tuffwall
INSULATED
WALL SYSTEM

# INSTALLATION & TECHNICAL MANUAL

## CAVITY SYSTEM

+

## NON-CAVITY SYSTEM

Version 2, December 2025

# CONTENTS

# HISTORY OF AMENDMENTS

| | | |
|---|---|---|
| Version 1 | July 2017 | Initial Issue |
| Version 2 | December 2025 | Revised, Expanded, Updated |

# 1 INTRODUCTION

## 1.1 TUFFWALL INSULATED WALL SYSTEM

TUFFTEX TUFFWALL Insulated Wall System is lightweight, energy efficient solution for external walls. It is a fully certified to BCA requirements and contributes to the achievement of 7-Star energy rating.

This manual describes the performance, installation and typical detailing requirements of TUFFWALL Insulated Wall System for use by designers and builders.

TUFFWALL Insulated Wall System has been tested, appraised and certified to the applicable performance requirements of the NCC 2022, Volume Two & ABCB Housing Provisions for:

- Structure: (H1P1 Structural stability and resistance to actions)

  Tested and appraised for strength and deflections for wind loads up to and including AS 4055 Wind Class N4 & C2.

- Weatherproofing and Dampness: (H2P2 Weatherproofing, H2P3 Dampness) Tested for resistance to the penetration of water for wind loads up to and including AS 4055 Wind Class N4 & C2, and appraised for moisture from the ground.

- Bushfire Attack Level (H7D4(2)(a) Construction in bushfire prone areas)

  Tested and assessed as achieving BAL A29 in accordance with AS1530.8.1-2007 as required by AS 3959:2018.

- Energy Efficiency: (H6D2(1) & Housing Provisions 13.2.5 External Walls)

  TUFFWALL Insulated Wall System achieves high Total R-values which may be used to satisfy Part H6D2(1) external wall insulation requirements, or as input to house energy rating software to contribute to a minimum 7-Star rating.

- Condensation management, (H4D9 & ABCB Housing Provisions 10.8.1)

  TUFFWALL Insulated Wall System may be detailed to comply with the requirements for condensation management of external walls incorporating a pliable building membrane and insulation within the wall framing.

## 2 SYSTEM SUMMARY

TUFFWALL Insulated Wall System is a thermal lightweight external cladding system designed and manufactured to suit all external cladding projects and methods. Not only is TUFFWALL strong and durable, but it also lends itself to design flexibility with its various architectural finishes, making it an Australian home design favourite.

TUFFWALL Insulated Wall System begins with pre-meshed & rendered flat panels which once installed, the TUFFTEX Render Application System is applied. This consists of layered TUFFWALL Render and optionally, Texture Paint or Polished Plaster coating systems. This system is widely recognised as an Exterior Insulated Finishing System (EIFS).

TUFFWALL Insulated Wall System is offered in both Direct-Fix and Cavity-Battened options onto timber or steel framing. In Direct-Fix applications TUFFWALL pre-rendered panels are fixed directly to the framing through sarking. For Cavity-Battened applications TUFFWALL panels are separated from the framing by H-Grade EPS battens 35x25mm installed vertically on-stud.

## TUFFWALL INSTALLATION

TUFFWALL Insulated Wall System is finished on-site with layers of polymer-modified render, alkaline-resistant fiberglass mesh, and either; textured finish including a choice of over 3,000 colours, or a Polished Plaster 'concrete' finish.

The system is lightweight and prefinished, allowing for easy speedy installation which reduces construction and scaffolding costs. It provides energy efficient construction with high thermal ratings to reduce heating and cooling costs.

TUFFWALL pre-meshed & rendered panels are designed and manufactured locally in Malaga WA for WA weather conditions. Standard sizes are: 2400 mm x 1200mm x 75mm & 2400 mm x 1200mm x 100mm, available in SL-Grade and M-Grade EPS.

Product selection, and incorporation into the building design, must be made by a person who is conversant with the application and technical aspects of the product, and has ready access to the relevant technical information related to the product use.

Product installation must be carried out under the direction of a Builder, installers must be familiar with the installation process and have access to all relevant technical information on product installation.

tuffwall INSULATED WALL SYSTEM

1. **TUFFWALL Panel**
   Includes **TUFF-mesh** and **TUFFWALL First Coat.**
   Panel thickness options:
   50mm, 75mm, 100mm.

2. **PVC Washers & Class 4 screws** securely fasten Panels to substrate.

3. **All Panel joins secured** with **TUFF-Expanding Foam** adhesive and 200mm **TUFF-mesh.**

4. **Aluminium Beading** on all external corners for strength.

5. Double coat of **TUFFWALL Render.**

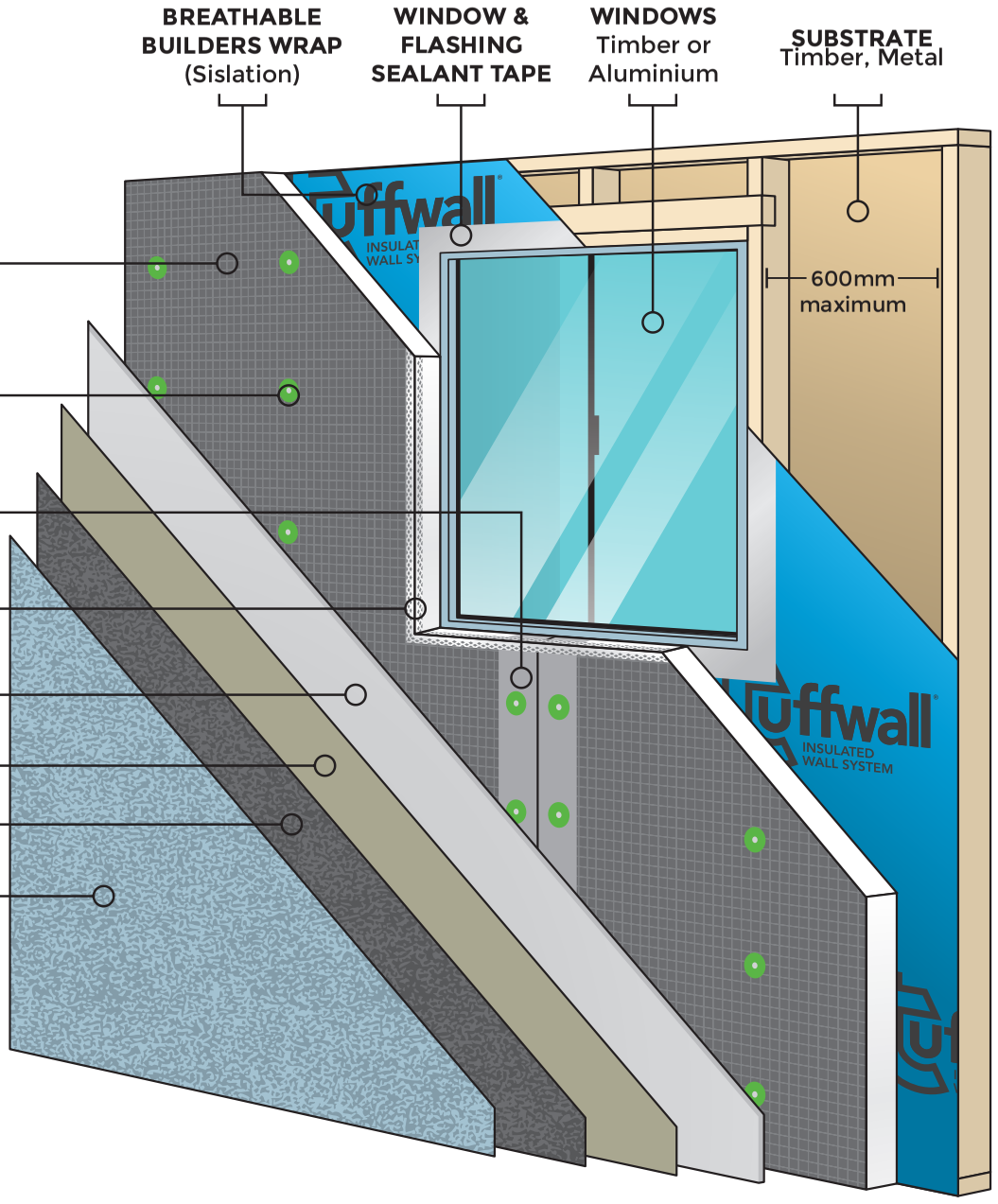
9. **TUFFTEX TUFF Primer**

10. **TUFFTEX Texture**

11. **Texture Paint** (optional) or **TUFFTEX Polished Plaster***

13. **OPTIONAL - TUFF-Mouldings.**
    Window sill mouldings can be applied after render but before texture application. Many styles include:

*TUFFTEX Polished Plaster option details

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# 3 NATIONAL CONSTRUCTION CODE (NCC) 2022

The performance-based NCC provides for compliance as either a Deemed-to-Satisfy Solution or a Performance Solution. All external wall systems not listed in the deemed-to-satisfy provision NCC 2022 Volume Two, H2D6, must comply as a Performance Solution.

External Walls are required to comply with performance requirements for structure, fire, weatherproofing, dampness, bushfire, condensation and energy efficiency as applicable. Details of compliance are outlined below.

## 3.1 STRUCTURAL PERFORMANCE, H1P1

TUFFWALL Insulated Wall System has been designed and tested for use on buildings in AS 4055 Wind Classifications N1, N2, N3, N4, C1 & C2.

AS 4055 is applicable to buildings where the;

- distance from ground level to the underside of eaves does not exceed 6.0m,
- distance from ground level to the highest point of the roof, not including chimneys, does not exceed 8.5m,
- width including roofed verandas, excluding eaves, shall not exceed 16.0m, and the length shall not exceed five times the width, and
- roof pitch shall not exceed 35 degrees pitch.

For Class 1 or 10 buildings that fall outside the scope of AS 4055, AS/NZS 1170.2 maximum Design Serviceability Limit State Wind Pressures of +1.63 kPa & -2.45 kPa, and maximum Design Ultimate Limit State Wind Pressures of +4.02kPa & -4.02kPa, apply (e.g. for 100mm M-Grade TUFFWALL panel, direct-fixed, 450mm stud spacing, 200mm fixing spacing). In all cases, design wind loads are site specific and must be determined by the professional responsible for the building design.

TUFFWALL Insulated Wall System does not provide bracing. Resistance to frame racking loads must be accommodated by other means prior to installation of the wall wrap.

TUFFWALL Insulated Wall System is not load-bearing. Control joints are required at regular intervals to allow for building movement.

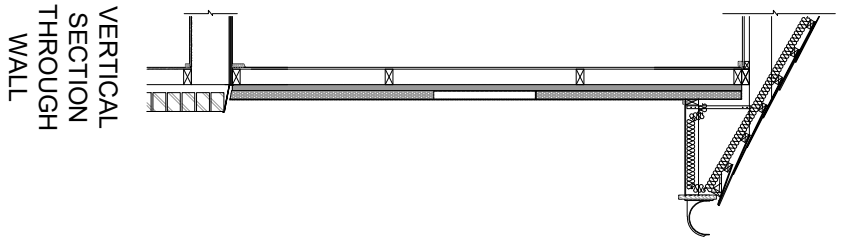
## 3.2 FIXING SPACING AND EDGE DISTANCES

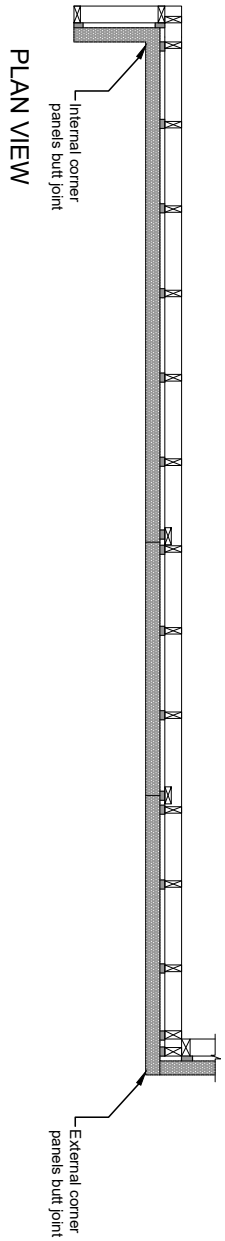
In all cases the maximum vertical fixing spacing shall be 275 mm along studs at maximum 600mm spacing. Fixings must not be placed less than 50 mm or more than the panel thickness the edge or end of a panel.

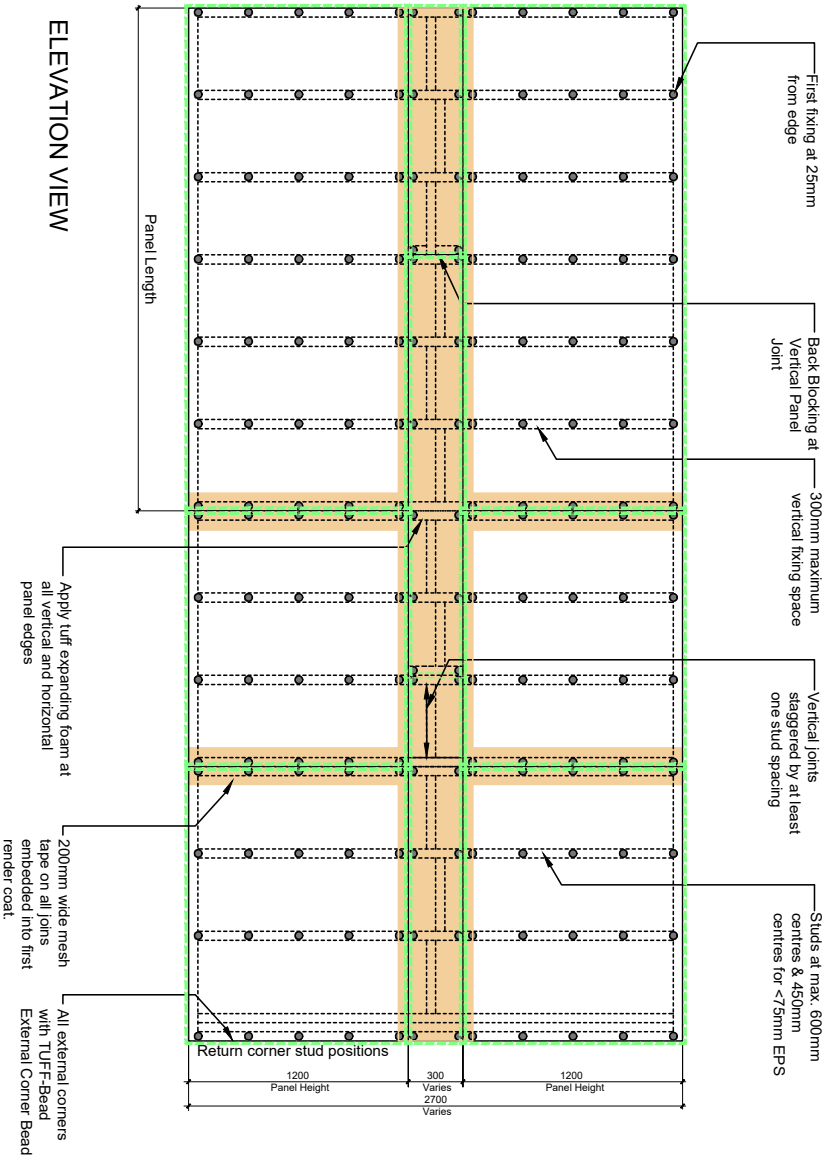
| 75mm TUFFWALL Panel Maximum Fixing Spacing (mm) | | | | | |
|---|---|---|---|---|---|
| Maximum Stud Spacing | Walls | AS 4055 Wind Class | | | |
| | | N1 | N2 | N3 | N4 |
| 450 mm | Within 1200mm of corners | 275 | 275 | 275 | 275 |
| | Away from corners | 275 | 275 | 275 | 275 |
| 600 mm | Within 1200mm of corners | 275 | 275 | 275 | 200 |
| | Away from corners | 275 | 275 | 275 | 275 |

| 100mm TUFFWALL Panel Maximum Fixing Spacing (mm) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Maximum Stud Spacing | Walls | AS 4055 Wind Class | | | | | |
| | | N1 | N2 | N3 | N4 | C1 | C2 |
| 450 mm | Within 1200mm of corners | 275 | 275 | 275 | 275 | 275 | 200 |
| | Away from corners | 275 | 275 | 275 | 275 | 275 | 275 |
| 600 mm | Within 1200mm of corners | 275 | 275 | 275 | 275 | n/a | n/a |
| | Away from corners | 275 | 275 | 275 | 275 | n/a | n/a |
| Note: Only M-Grade TUFFWALL panel can be used for cyclonic applications (not SL-Grade). | | | | | | | |

# Typical Fixing Spacing/Layout - CAVITY (TUFF-001)



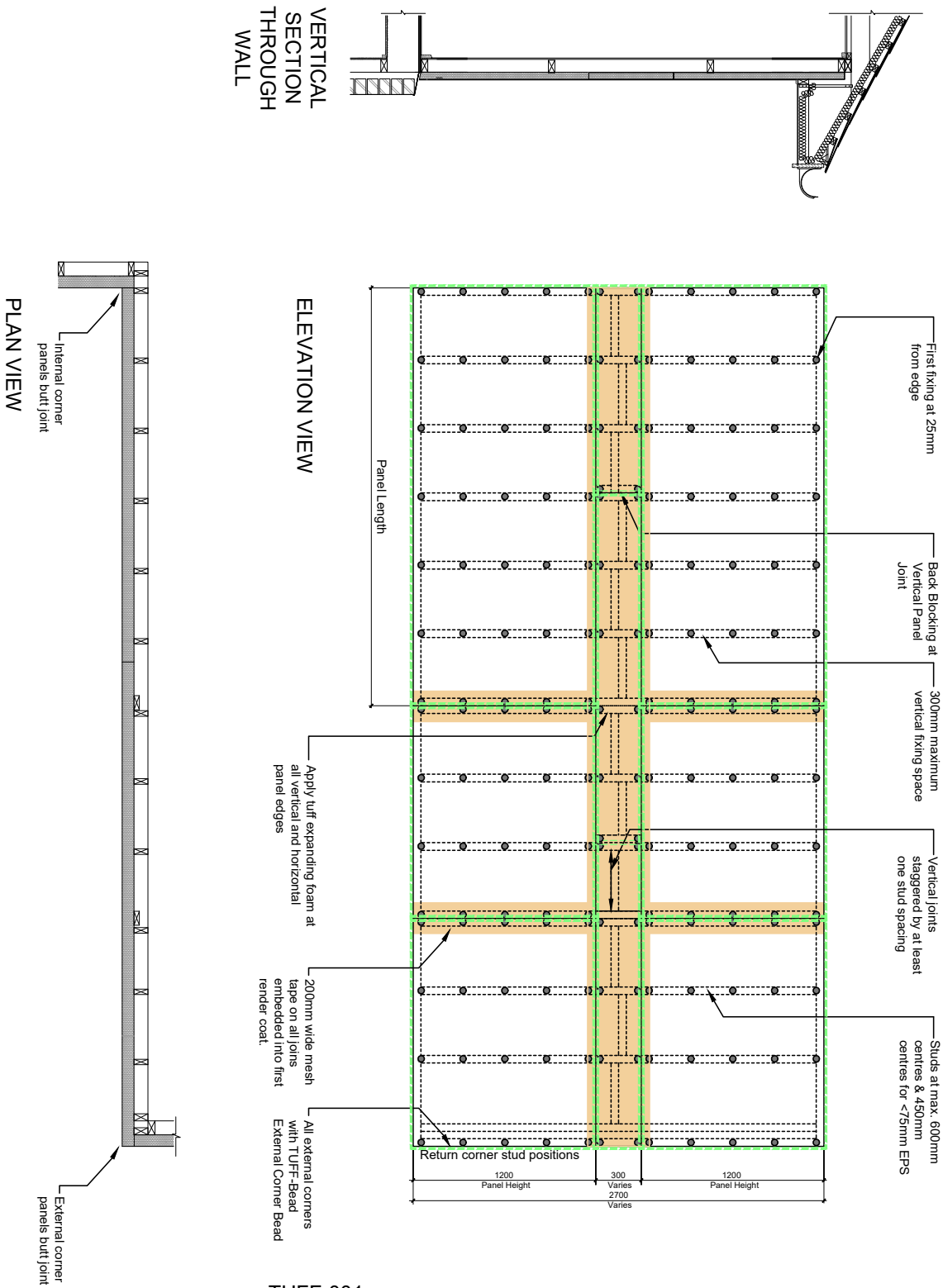




TUFF-001
TYPICAL PANEL LAYOUT FOR MAX. 600MM STUD WALL

| Scale | Date | Version |
|---|---|---|
| 1 : 5 @ A4 | 15/07/2024 | 0 |

# Typical Fixing Spacing/Layout - NON-CAVITY (TUFF-001)




TUFF-001

TYPICAL PANEL LAYOUT FOR MAX. 600MM STUD WALL

| Scale | Date | Version |
|---|---|---|
| 1 : 5 @ A4 | 15/07/2024 | 0 |

### 3.3 WEATHERPROOFING, H2P2 AND DAMPNESS, H2P3

TUFFWALL Insulated Wall System complies with the NCC performance requirements for weatherproofing and dampness. Performance has been confirmed by testing in accordance with the weatherproofing verification method and comparison with ABCB Housing Provisions Part 7.5.7 for dampness.

