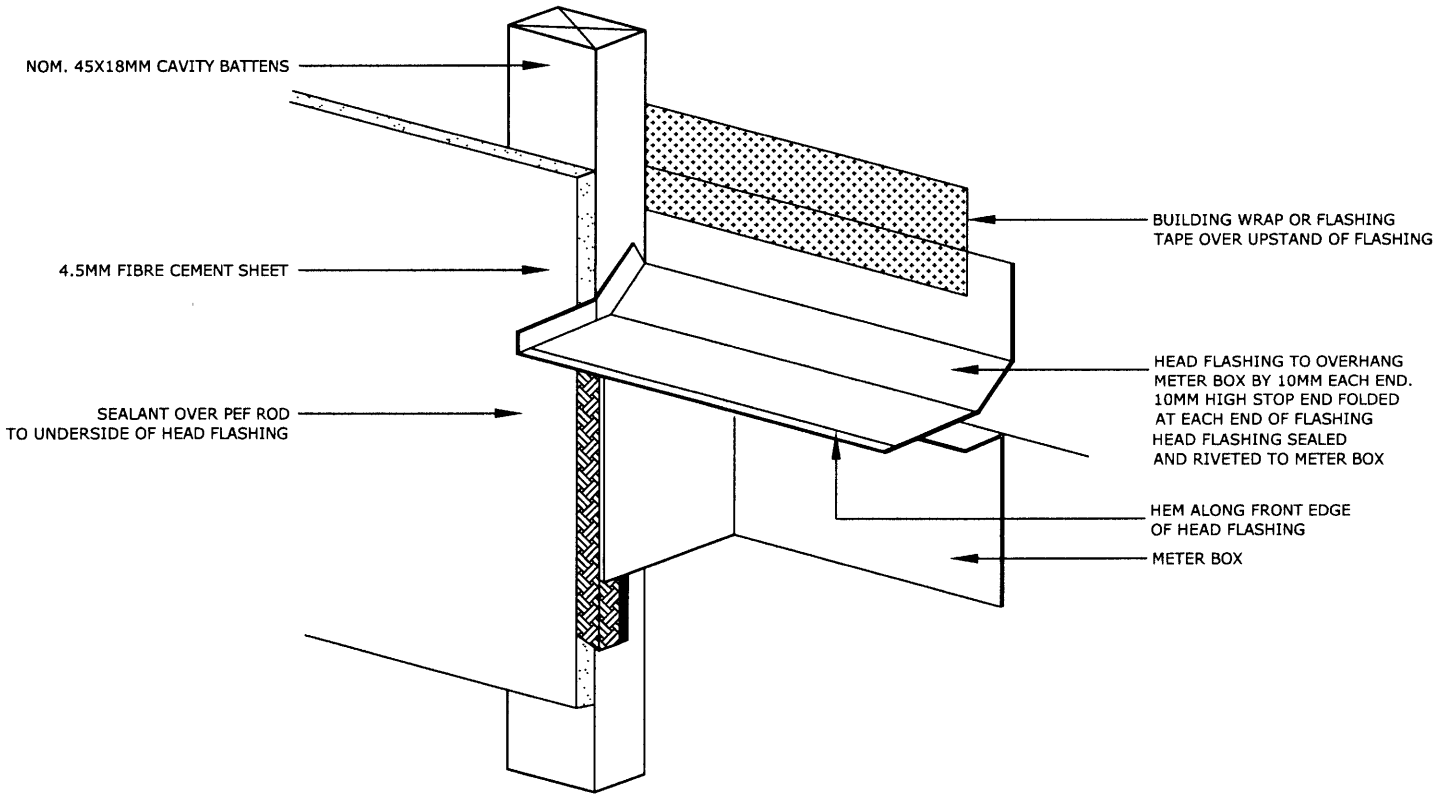


DECK JUNCTION

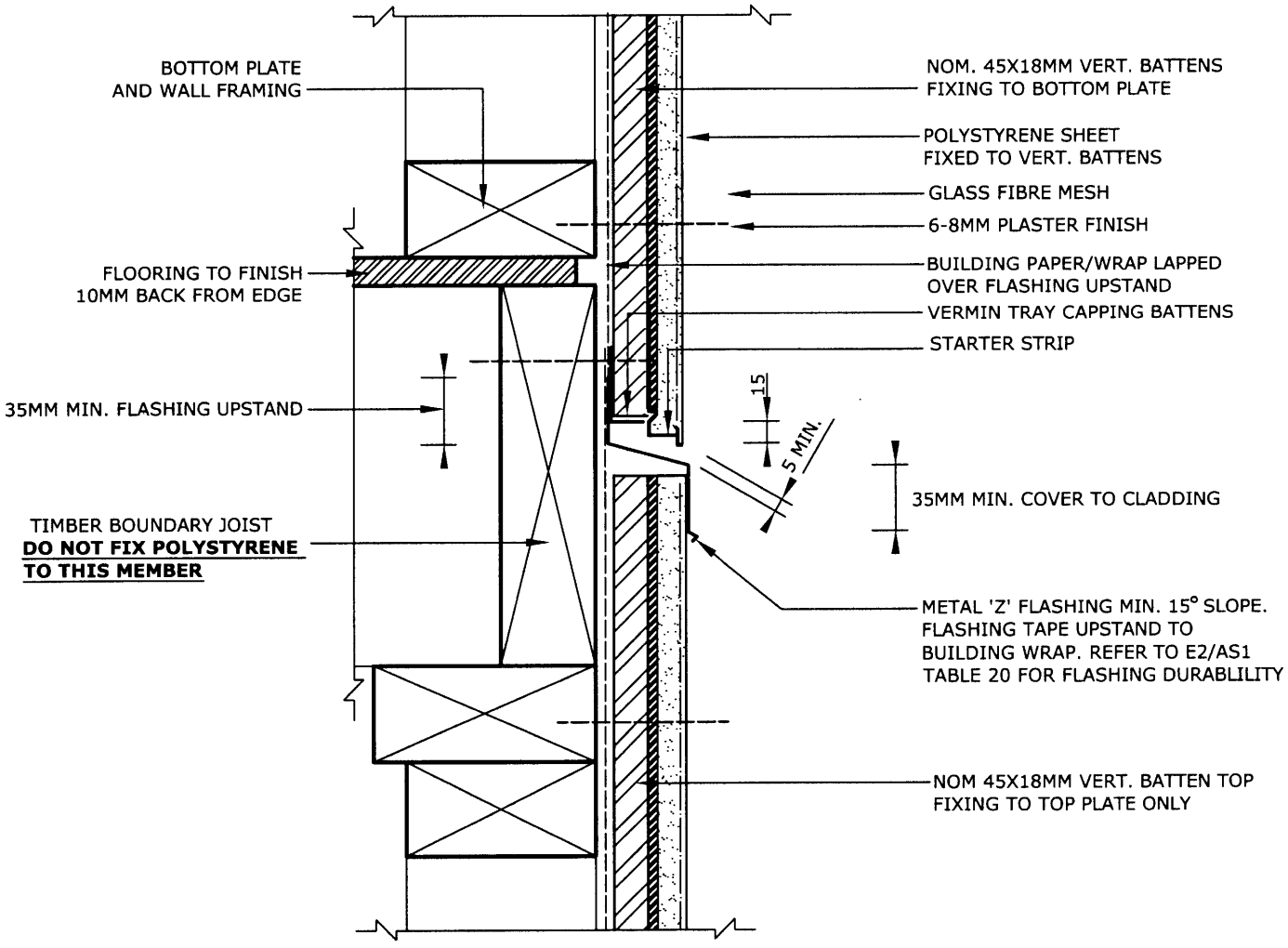
20



NOTE: HEADFLASHING MUST BE LONG ENOUGH TO OVERHANG METER BOX BY 10MM AT EACH END. DRAIN HOLES IN VERMIN TRAY ARE SUFFICIENT TO ACHIEVE VENTILATION OPENINGS OF 1000mm2 PER LINEAL METER



NOTE: VERMIN TRAY AND STARTER STRIP OMITTED FROM DRAWING FOR CLARITY



THIS DETAIL IS REQUIRED AT THE SECOND STOREY JOIST LEVEL. REFER TO E2/AS1 Clause 9.1.9.4