Weatherproofing performance has been verified for external walls with;

- Serviceability Limit State (SLS) design wind pressures up to AS 4055, Wind Classifications N4 & C2; and
- Windows that comply with AS 2047-Windows and external glazed doors in buildings; and
- A Risk Score of 20 or less determined in accordance with NCC 2022, Volume 2, Table H2V1a-Risk factors and scores, as follows:

| Risk factor | Category | Risk severity | Score |
|---|---|---|---|
| Wind region | Region A0-5 (AS/NZS 1170.2) | Low to medium | 0 |
| | Region B1-2 (AS/NZS 1170.2) | | |
| | Region C (AS/NZS 1170.2) | High | 1 |
| | Region D (AS/NZS 1170.2) | Very high | 2 |
| Number of storeys | One storey | Low | 0 |
| | Two storeys in part | Medium | 1 |
| | Two storeys | High | 2 |
| | More than two storeys | Very high | 4 |
| Roof/wall junctions | Roof-to-wall junctions fully protected | Low | 0 |
| | Roof-to-wall junctions partially exposed | Medium | 1 |
| | Roof-to-wall junctions fully exposed | High | 3 |
| | Roof elements finishing within the boundaries formed by the external walls | Very high | 5 |
| Eaves width | Greater than 600 mm for single storey | Low | 0 |
| | 451-600 mm for single storey; or | Medium | 1 |
| | Greater than 600 mm for two storey | | |
| | 101-450 mm for single storey; or | High | 2 |
| | 451-600 mm for two storey; or | | |
| | Greater than 600 mm for above two storey | | |
| | 0-100 mm for single storey; or | Very high | 5 |
| | 0-450 mm for two storey; or | | |
| | Less than 600 mm for above two storey | | |
| Envelope complexity | Simple shape with single cladding type | Low | 0 |
| | Complex shape with no more than two cladding types | Medium | 1 |
| | Complex shape with more than two cladding types | High | 3 |
| | As for high risk but with fully exposed roof-to-wall junctions | Very high | 6 |

| | | | |
|---|---|---|---|
| Decks, porches and balconies | None | Low | 0 |
| | Timber slat deck or porch at ground level | | |
| | Fully covered in plan view by roof | Medium | 2 |
| | Timber slat deck attached at first or second floor level | | |
| | Balcony exposed in plan view at first floor level | High | 4 |
| | Balcony cantilevered at first floor level | | |
| | Balcony exposed in plan view at second floor level or above | Very high | 6 |
| | Balcony cantilevered at second floor level or above | | |

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### 3.4 BUSHFIRE PERFORMANCE, H7D4(2)(A)

TUFFWALL Insulated Wall System complies with the NCC performance requirements for bushfire performance up to BAL-29. Performance has been confirmed by testing and assessment by accredited testing laboratories.

BAL-29 performance has been verified for TUFFWALL Insulated Wall System in both Cavity-Battened and Direct-Fixed applications with;

- 10G Bugle head, square drive, coarse thread Class 4 to suit steel or timber substrate to achieve a minimum of 25mm penetration into timber wall framing or minimum 3-full threads through steel wall framing with 50 mm dia., washers @ 300mm spacing; and
- Average 8.7mm thickness render system of TUFF render. TUFF primer, TUFF Shield Texture Paint.

### 3.5 FIRE SAFETY PERFORMANCE

TUFFWALL Insulated Wall System is combustible, and may not be installed in applications that require an FRL.

The NCC Volume 2 H3D3, Fire Separation of External Walls compliance is achieved via ABCB Housing Provisions Standard:

- Part 9.2 that requires an external wall to have an FRL if the wall is less than 900mm from an allotment boundary other than a road or public space, and
- Figure 9.2.2a does not require fire protection of an external wall at 90 degrees to the allotment boundary.

TUFFWALL Insulated Wall System surfaces should not be exposed to temperatures of more than 80˚C for long periods due to the risk of softening and damage. Appliances such as Hot Water Services, Flues from Heating Appliances, BBQ's & Patio Heaters, must only be installed in accordance with manufacturers' requirements so the TUFFWALL Insulated Wall System is not damaged by heat.

## 3.6 THERMAL PERFORMANCE, (VOL. TWO H6D2(1), HOUSING PROVISIONS 13.2.5)

TUFFWALL Insulated Wall System incorporating either:

- TUFFWALL panel M-Grade (75mm/R1.95, 100mm/R2.60), or

TUFFWALL panel SL-Grade (75mm/R1.70, 100mm/R2.30),

- breathable non-reflective wall wrap, and
- 10mm plasterboard lining, achieves the following Total R-values in accordance with AS/NZS 4859.1:2018 which may be used to satisfy the minimum Total R-value requirements of NCC 2022, Volume Two H6D2(1)(b)(i) & ABCB Housing Provisions 13.2.5 external wall insulation requirements, or as input to house energy rating software to contribute to a house Star rating.

| **TUFFWALL Insulated Wall System (Timber or Steel Framing)** | | | |
|---|---|---|---|
| TUFFWALL Panel (M-Grade) | | Total R-value ($m^2$.K/W) | |
| | | Winter | Summer |
| Cavity-Batten | 75mm | 2.64 | 2.50 |
| | 100 mm | 3.32 | 3.14 |
| Direct-Fix | 75 mm | 2.42 | 2.30 |
| | 100 mm | 3.10 | 2.94 |
| TUFFWALL Panel (SL Grade) | | Total R-value ($m^2$.K/W) | |
| | | Winter | Summer |
| Cavity-Batten | 75mm | 2.40 | 2.27 |
| | 100 mm | 3.00 | 2.83 |
| Direct-Fix | 75 mm | 2.19 | 2.07 |
| | 100 mm | 2.78 | 2.63 |

Higher Total R-values can be achieved by adding insulation within the wall framing.

## 3.7 CONDENSATION MANAGEMENT, H4D9

NCC Volume Two H4D9 and ABCB Housing Provisions Part 10.8.1 are satisfied when a suitable AS 4200.1 compliant breathable wall wrap is installed in accordance with AS 4200.2 to the outer face of the wall frame AND insulation is installed within the wall framing.

Condensation is the result of complex interactions between the environment, building construction and occupant behaviour (Ref: Condensation in Buildings, Handbook, Australian Building Codes Board, 2023). Please consult your design professional for information specific to your project.

# 4 MATERIALS

Substitution of components is not permitted unless approved in writing by TUFFTEX. Installation of any non-standard or non-approved TUFFWALL Insulated Wall System components will void any product warranty or claims in relation to product performance.

- **TUFFWALL Panel -** Factory pre-rendered and meshed 75mm or 100mm thick EPS panels. SL-Grade or M-Grade manufactured in accordance with AS 1366.3.
- **TUFF-Cavity Batten –** H-Grade, 40mm x 25mm, manufactured in accordance with AS 1366.3 (Cavity System only).
- **Starter Channel –** Alloy or stainless steel starter channel with weep holes 1000mm2/m, 75/100/125mm wide to suit the application.
- **TUFF-Mesh –** Fibreglass reinforcing mesh, 5 mm x 5 mm, 160g/m2 non-adhesive alkali resistant fibreglass mesh.
- **TUFF-Expanding Foam –** Expansion Foam, single-component polyurethane low-expansion adhesive foam to suit polystyrene, steel & timber.
- **TUFF-Fix External Fixings –** 10G Bugle head, square drive, coarse thread Class 4 to suit steel or timber substrate to achieve a minimum of 25mm penetration into timber wall framing (e.g. Length = Panel + Batten + 25 mm), or minimum 3-full threads through steel wall framing (e.g. Length = Panel + Batten + 3-full threads).
- **TUFF-Washer –** 50 mm diameter flexible high-density polypropylene washer with holes and slots for adhesion / bonding.
- **External Meshed Corner Beads –** External meshed corner beads and trims must be installed at all external corners, openings and edges.
- **Stopper Bead –**10mm thick closed cell polyethylene foam strip or rod as 'back-blocking' for flexible adhesive sealants placed in joints. E.g. set 10mm back from the outer face of the panel to support application of Sealant.
- **TUFFWALL Render –** A polymer modified cement base render suitable for application to low porosity surfaces including expanded polystyrene.
- **TUFF Primer –** A tintable acrylic primer formulated to reduce porosity and improve adhesion of acrylic finishes.
- **TUFF Shield Texture Paint –** A pure acrylic exterior grade membrane formulated for application to renders and textured finishes & mouldings.
- **Breathable Wall Wrap –** must achieve a minimum Light Wall Duty Classification and Water Barrier Classification in accordance with AS 4200.1:2017. It must have a "Low" Flammability Index (FI) not greater than 5 in accordance with AS 1530.2. E.g. Ametalin VapourTech® Brane® VHP. (Note: Ametalin SilverwrapTM MD is required for BAL applications.)
- **Flashing Tape –** Minimum 48mm wide, wall wrap-compatible pressure sensitive tape must be used to seal the breathable wall wrap around the perimeter of the wall, at joins, and at openings. E.g. Ametalin QuicktapeTM.
- **Sealant –** Paintable flexible adhesive sealant at horizontal and vertical control joints. E.g. Fulaflex 625 flexible sealant, hybrid polymer.

Construction adhesive for Starter Channel-to-Panel connection. E.g. HB Fuller Maxbond Fast Grip Construction Adhesive.

# 5 SPECIFICATIONS

TUFFWALL Insulated Wall System is to be installed in accordance with this manual on steel or timber wall framing with a maximum stud spacing of 600mm.

## 5.1 FRAMING

TUFFWALL Insulated Wall System does not include the specification, supply and construction of steel or timber wall framing.

The designer and builder must ensure all framing has been constructed in accordance with AS 1684 Residential Timber Framed Construction, or NASH Standard Residential and low-rise steel framing, or another appropriate standard. The building must already be detailed to account for the requirements of foundation movement, dampness, weatherproofing, shrinkage and storm water.

## 5.2 CONTROL JOINT LOCATIONS

TUFFWALL Insulated Wall System does not include the specification of the location of control joints in the wall cladding.

It is the responsibility of the Builder / Project Engineer to specify the location of control joints. Control joints are typically required at;

- each floor level (max. 3m height), and
- along the wall (max. 6m spacing), and
- at all 'weak' points in the wall (e.g. above windows / doors, concrete slab joints).

# 6 SAFETY, STORAGE AND HANDLING

## 6.1 PPE

Use of PPE is recommended

Throughout the handling of the TUFFWALL panels, care should be taken to prevent any damage to them. Be careful in windy conditions as they may get unsettled and move around hazardously. Do not store in direct sunlight for prolonged periods of time as the exposed edges of the TUFFWALL panels can require a light sanding prior to the speciality render application. Dustless/Vacuum cutting is recommended.

# 7 INSTALLATION

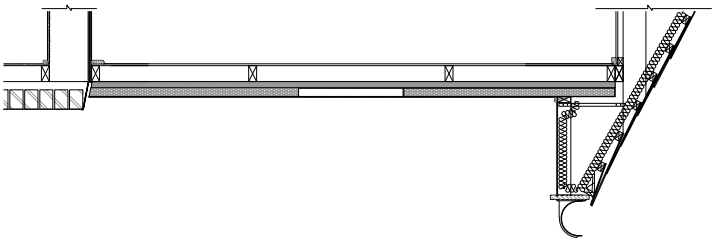
TUFFWALL Insulated Wall System must be installed under the direction of a Builder. Installers must understand and follow the installation process set out in this manual.

Tools required include; saw horses, hand saw, circular saw, drill, spirit level, straight edge, string line, reusable foam gun, rasping tool, pencil, tape measure, knife, tin snips, staple gun and all relevant PPE. Vacuum cutting power tools.

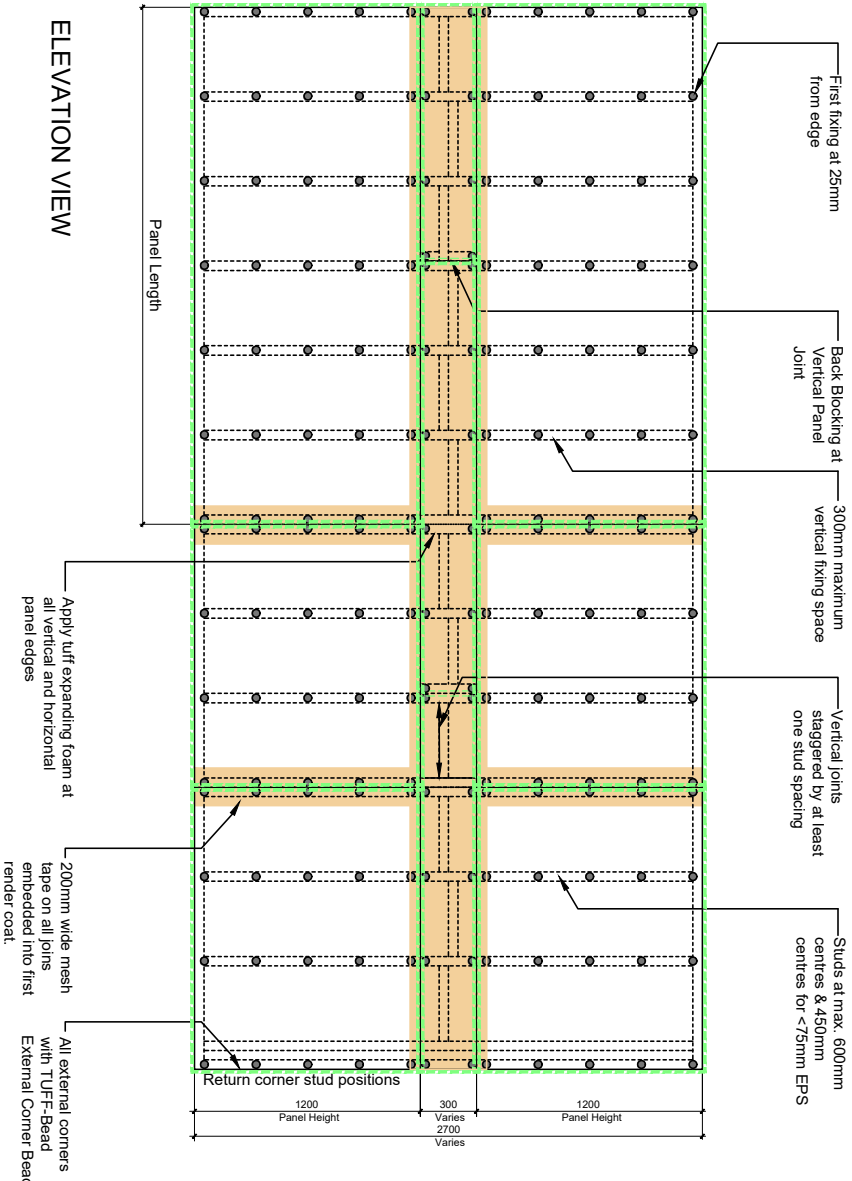
Prior to installation, check the wall frames are straight and that flashings and windows are installed to BCA & local requirements. Additional framing may be required to support all vertical panel joins, see typical framing layouts for cavity and non-cavity installations.

# CAVITY Layout Detail - TUFF 001

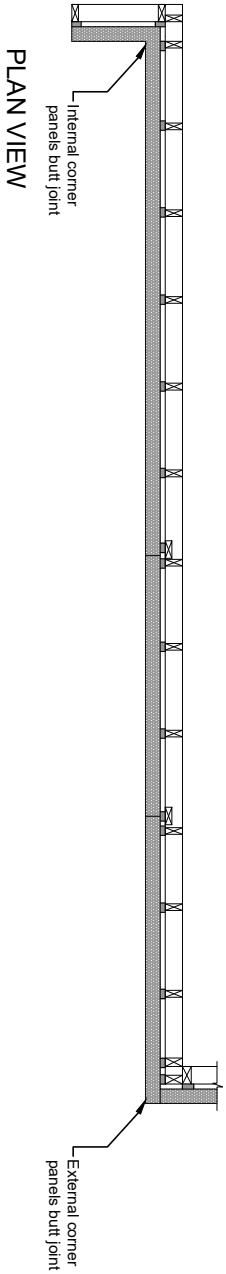
VERTICAL SECTION THROUGH WALL



ELEVATION VIEW




PLAN VIEW




TUFF-001

TYPICAL PANEL LAYOUT FOR MAX. 600MM STUD WALL

| Scale | Date | Version |
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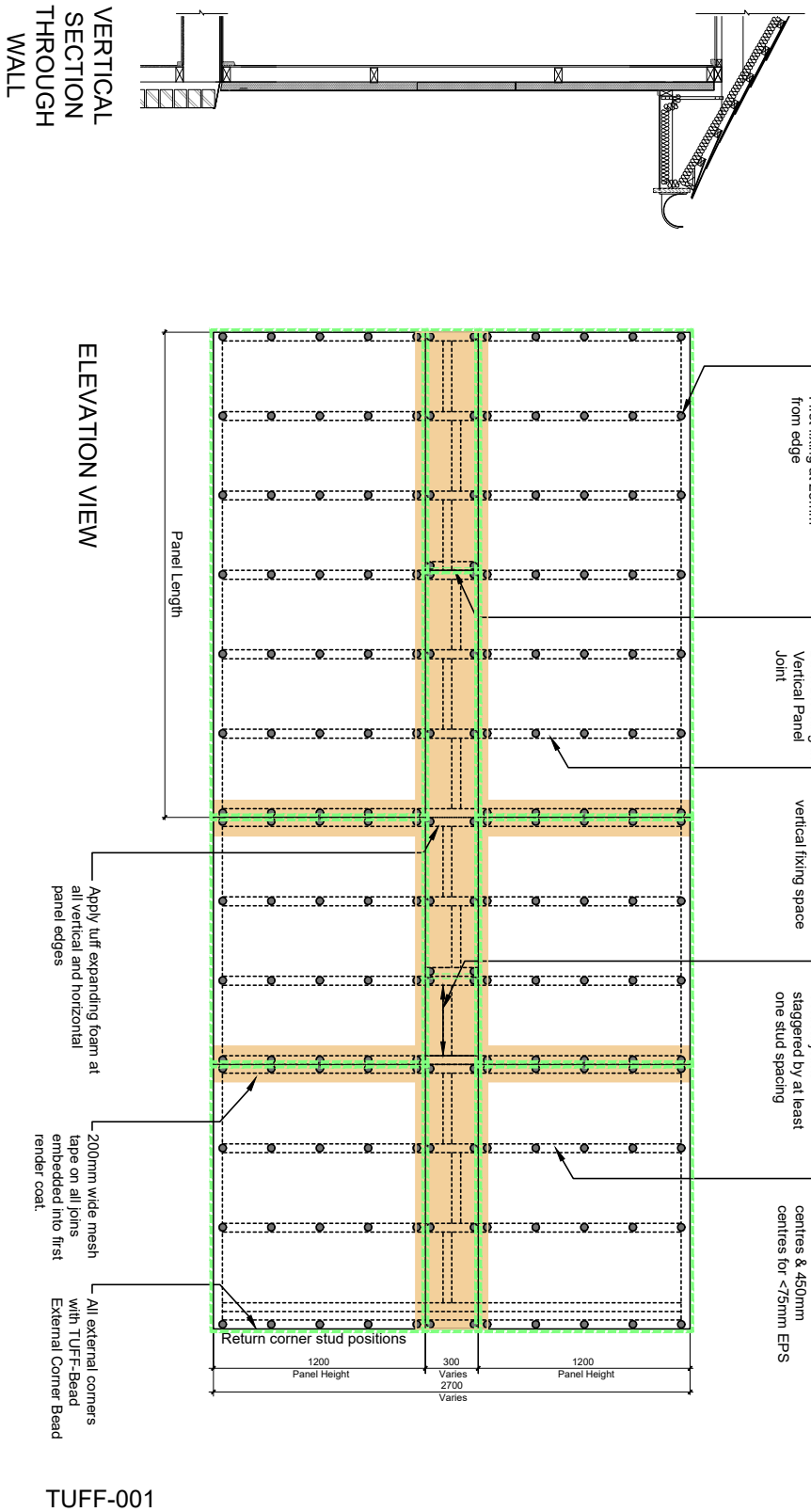
| 1 : 5 @ A4 | 15/07/2024 | 0 |

# NON-CAVITY Layout Detail - TUFF 001




TUFF-001

TYPICAL PANEL LAYOUT FOR MAX. 600MM STUD WALL

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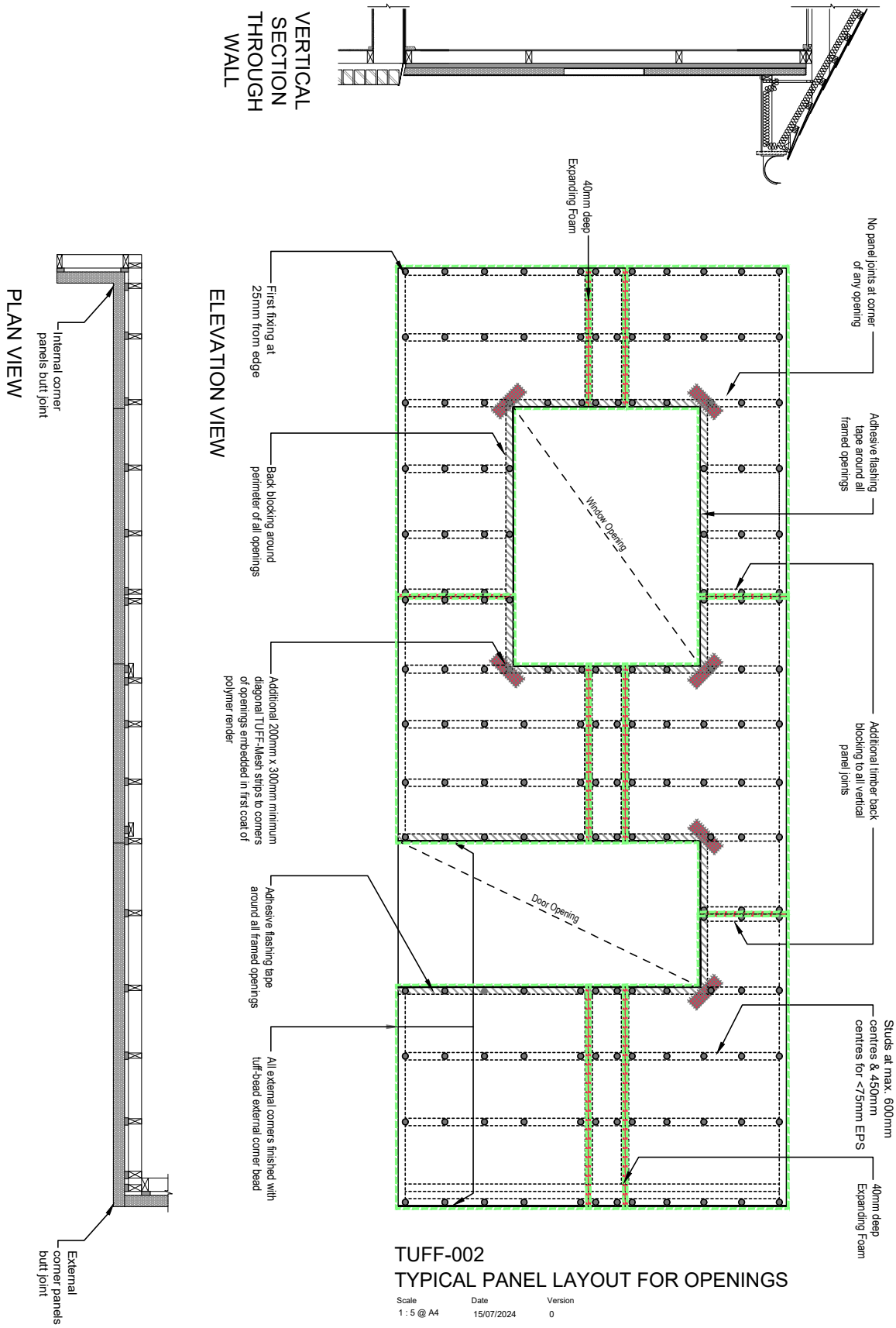
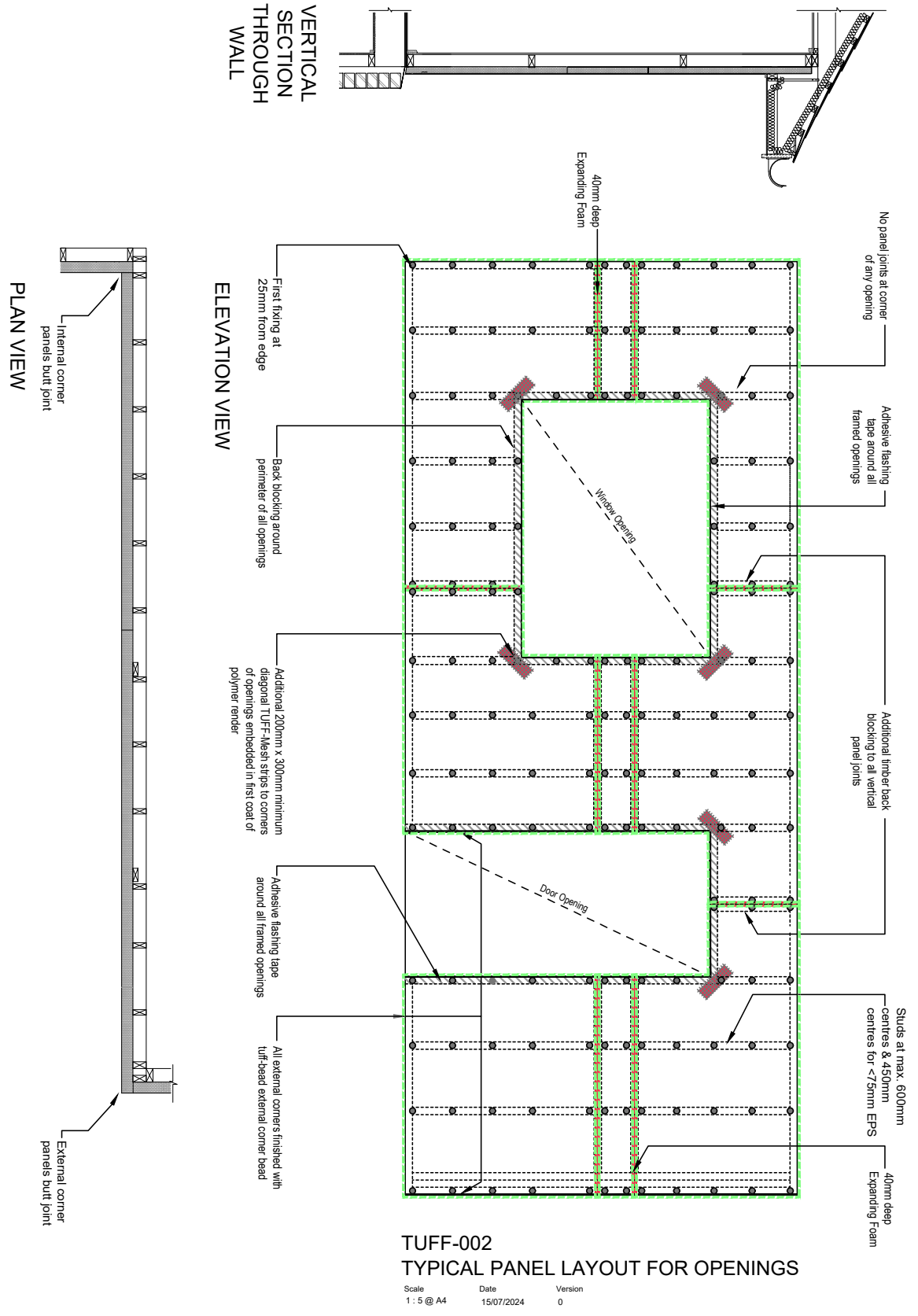
# CAVITY Layout Openings Detail - TUFF 002



# NON-CAVITY Layout Openings Detail - TUFF 002



## 7.1 PANEL INSTALLATION STEPS

1. **Breathable Wall Wrap** over the framing, cutting around penetrations and openings (e.g. doors, windows), see AS 4200.2 for correct installation method including the direction of overlaps (upper over lower to ensure drainage).
2. **Flashing Tape** to seal the breathable wall wrap around the perimeter of the wall, at joints, and at openings. Ensure all surfaces are clean and dry. Always apply flashing tape in accordance with the manufacturers' instructions applying pressure to ensure firm contact is made between surfaces.

   Note that tape is for sealing and not for joining, ensure that the wrap is secured before taping.
3. **Starter Channel with weepholes –** Install to the frame at the required level by fixing with either screws or nails at each stud.
4. Where battens are specified, **TUFF-Cavity Battens** must be fixed on every stud.
5. **Measure the framing** to confirm panel joint locations, and any horizontal and vertical control joint locations, see typical panel layouts above.
6. Cut & screw **TUFFWALL panels** to the framing using **TUFF Expanding Foam** in all horizontal and vertical joints, leaving 5mm gap to fill with foam.
7. **TUFF-FIX screws** with **TUFF-Washers** to be fixed at all corners of each panel, and at maximum 300mm spacing's on every stud, being careful not to over-drive (should be 1-2mm inset).
8. When making a **vertical butt join,** ensure each TUFFWALL panel is fixed individually to the back-blocking or stud. Typically 25 screws per 2400mm board onto studs at 600 mm centres.
9. Install TUFFWALL panels, see Typical panel layout details above, being sure to leave a **3mm gap** around all openings for sealant.
10. For **window sills** mark and cut the TUFFWALL panel first coat and peel off. Use a rasping tool to complete the fall. Once completed apply an uninterrupted bead of sealant 30mm deep, to the junction of the frame and panel.
11. Remove any excess TUFF Expanding Foam from the surface of the wall.
12. For external corners - TUFFWALL Panel sheets are overlapped using the full thickness of the sheet and then fixed using sealant.
13. **Horizontal Control Joints** - Provide horizontal control joints at all locations as noted for the specific project. Horizontal control joints consist of a 10 mm gap with TUFF-Trim Stopper Bead and sealant placed in the joint.

    It is the responsibility of the Builder / Project Engineer to specify the location of control joints.
14. **Vertical Control Joints –** Provide vertical control joints, at all locations as noted for the specific project. Vertical control joints consist of a 10 mm gap with TUFF-Trim Stopper Bead and sealant placed in the joint.

    It is the responsibility of the Builder / Project Engineer to specify the location of control join**ts.**

## 7.2 COATING SYSTEM INSTALLATION

Prior to beginning the TUFFWALL speciality render application, the installer should inspect the panels and determine that the surface is clean, dry, free of dust and mildew and identify all expansion joints and openings are ready and correct. They also should ensure that all areas are taped off correctly and use plastic drop sheets over openings where required to minimize any mess.

Tools required include; mixing drill, buckets, sponge, render float, darby or H-rule, Feather Edge, paint roller and sleeve, steel trowel, texture float, tape, window plastic, tin snips, caulking gun.

1. Ensure **TUFF-Bead External Corner Beads** are installed around all corners, edges of control joints, and openings. Before installation, ensure all edges are square so beads may be installed plumb and level. This is essential as all the render will be ruled off to these lines. Any small inaccuracies will lead to an imperfect finish. Measure and fit alloy or stainless steel beads to all openings and corners using solvent free adhesive. Ensure all sills fall forward away from the window.
2. Using **TUFF-mesh** 200mm 160gsm joining tape to reinforce all joins and corners and where any bare EPS is exposed. Ensure correct bed-in procedure is used.
3. Once dry apply to a thickness of +/- 5mm the **TUFFWALL Render** specialty dry bag render coat following instructions carefully. Note - to achieve best results float the wall and once touch dry take away any high points and leave to dry. The next day, apply a 2nd tight skim coat of TUFFWALL Render to smoothen off.
4. There are multiple options for top coating the **TUFFWALL Render** coat.
    a. Option 1 -Trowel on Polished Plaster – Acrylic Product that lasts the same, if not better that a standard Acrylic Texture Coat. The total thickness should be under 1mm
        i. **TUFFTEX Quartz Primer** (applied minimum 48-72 hours to allow render to dry) to seal and undercoat the TUFFWALL Render application with a roller to the wall cutting in where possible.
        ii. Trowel on Acrylic Tufftex Polished Plaster Base coat – under 1mm thick – probably around 0.5mm
        iii. Trowel on Multiple Tufftex Acrylic finishing coats – extremely thin, almost as thin as paint and really filling the voids in the basecoat with a very slight buildup.
        iv. Tufftex Silicon Sealer painted on to complete the TUFFWALL Insulated Wall System.
    b. Option 2 - Trowel on Acrylic Texture Coat
        i. **TUFF Primer** (applied minimum 48-72 hours to allow render to dry) to seal and undercoat the TUFFWALL Render application with a roller to the wall cutting in where possible.
        ii. Acrylic Texture Coat – Trowel on
        iii. Once dry apply from the range of **TUFF Shield Texture Paint** tinted to your choice of colours to complete the TUFFWALL Insulated Wall System.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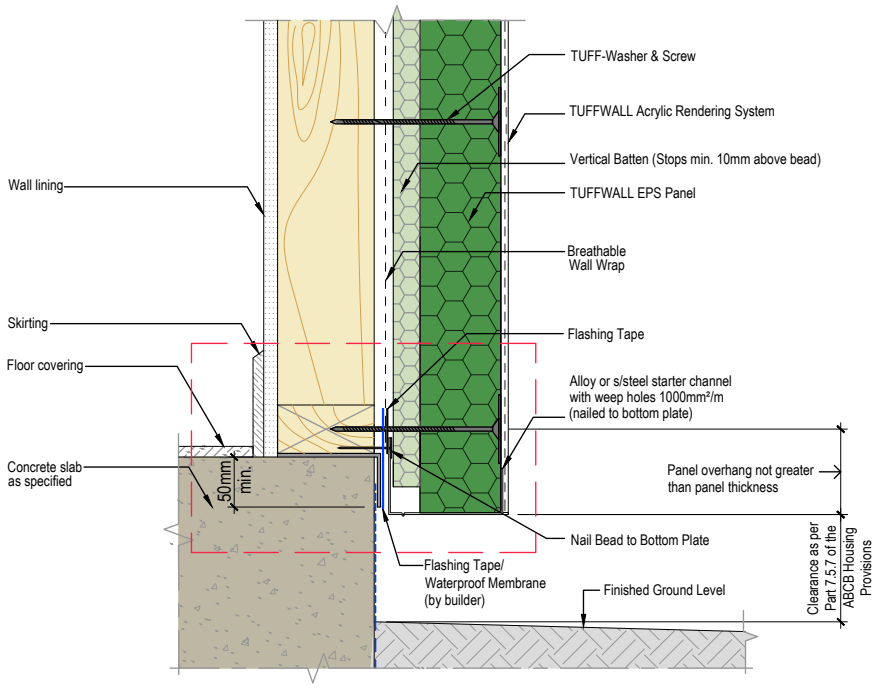
# 8 CONSTRUCTION DETAILS

TUFFWALL Insulated Wall System must be installed in strict accordance with this Technical and Installation Manual and comply with all relevant building codes and local government regulations.

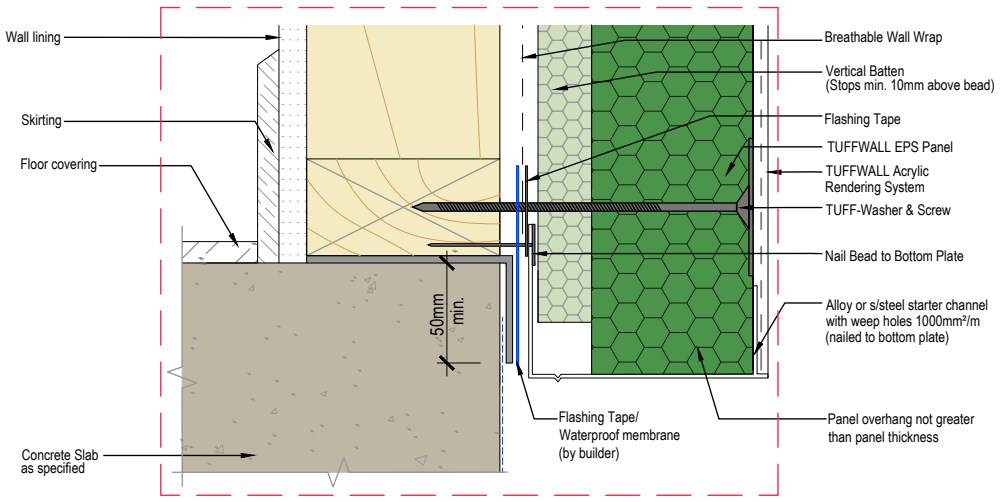
These typical construction details are provided as a guide for construction industry professionals. These typical construction details do not constitute a project specific specification and should only be used within the context of project specifications.

## 8.1 Cavity Typical Details

### 8.1.1 Concrete Slab Over Edge - Cavity




TYPICAL CONCRETE SLAB OVER EDGE DETAIL scale 1:5



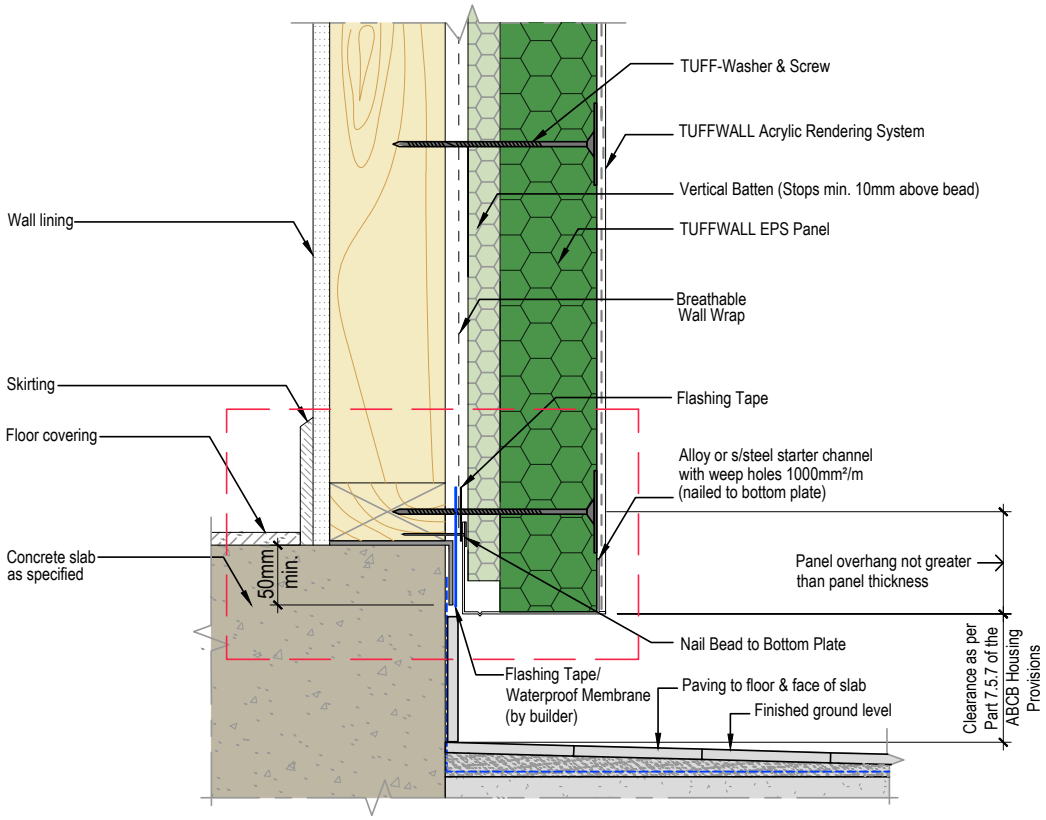

CALL OUT DETAIL scale 1:2.5

TUFF-003
TYPICAL CONCRETE SLAB OVER EDGE DETAIL

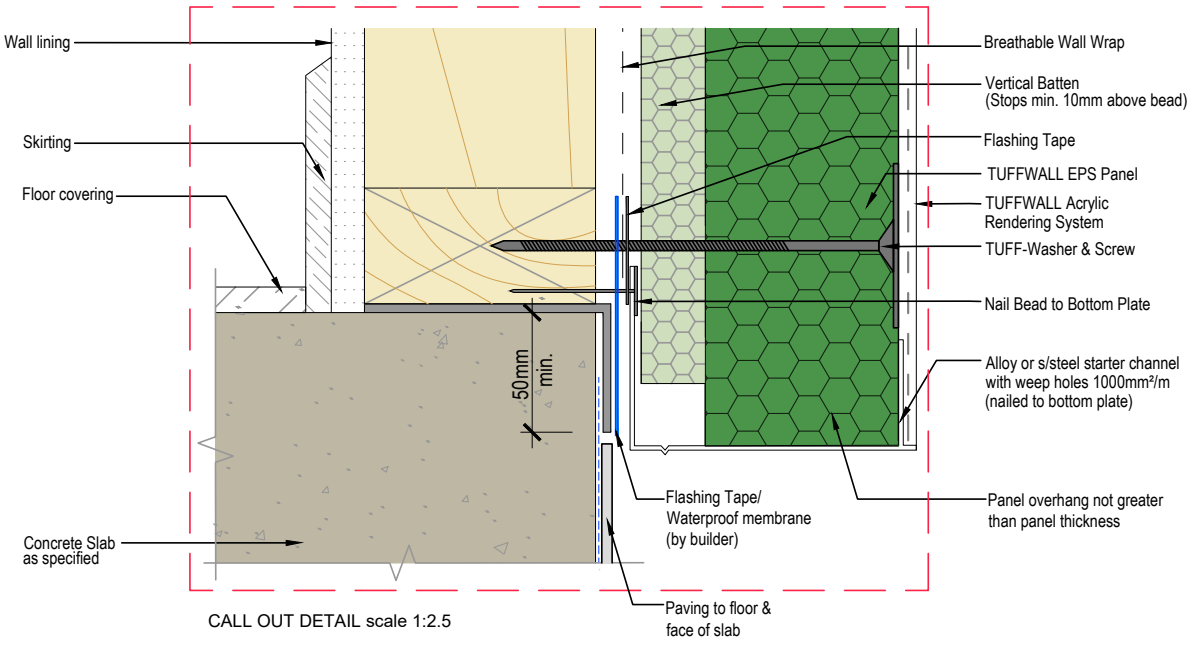
| Scale | Date | Version |
|---|---|---|
| AS SHOWN @ A4 | 15/07/2024 | 0 |

## 8.1.2 Concrete Slab Over Edge With Paving - Cavity

TUFFWALL INSULATED WALL SYSTEM




TYPICAL CONCRETE SLAB OVER EDGE DETAIL scale 1:5



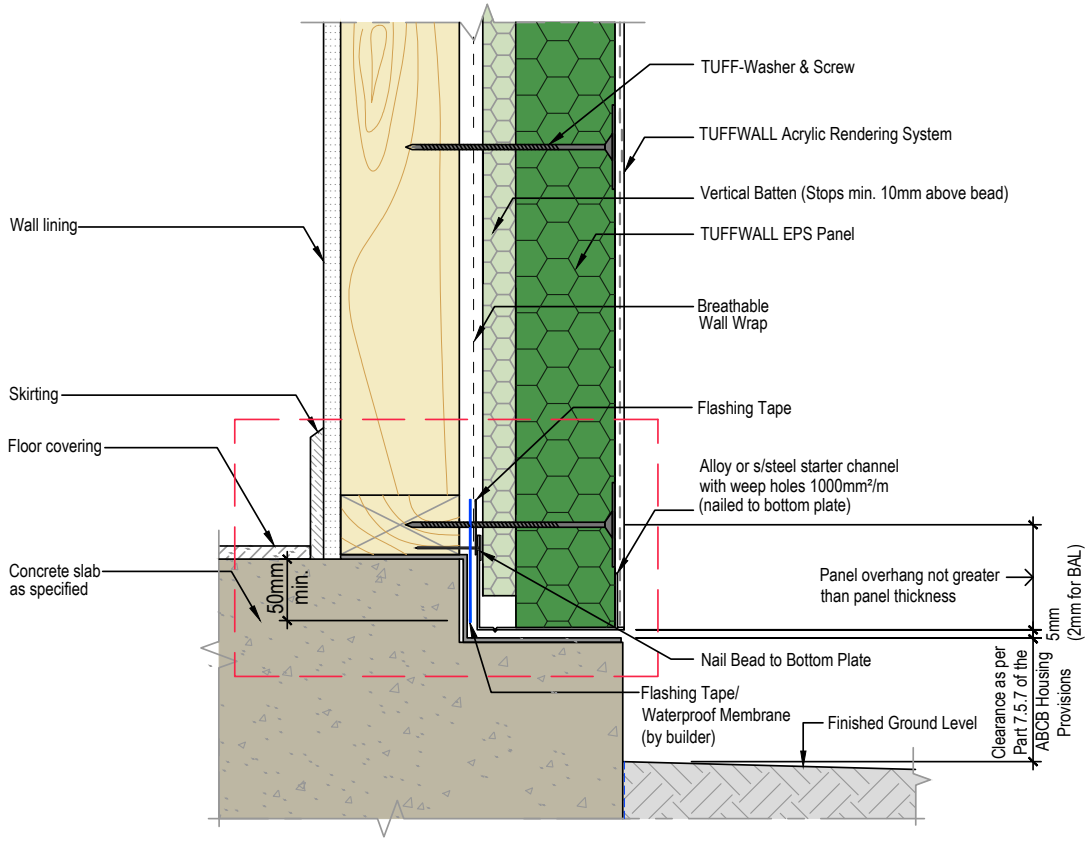

CALL OUT DETAIL scale 1:2.5

TUFF-003a

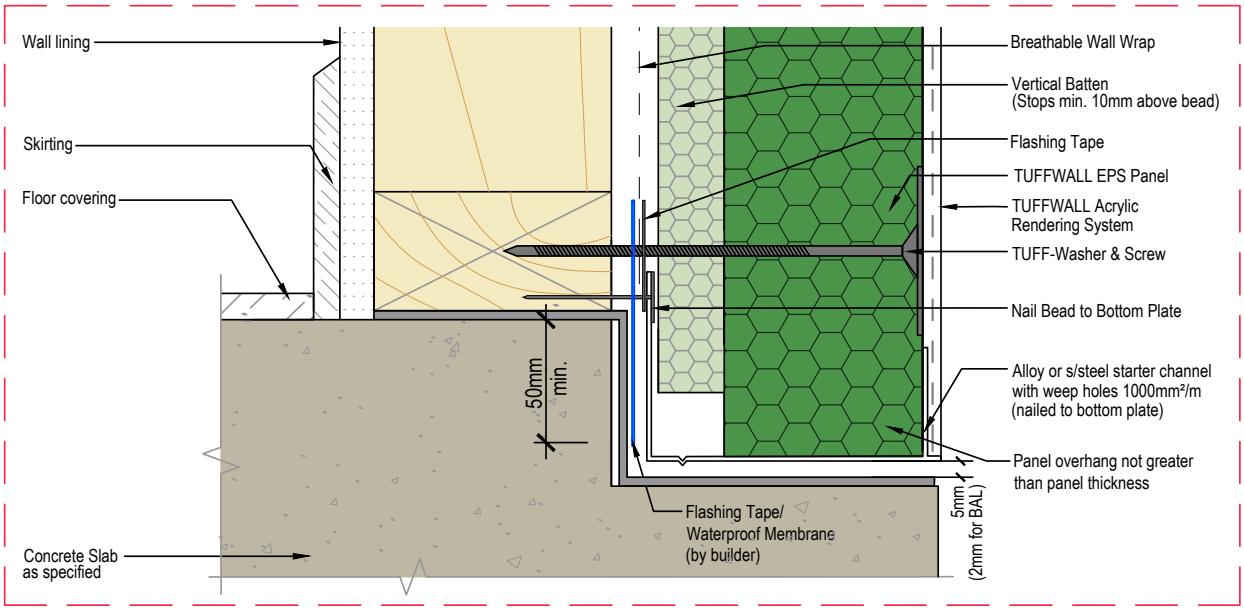
TYPICAL CONCRETE SLAB OVER EDGE DETAIL WITH PAVING

| Scale | Date | Version |
|---|---|---|
| AS SHOWN @ A4 | 15/07/2024 | 0 |

## 8.1.3 Concrete Slab Rebate Edge - Cavity




TYPICAL CONCRETE SLAB OVER EDGE DETAIL scale 1:5

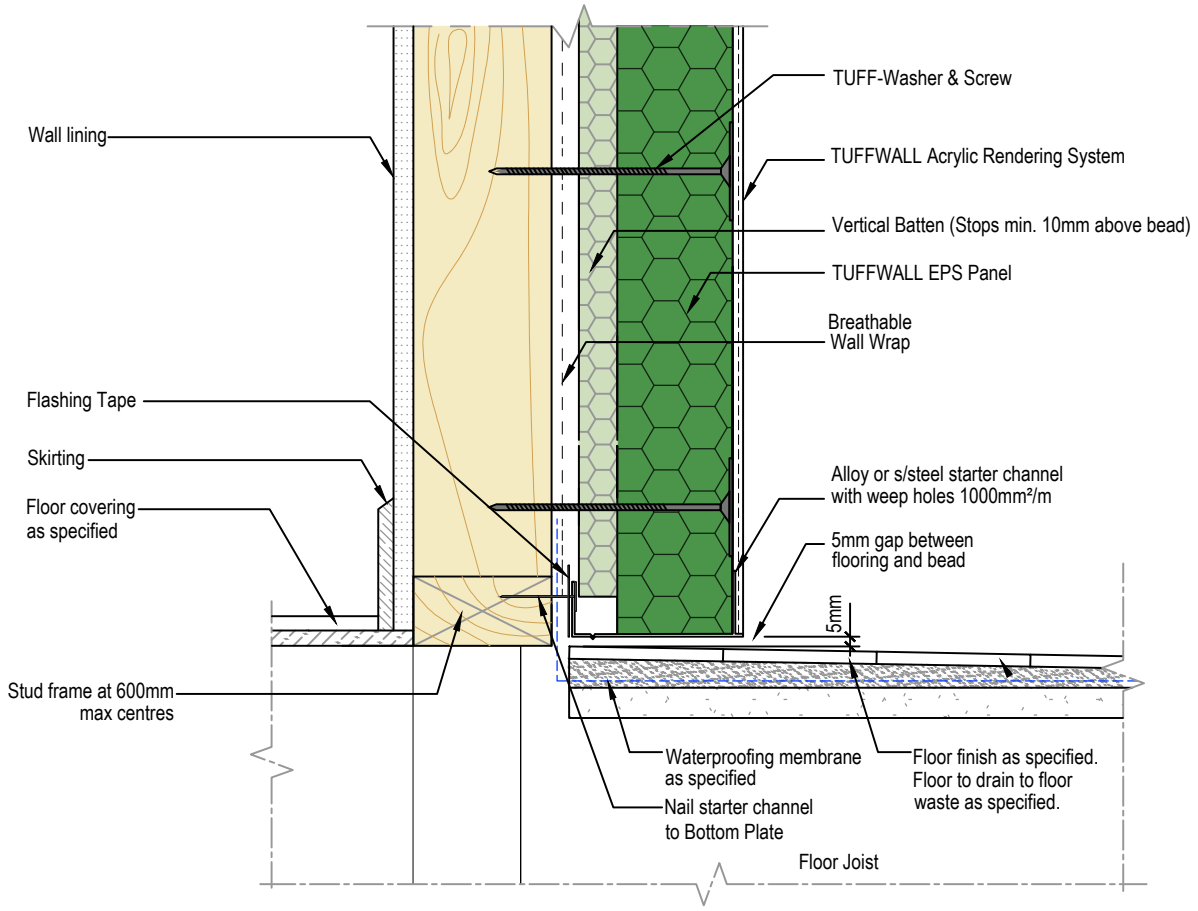



CALL OUT DETAIL scale 1:2.5

TUFF-004
TYPICAL CONCRETE SLAB OVER REBATE DETAIL

| Scale | Date | Version |
|---|---|---|
| AS SHOWN @ A4 | 15/07/2024 | 0 |

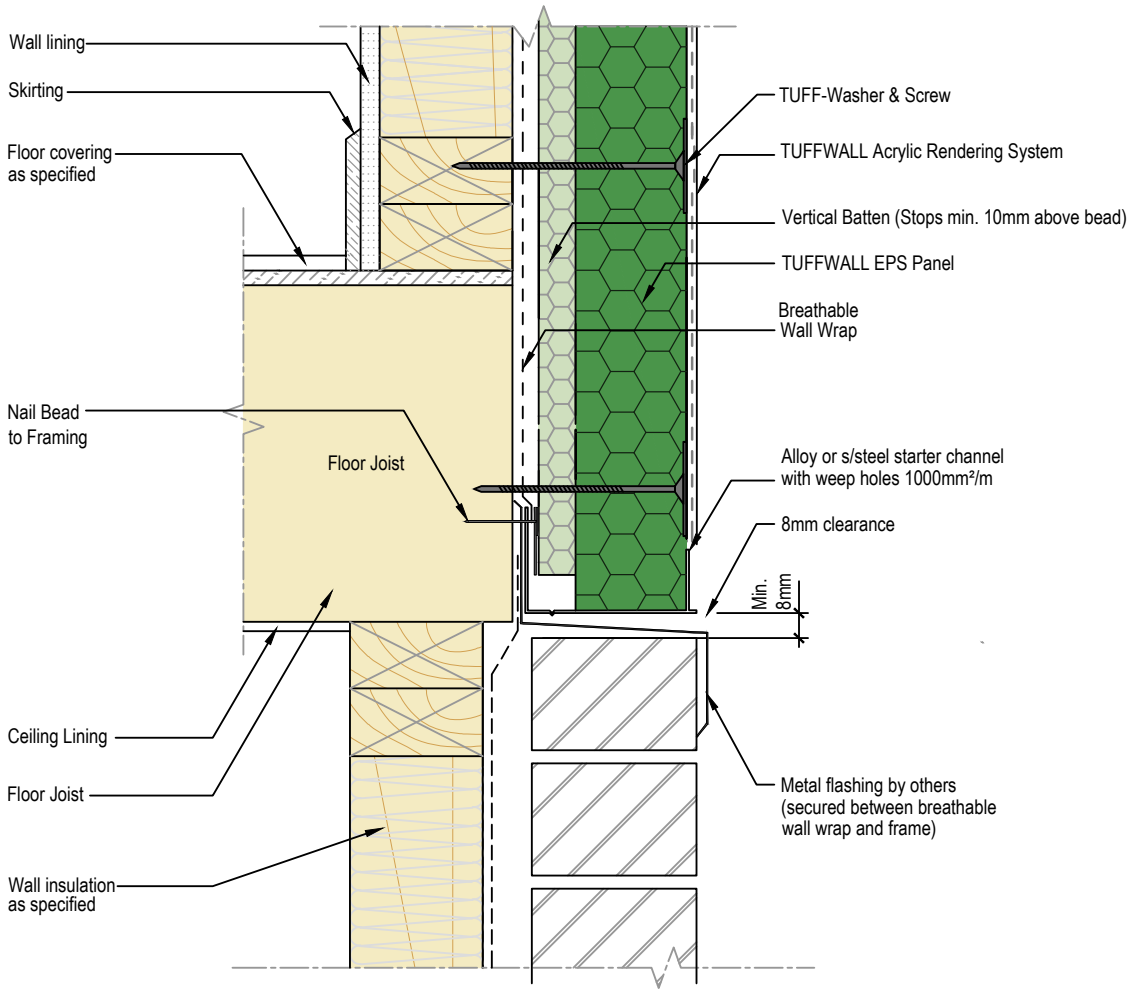
### 8.1.4 Wall to Balcony - Cavity




TUFF-005
TYPICAL WALL TO BALCONY DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

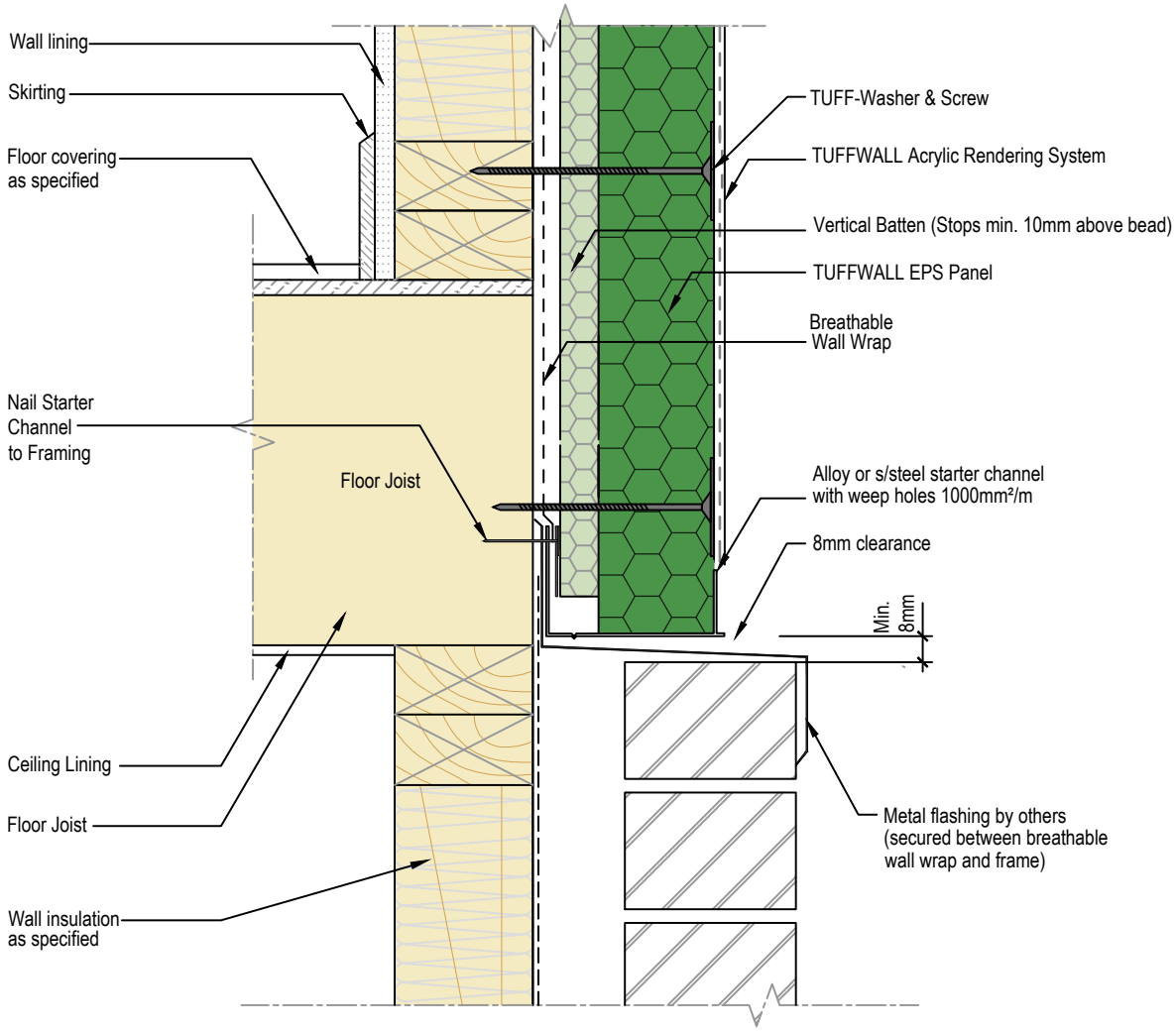
## 8.1.5 Panel Over Masonry Wall (Metal Flashing) - Cavity




TUFF-006
TYPICAL PANEL OVER MASONRY WALL DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

## 8.1.6 Panel Over Masonry Wall (Flush) - Cavity

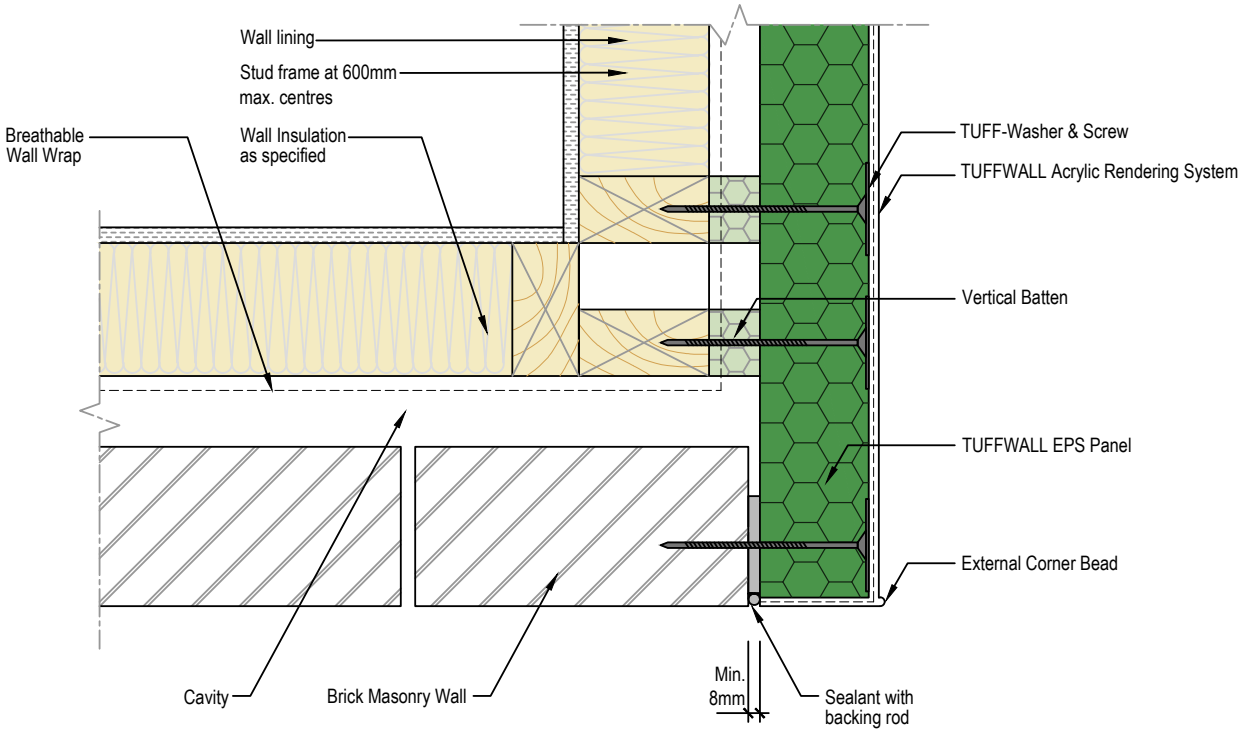



TUFF-006a

TYPICAL PANEL OVER MASONRY WALL DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

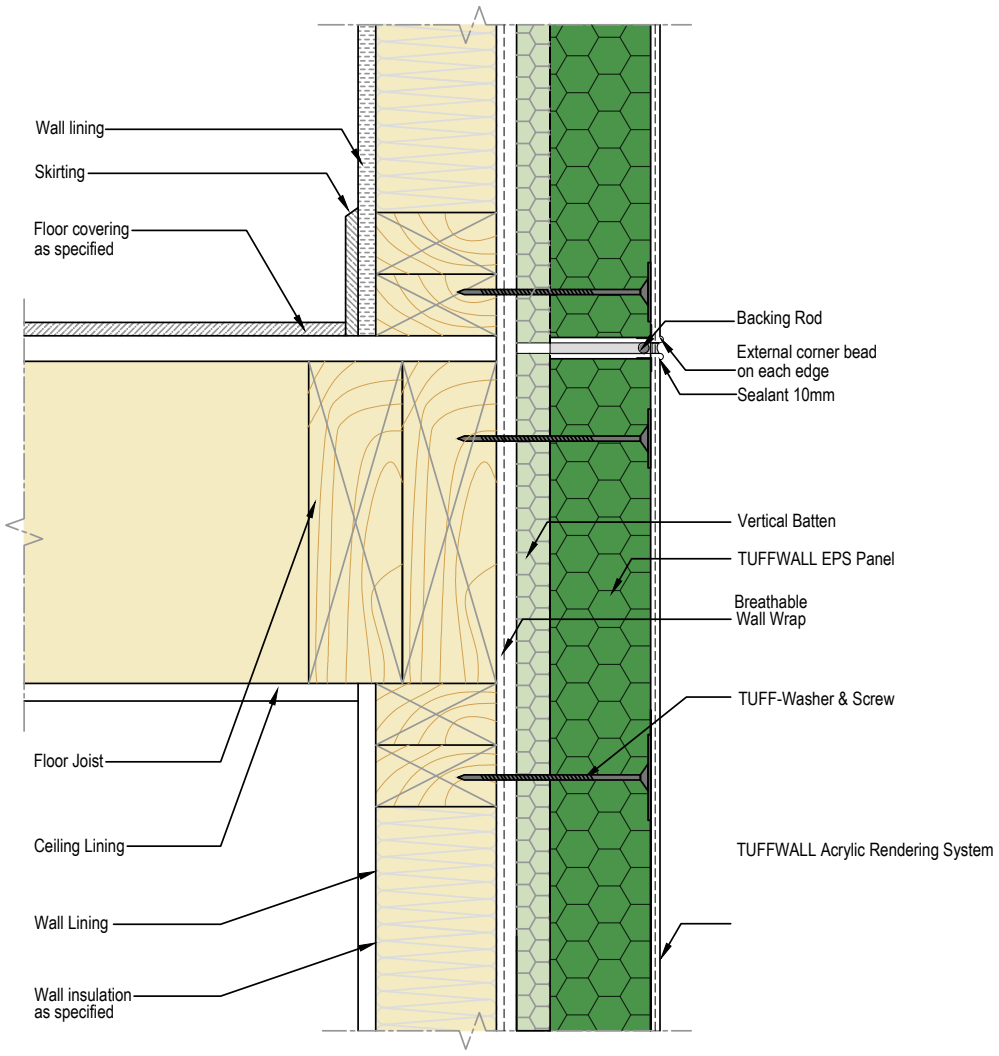
### 8.1.7 Junction to Masonry Wall - Cavity



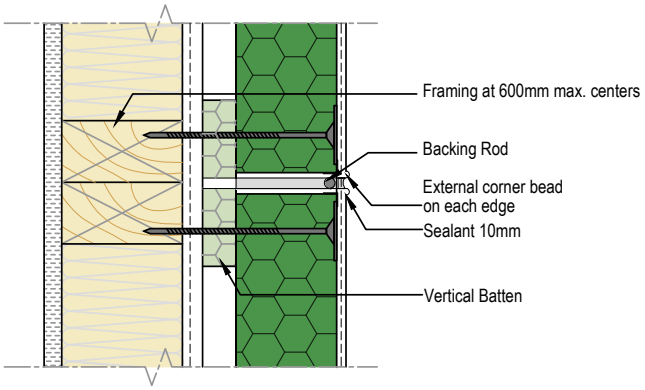

TUFF-007
TYPICAL PANEL JUNCTION TO MASONRY WALL DETAIL
PLAN VIEW

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

## 8.1.8 Horizontal Expansion Joint - Cavity




HORIZONTAL EXPANSION JOINT (EXTERNAL CORNER BEADS ON EACH EDGE)

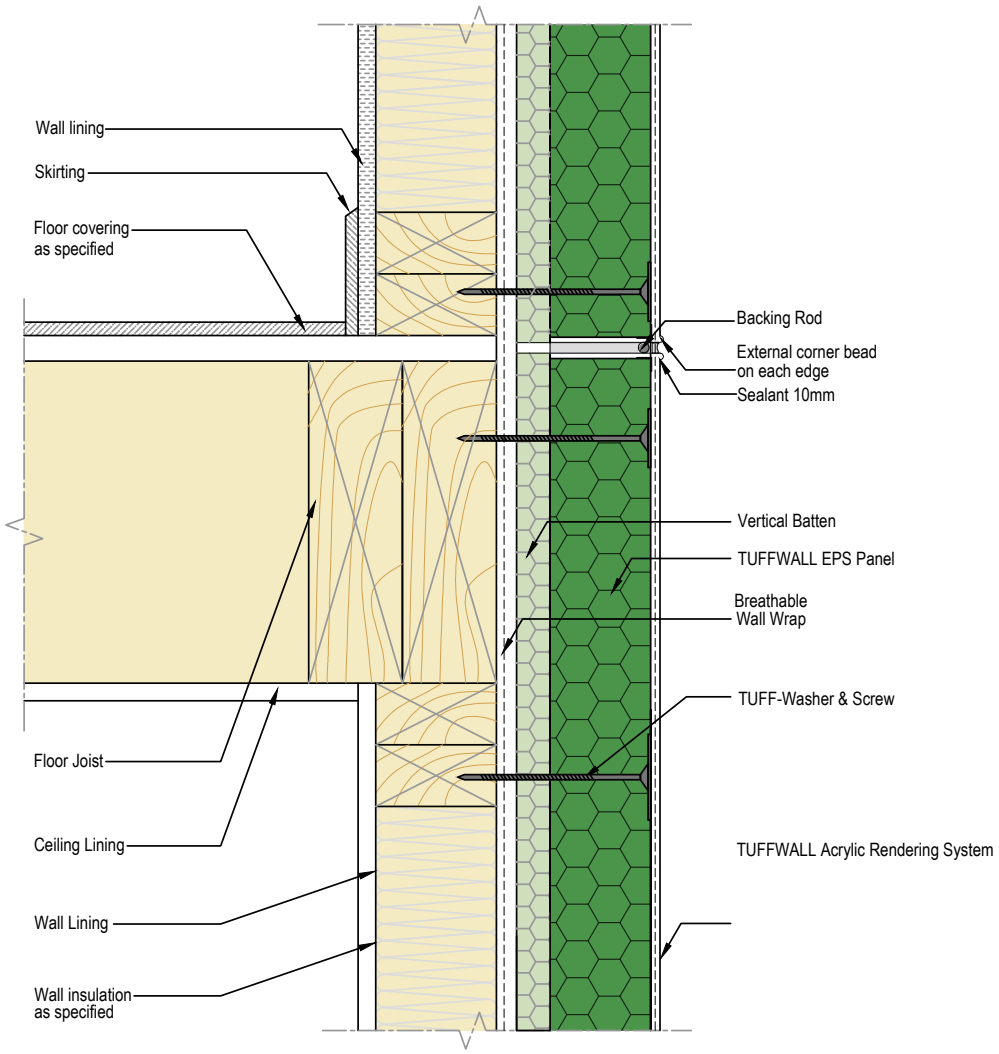



VERTICAL EXPANSION JOINT
(EXTERNAL CORNER BEADS ON EACH EDGE)

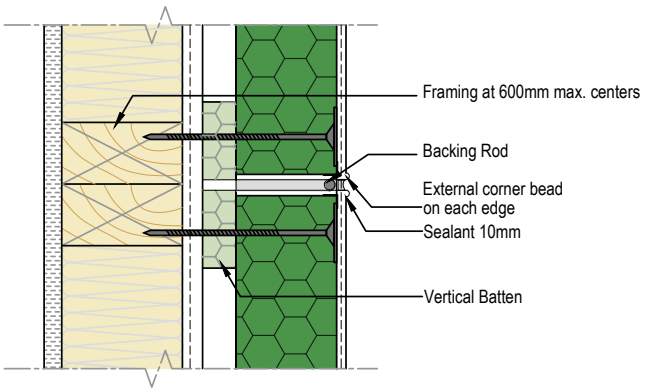
TUFF-008
TYPICAL HORIZONTAL_VERTICAL EXPANSION JOINT DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

## 8.1.9 Vertical Expansion Joint - Cavity




HORIZONTAL EXPANSION JOINT (EXTERNAL CORNER BEADS ON EACH EDGE)

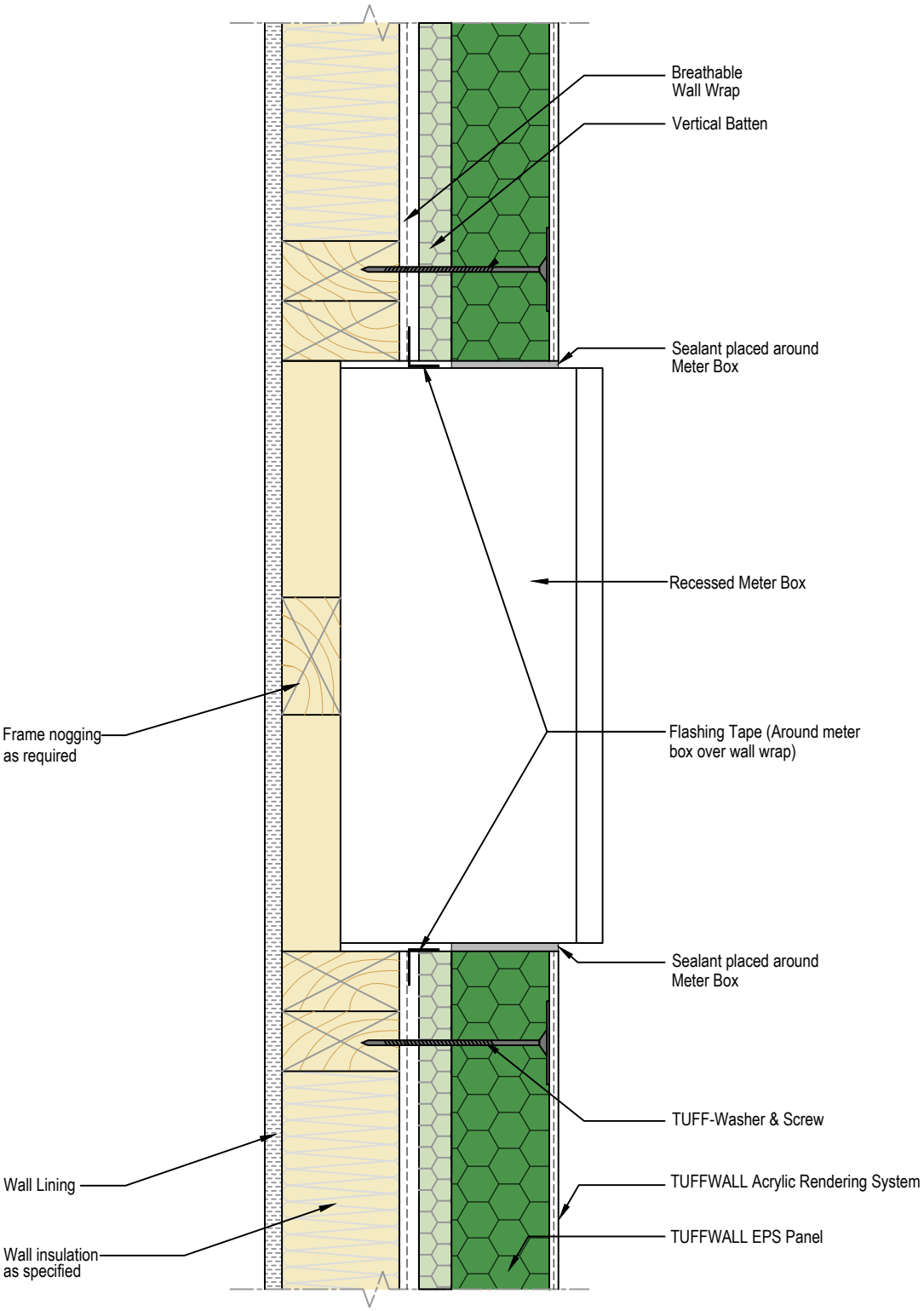



VERTICAL EXPANSION JOINT
(EXTERNAL CORNER BEADS ON EACH EDGE)

TUFF-008
TYPICAL HORIZONTAL_VERTICAL EXPANSION JOINT DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

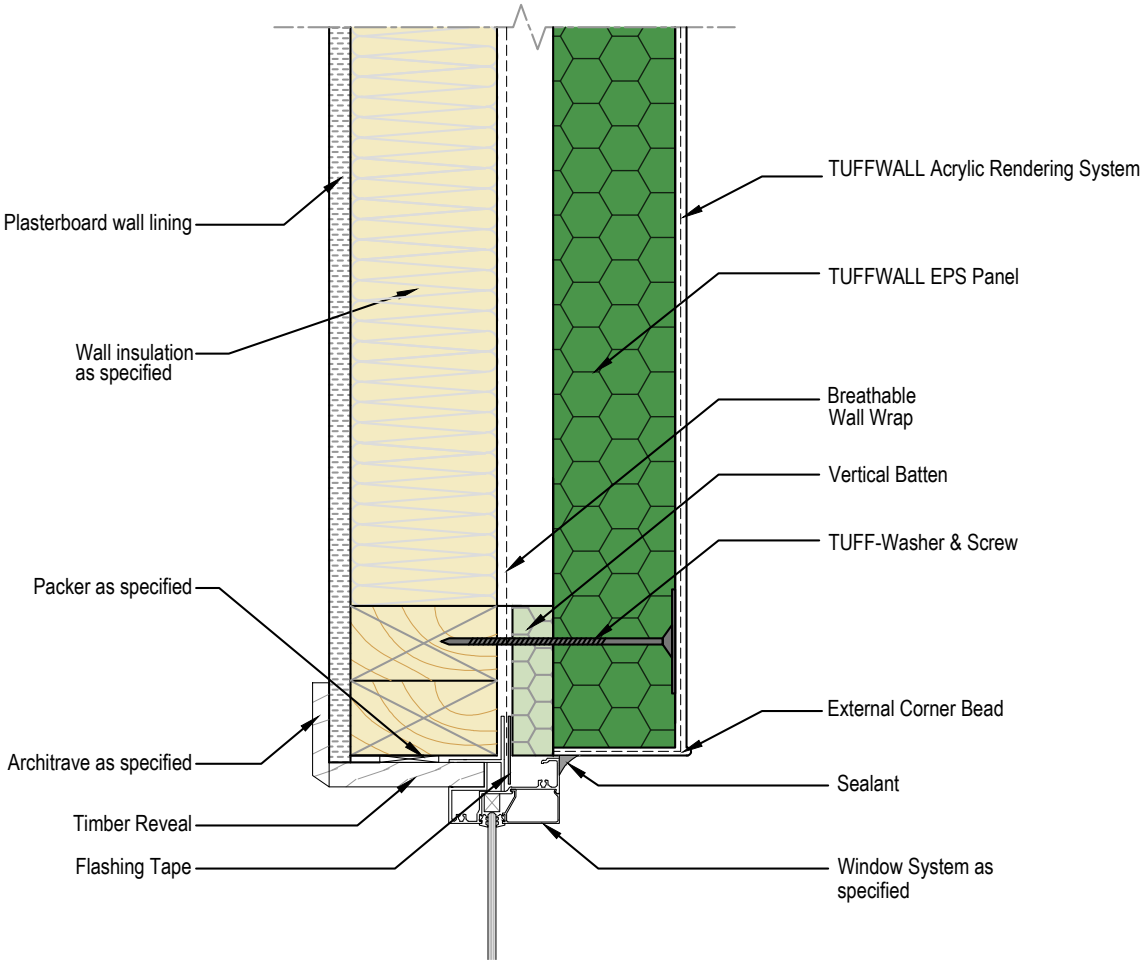
### 8.1.10 Meter Box Penetration - Cavity




TUFF-009
TYPICAL METER BOX PENETRATION DETAIL

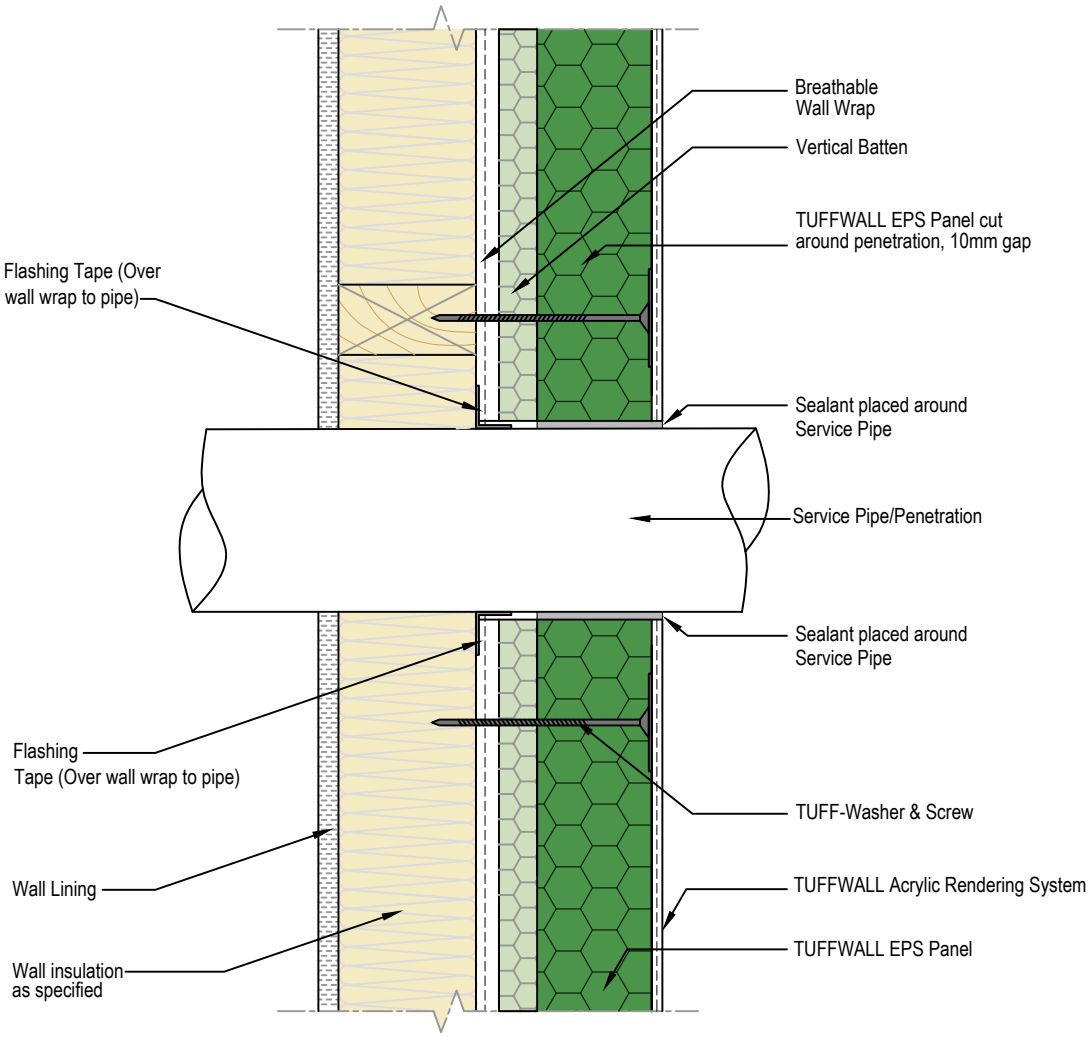
| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

### 8.1.11 Window Jamb - Cavity




TUFF-010

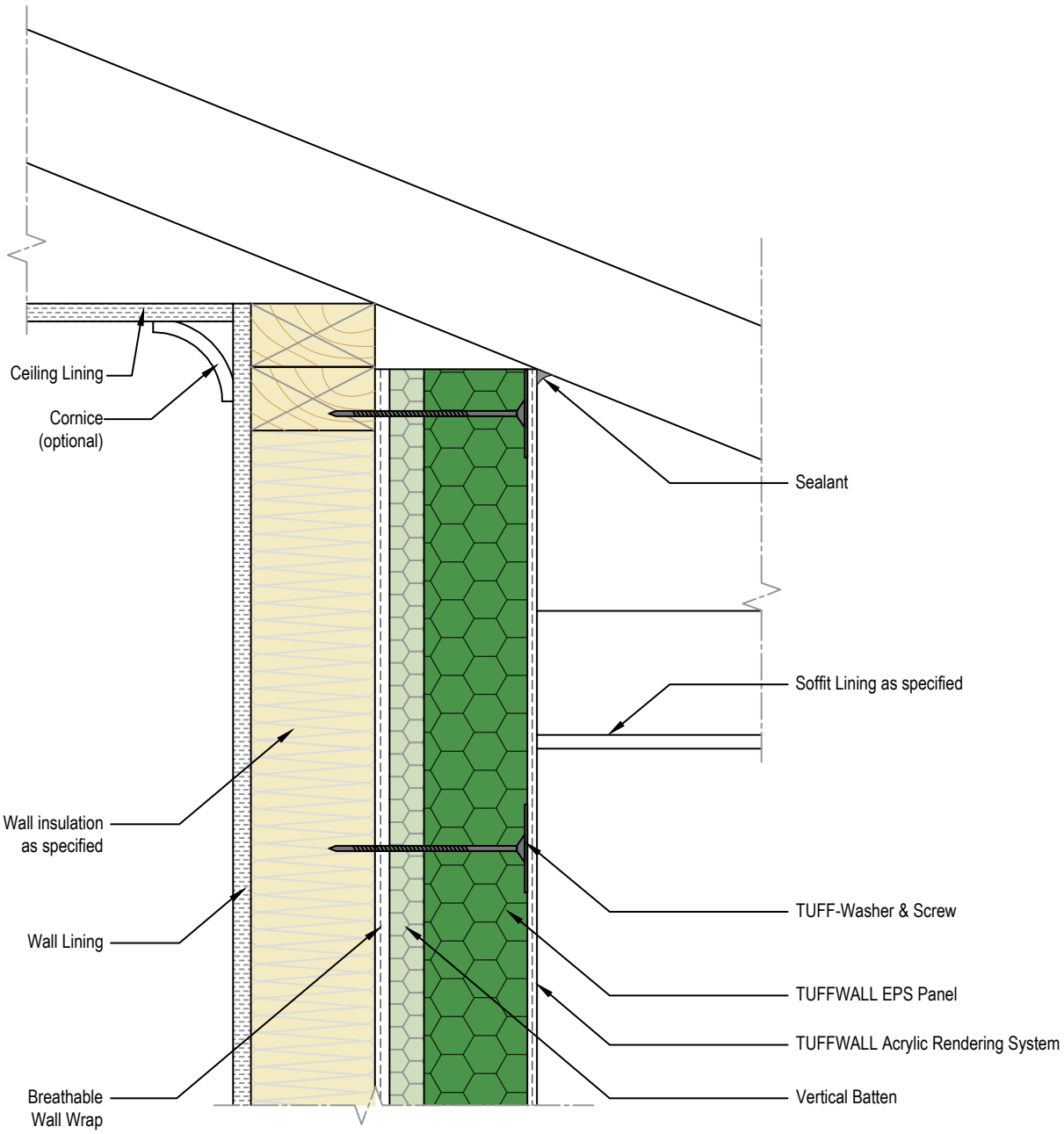
### 8.1.12 Service Penetration - Cavity




TUFF-0011
TYPICAL SERVICE PENETRATION DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

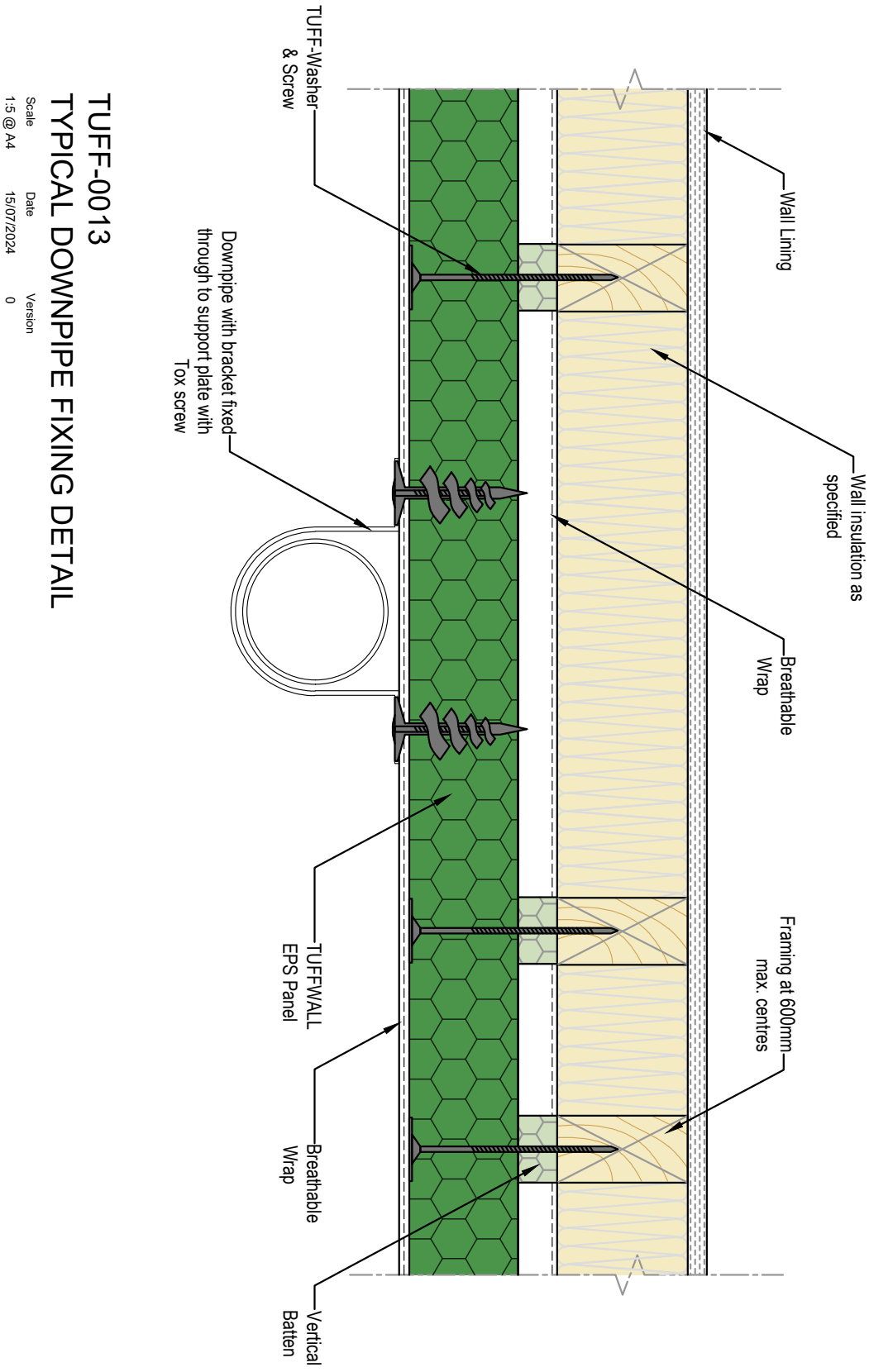
### 8.1.13 Eave Soffit - Cavity




TUFF-0012
TYPICAL EAVE SOFFIT DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

## 8.1.14 Downpipe Fixing - Cavity




TUFF-0013

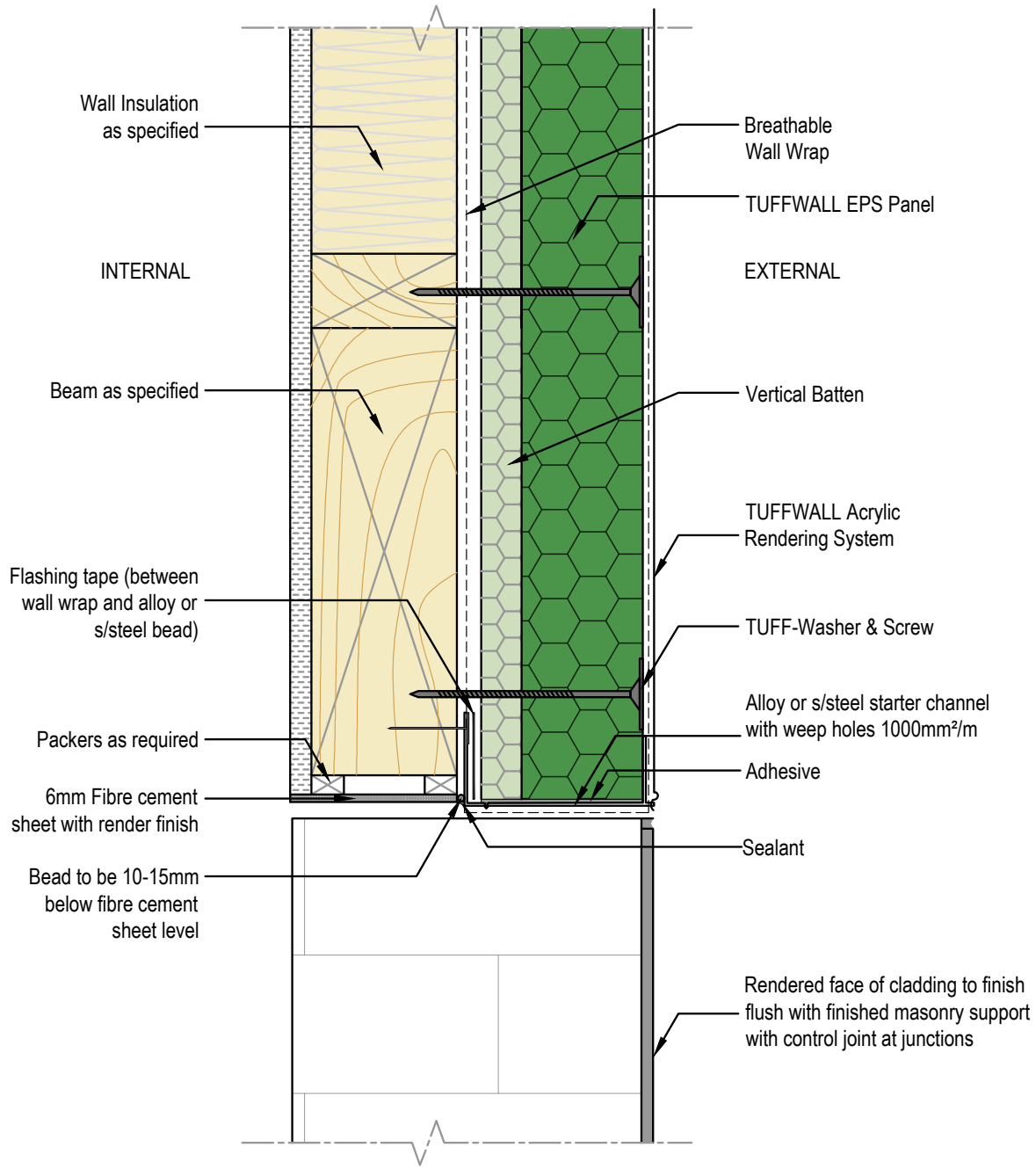
TYPICAL DOWNPIPE FIXING DETAIL

Scale 1:5 @ A4

Date 15/07/2024

Version 0

## 8.1.15 Garage / Bulkhead / Overhang / Drip - Cavity

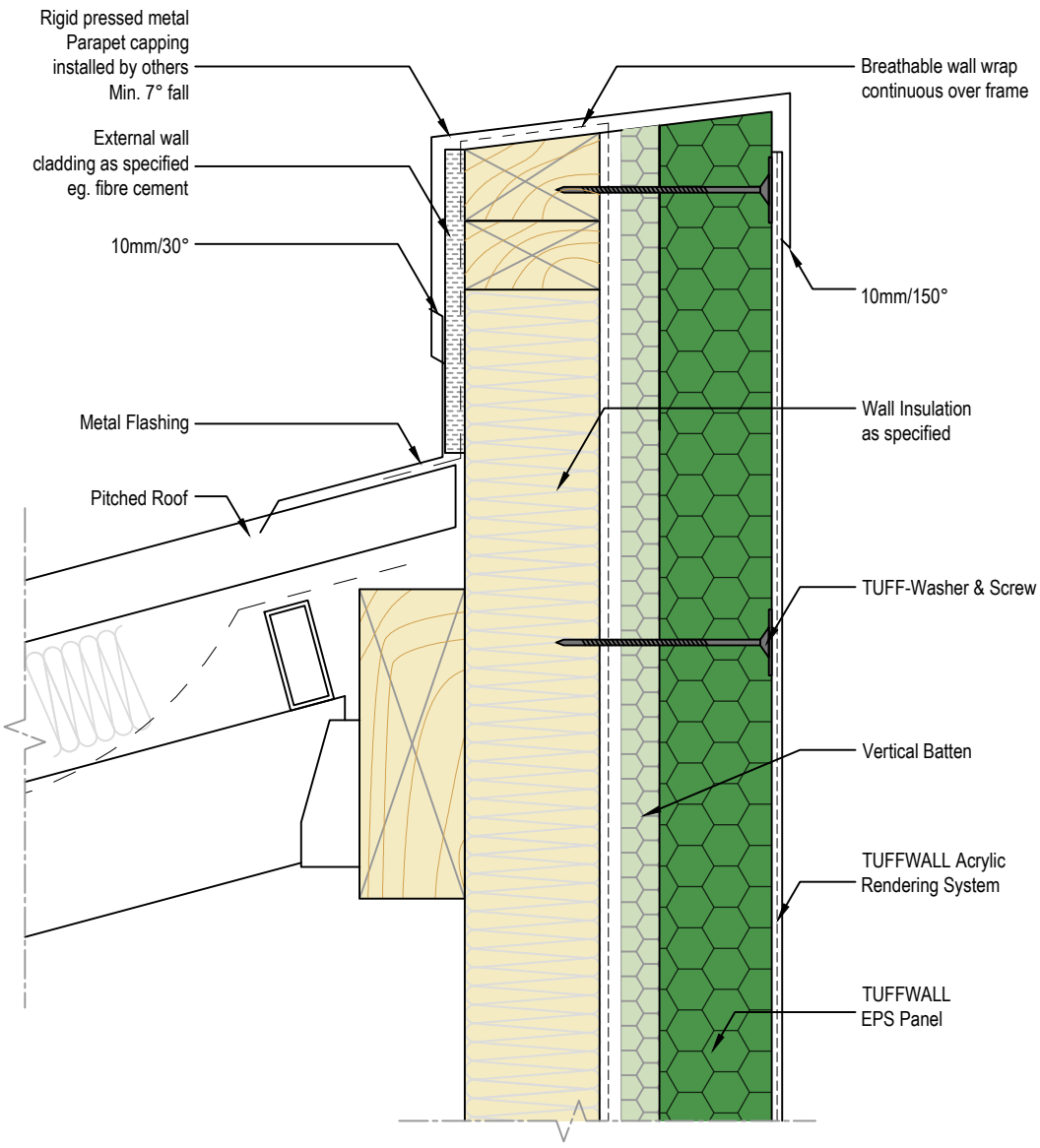



TUFF-0014

TYPICAL GARAGE/BULKHEAD/OVERHANG DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

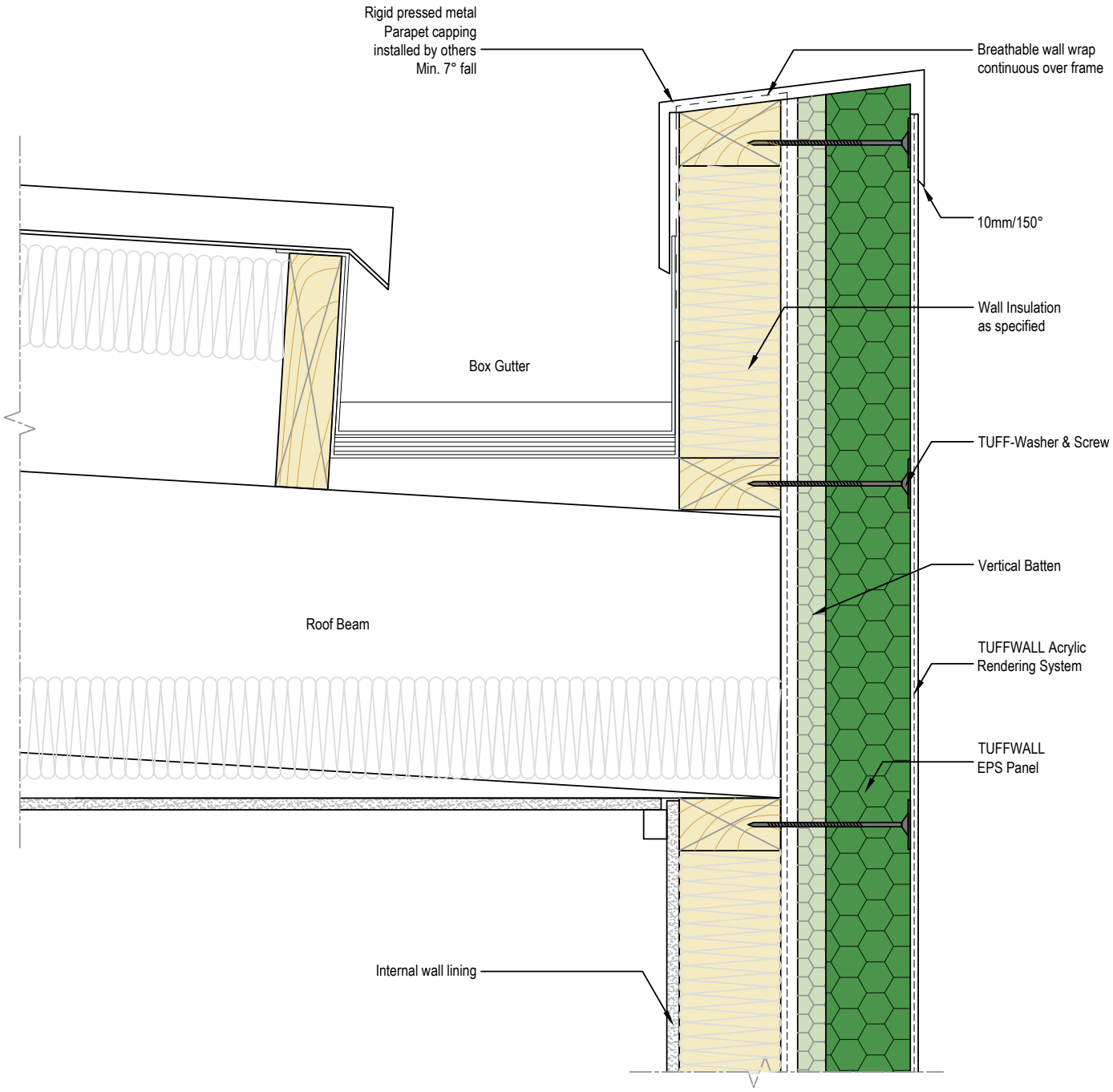
## 8.1.16 Metal Capping Parapet Wall to Roof - Cavity




TUFF-0015
TYPICAL METAL CAPPING PARAPET WALL TO ROOF DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

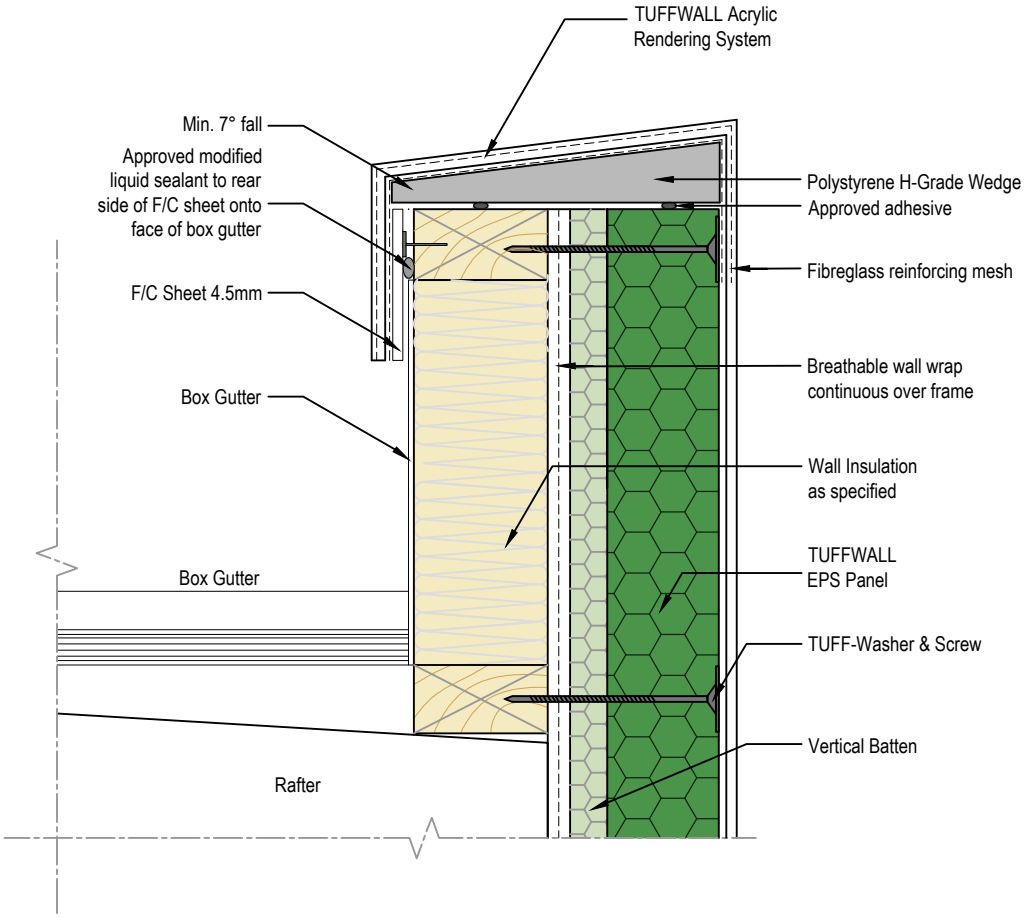
## 8.1.17 Metal Capping Parapet Wall to Box Gutter - Cavity




TUFF-0015a

TYPICAL METAL CAPPING PARAPET WALL TO ROOF WITH BOX GUTTER DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

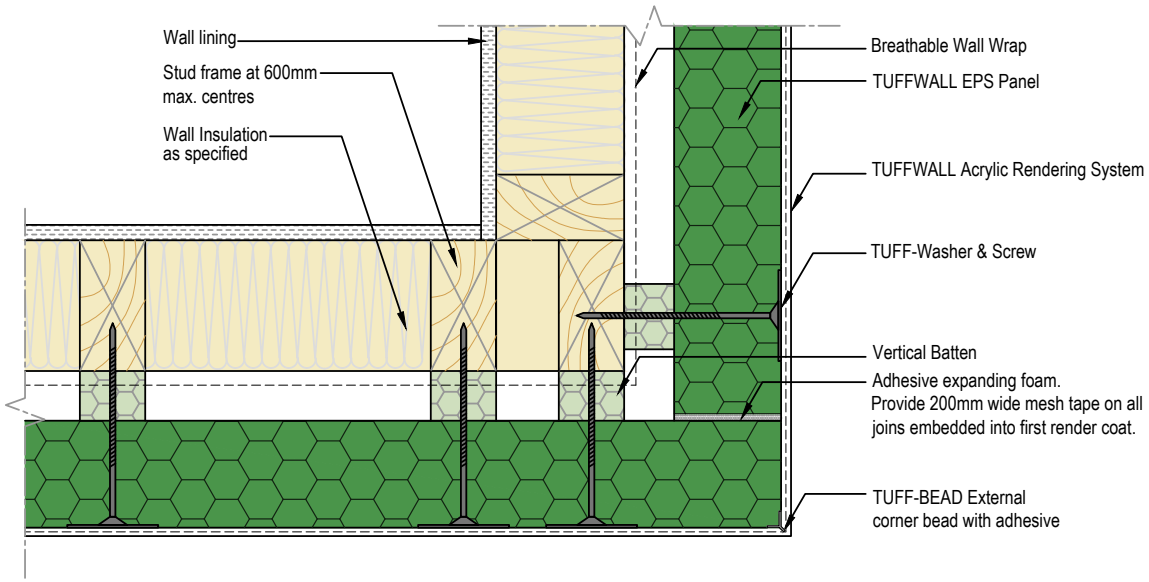



TUFF-0015b

# TYPICAL METAL CAPPING PARAPET WALL TO ROOF WITH BOX GUTTER DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

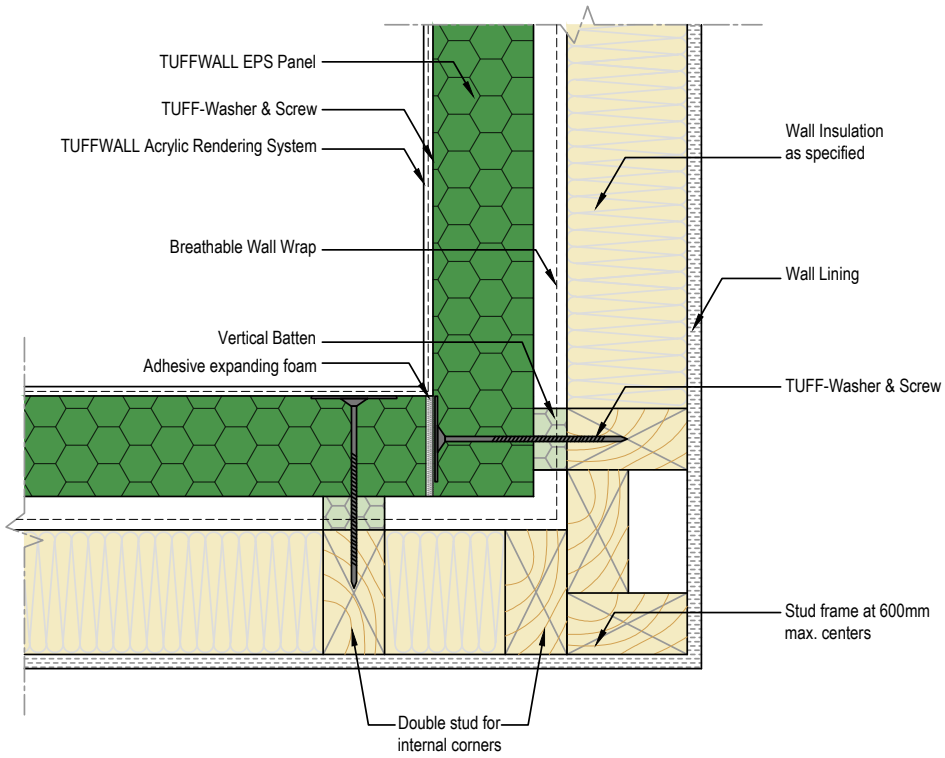
## 8.1.18 External Corner - Cavity




TUFF-0016
TYPICAL EXTERNAL CORNER DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

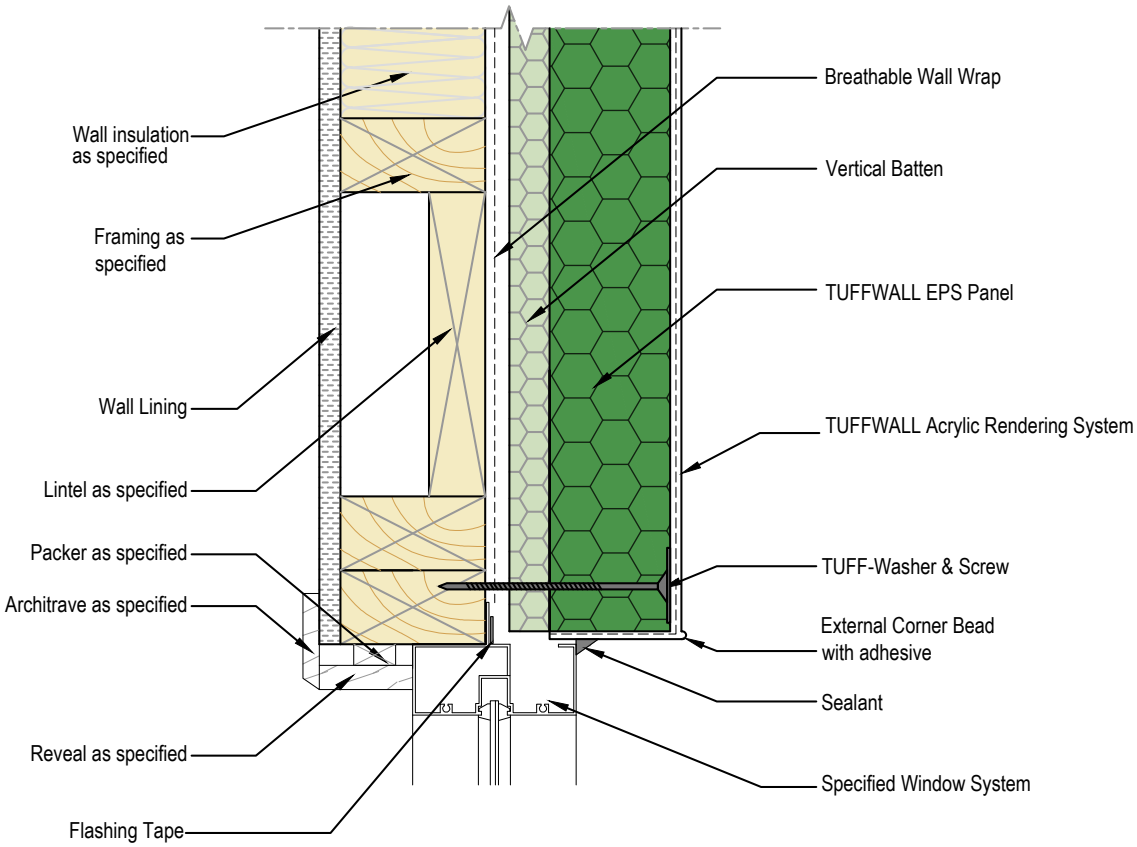
## 8.1.19 Internal Corner - Cavity




TUFF-0017
TYPICAL INTERNAL CORNER DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

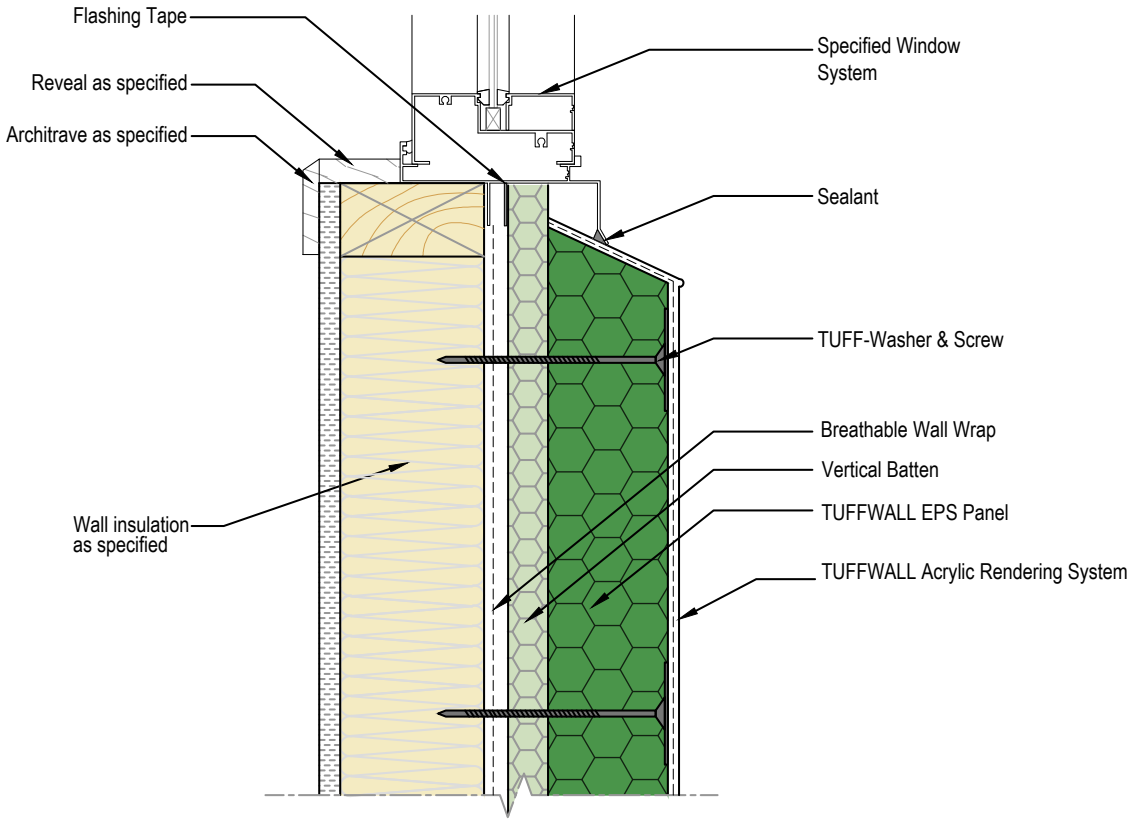
## 8.1.20 Window Head - Cavity




TUFF-0019
TYPICAL WINDOW HEAD DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

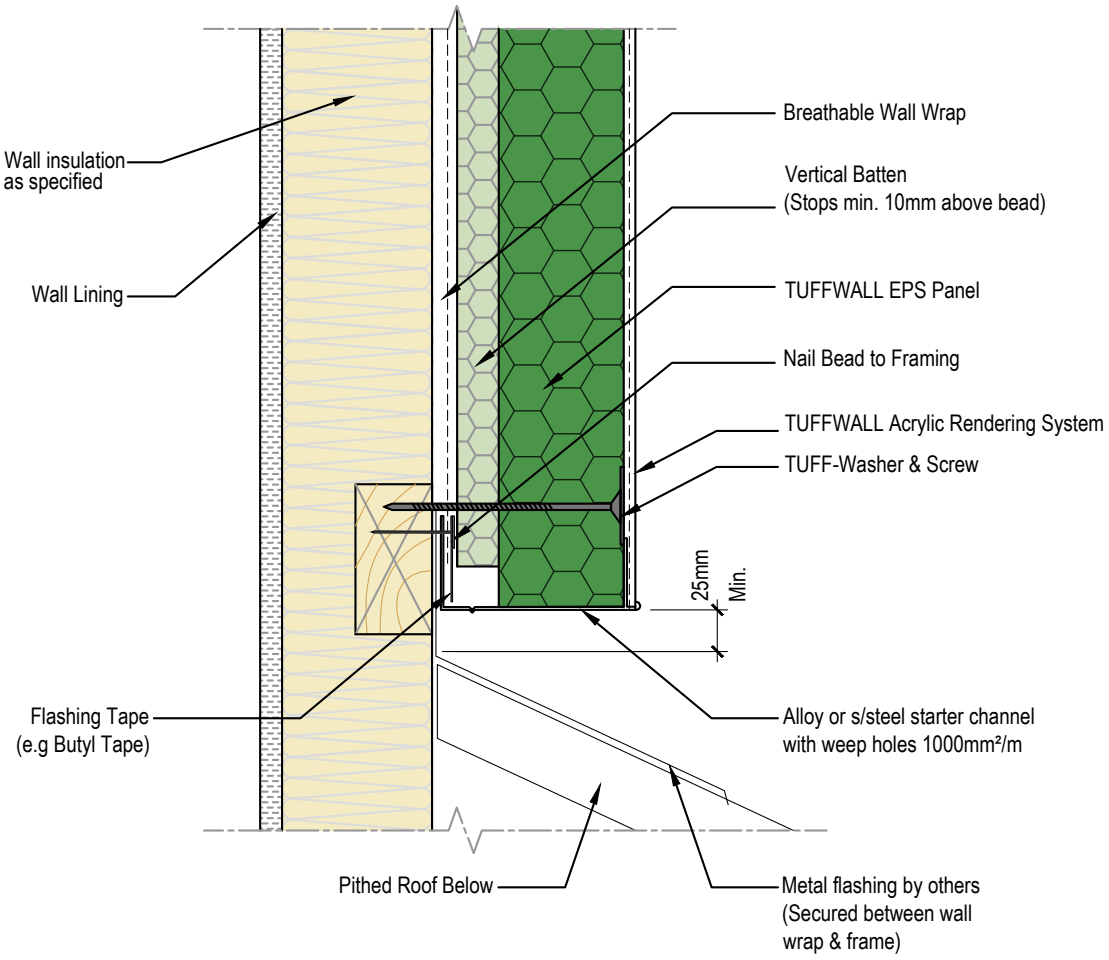
### 8.1.21 Window Sill - Cavity




TUFF-018
TYPICAL WINDOW SILL DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

### 8.1.22 Wall Over Roof - Cavity

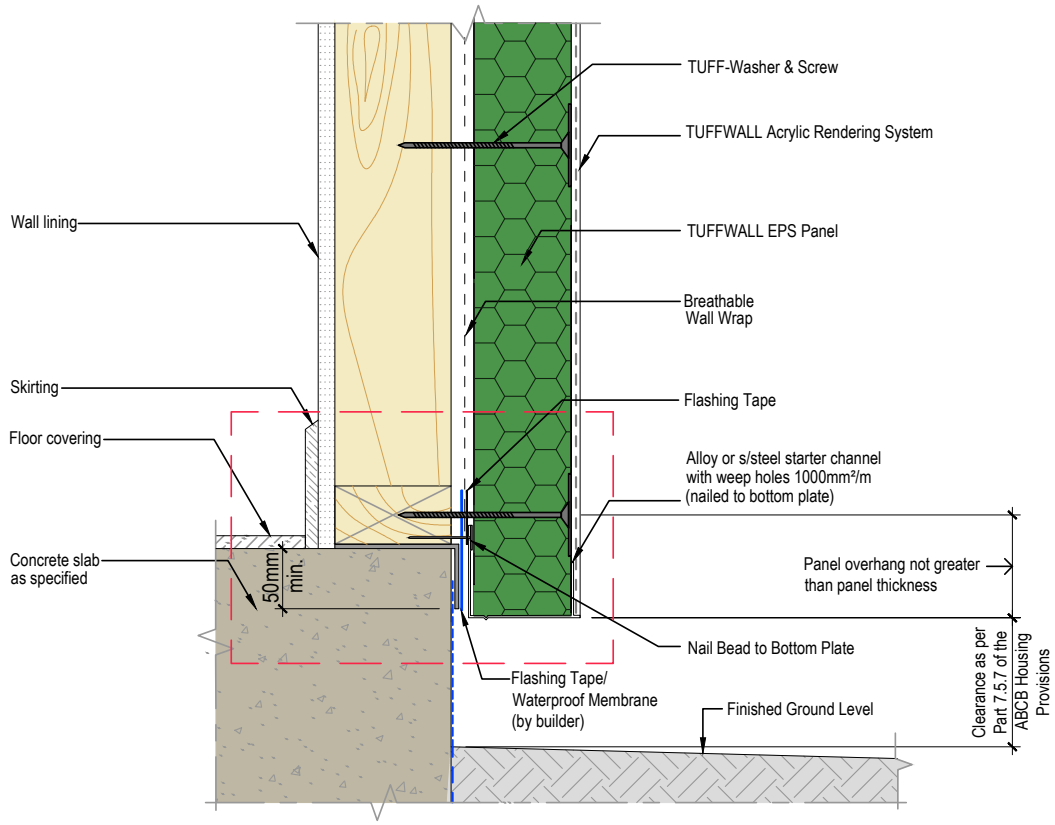



TUFF-020
TYPICAL WALL OVER ROOF DETAIL

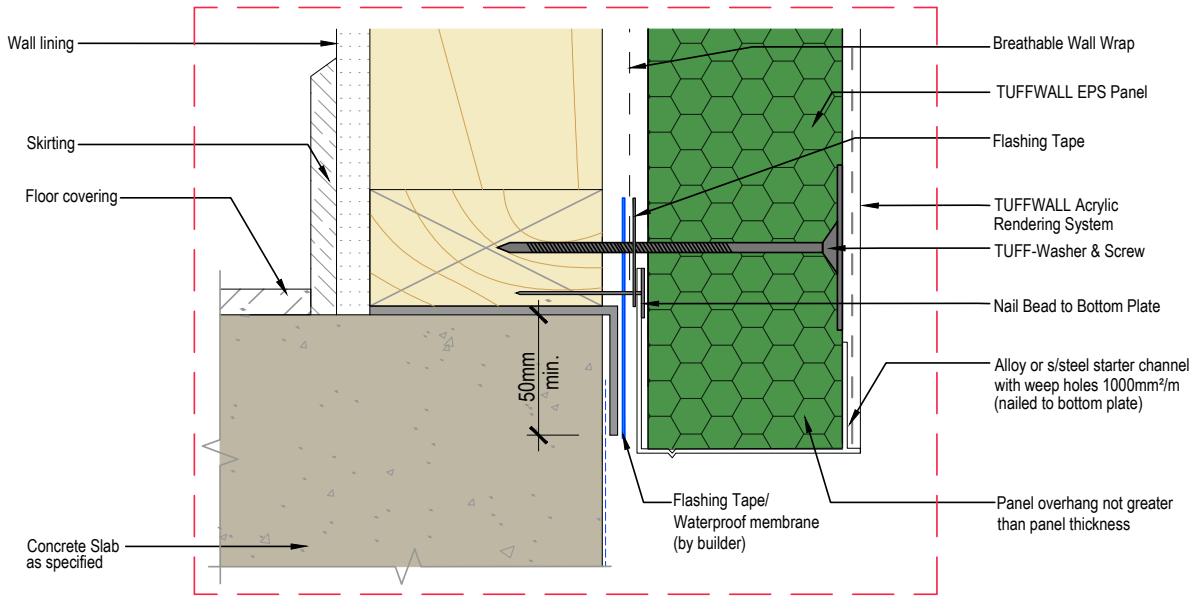
| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

## 8.2 Non-Cavity Typical Details

### 8.2.1 Concrete Slab Over Edge - Non-Cavity




TYPICAL CONCRETE SLAB OVER EDGE DETAIL scale 1:5



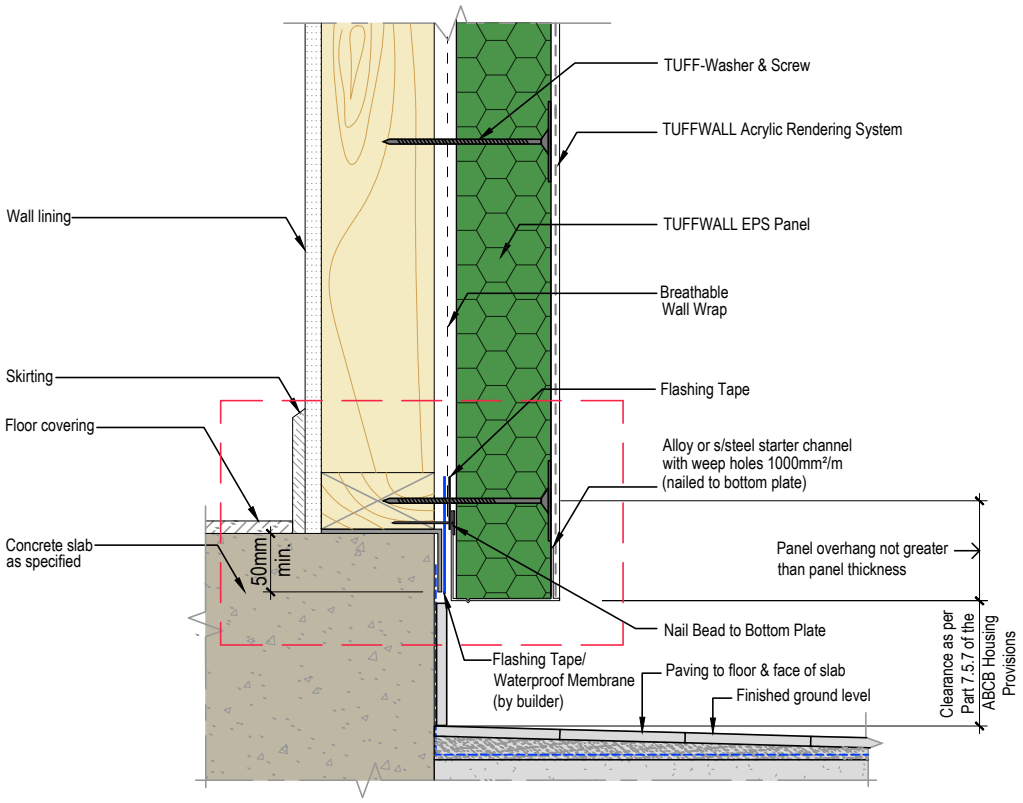

CALL OUT DETAIL scale 1:2.5

TUFF-003
TYPICAL CONCRETE SLAB OVER EDGE DETAIL

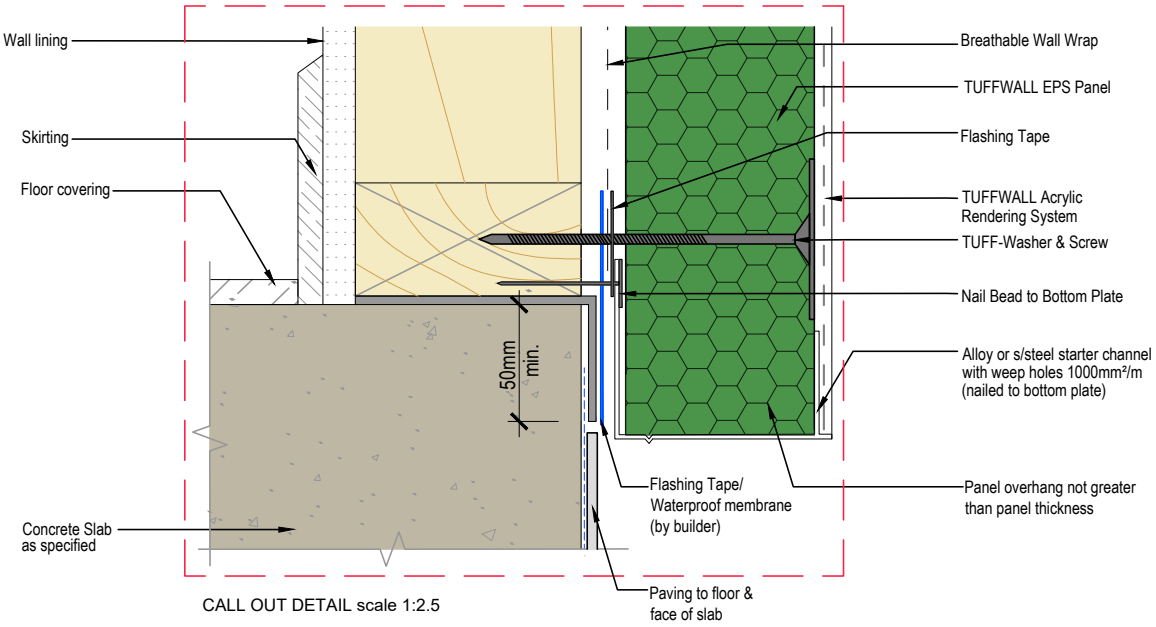
| Scale | Date | Version |
|---|---|---|
| AS SHOWN @ A4 | 15/07/2024 | 0 |

## 8.2.2 Concrete Slab Over Edge With Paving - Non-Cavity

TUFFWALL INSULATED WALL SYSTEM




TYPICAL CONCRETE SLAB OVER EDGE DETAIL scale 1:5



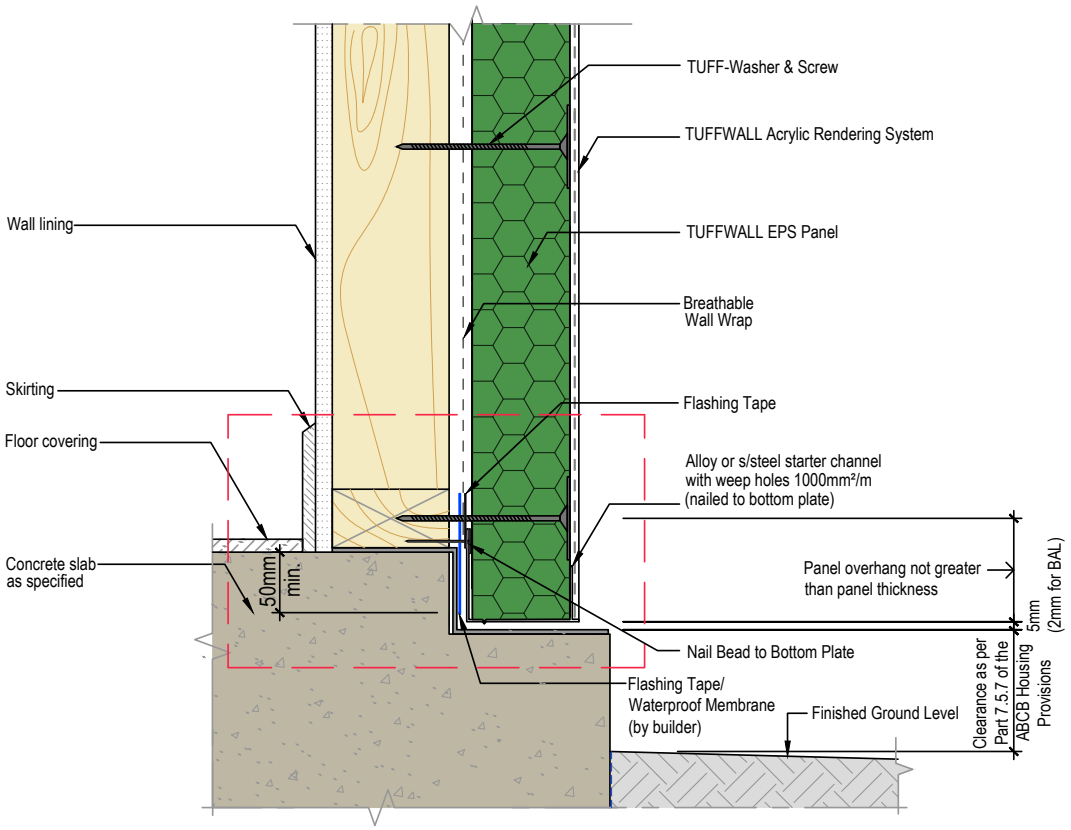

CALL OUT DETAIL scale 1:2.5

TUFF-003a

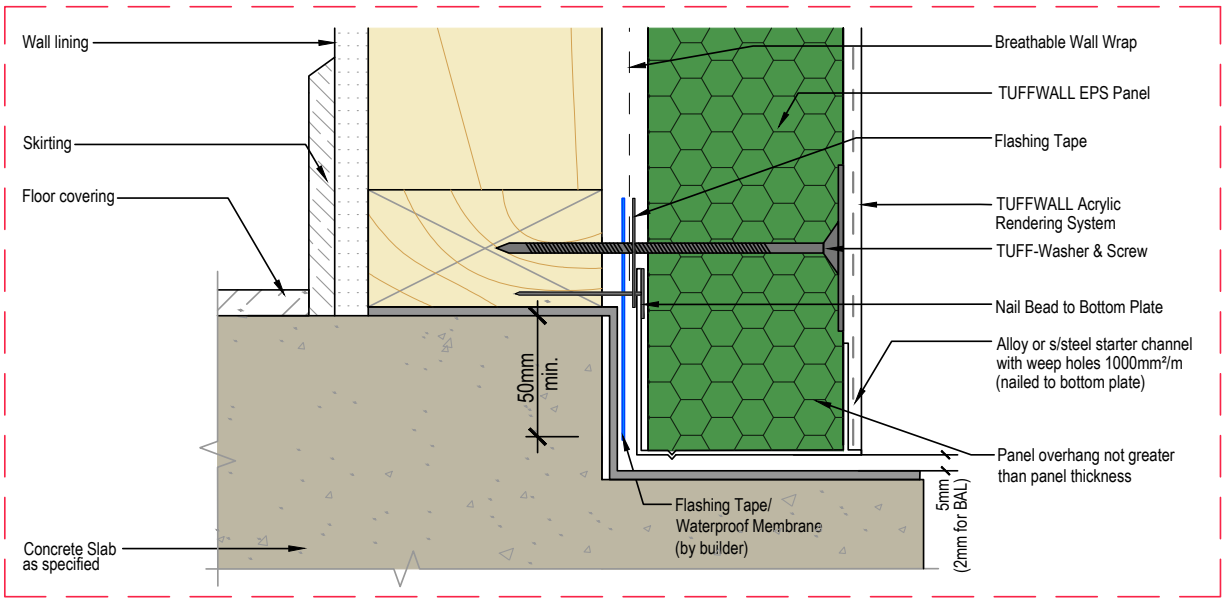
TYPICAL CONCRETE SLAB OVER EDGE DETAIL WITH PAVING

| Scale | Date | Version |
|---|---|---|
| AS SHOWN @ A4 | 15/07/2024 | 0 |

## 8.2.3 Concrete Slab Rebate Edge - Non-Cavity




TYPICAL CONCRETE SLAB OVER EDGE DETAIL scale 1:5

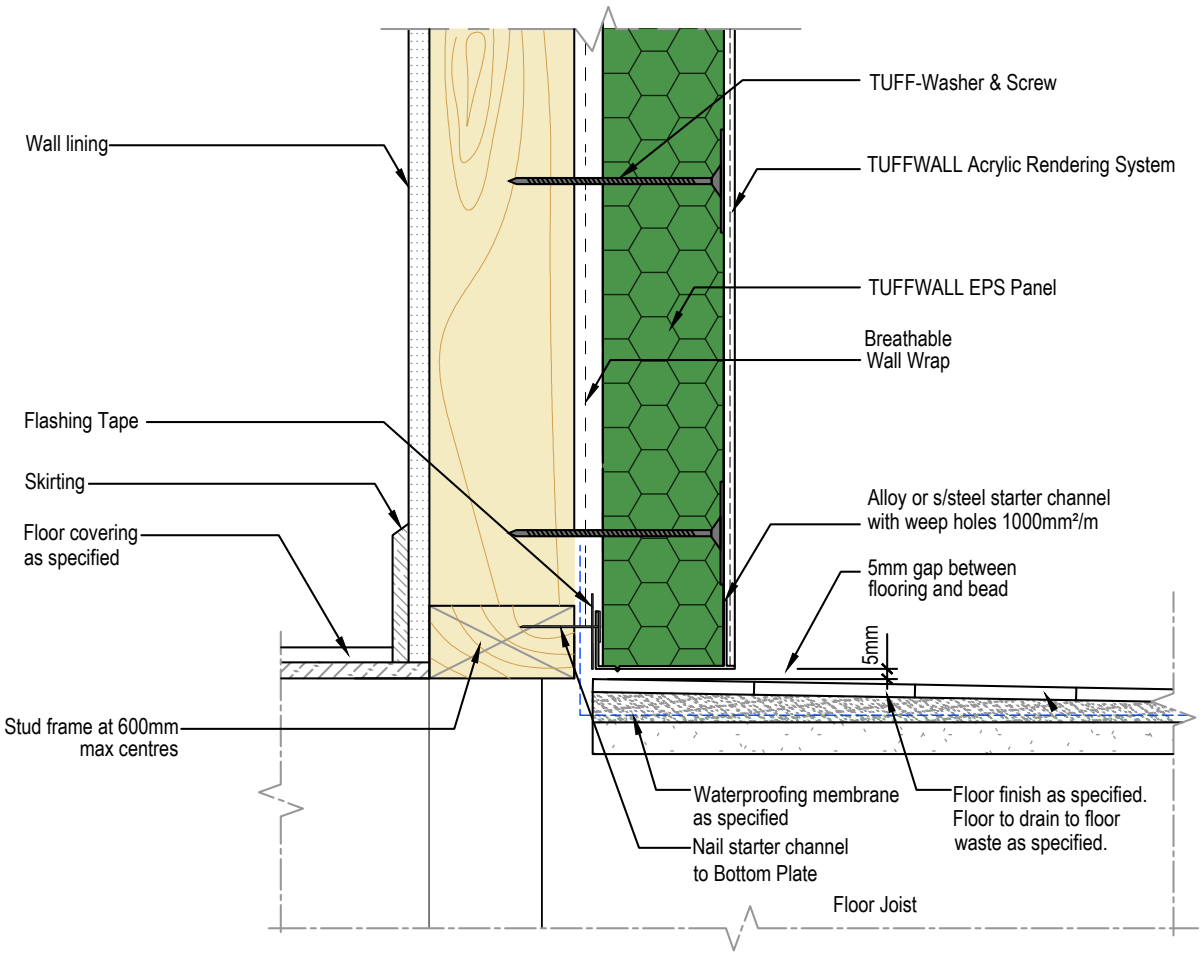



CALL OUT DETAIL scale 1:2.5

TUFF-004
TYPICAL CONCRETE SLAB OVER REBATE DETAIL

| Scale | Date | Version |
|---|---|---|
| AS SHOWN @ A4 | 15/07/2024 | 0 |

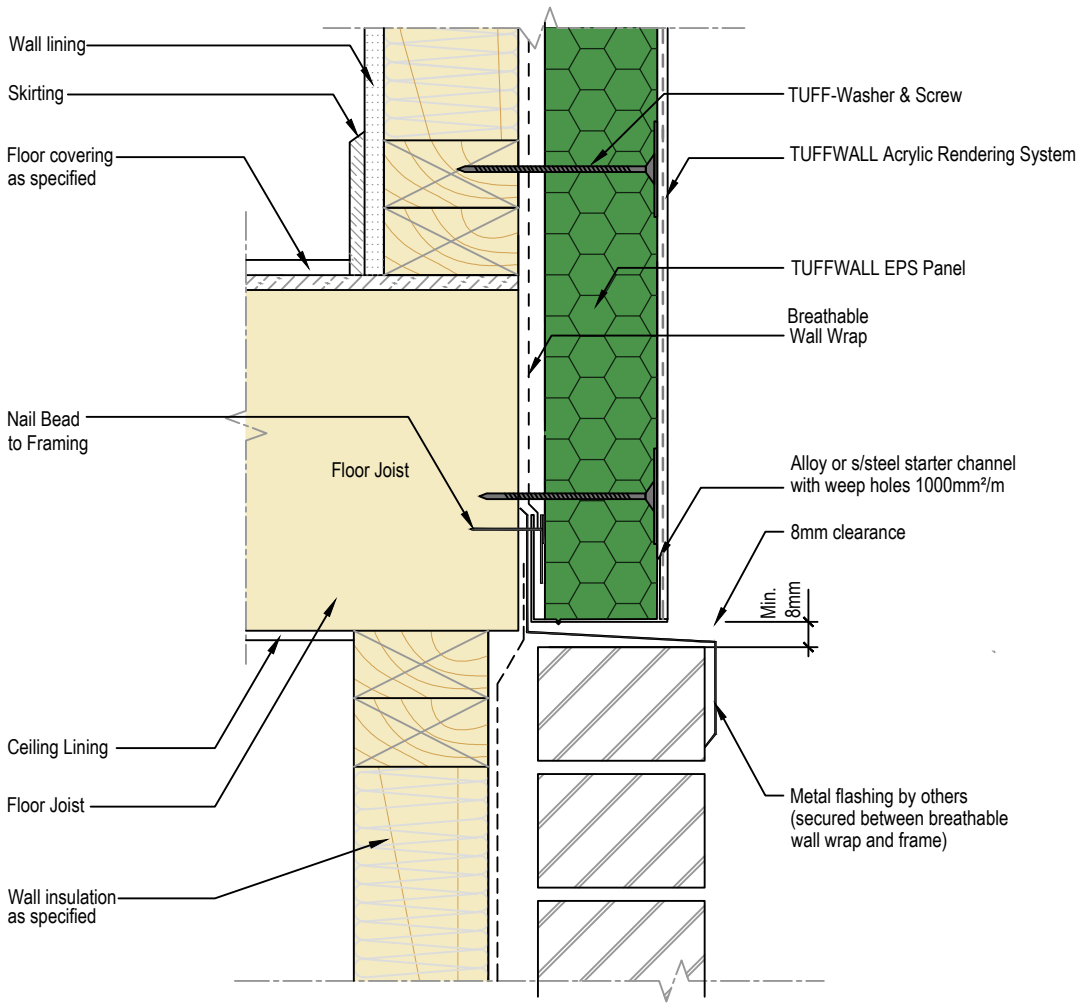
### 8.2.4 Wall to Balcony - Non-Cavity




TUFF-005
TYPICAL WALL TO BALCONY DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

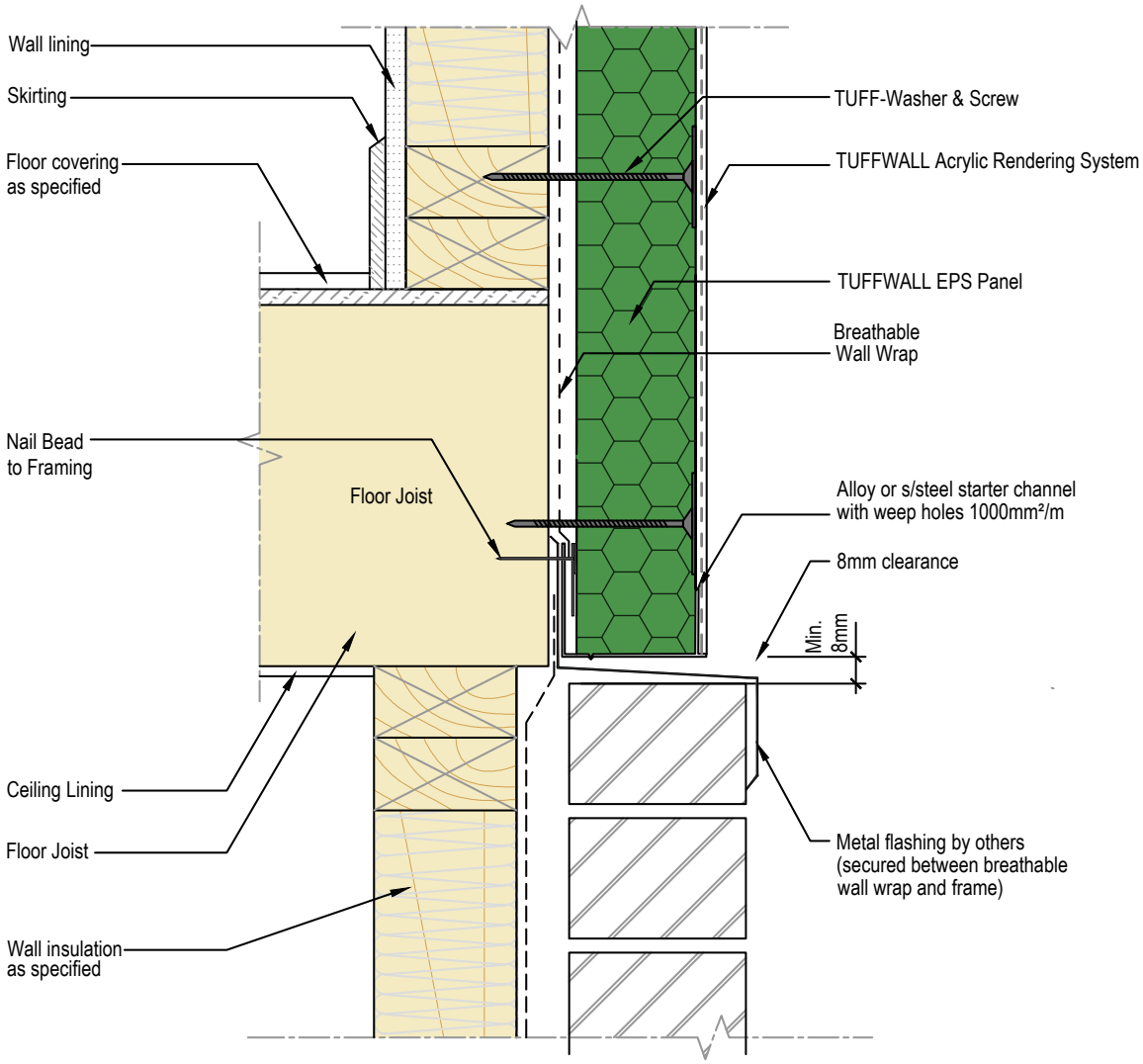
## 8.2.5 Panel Over Masonry Wall (Metal Flashing) - Non-Cavity




TUFF-006
TYPICAL PANEL OVER MASONRY WALL DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

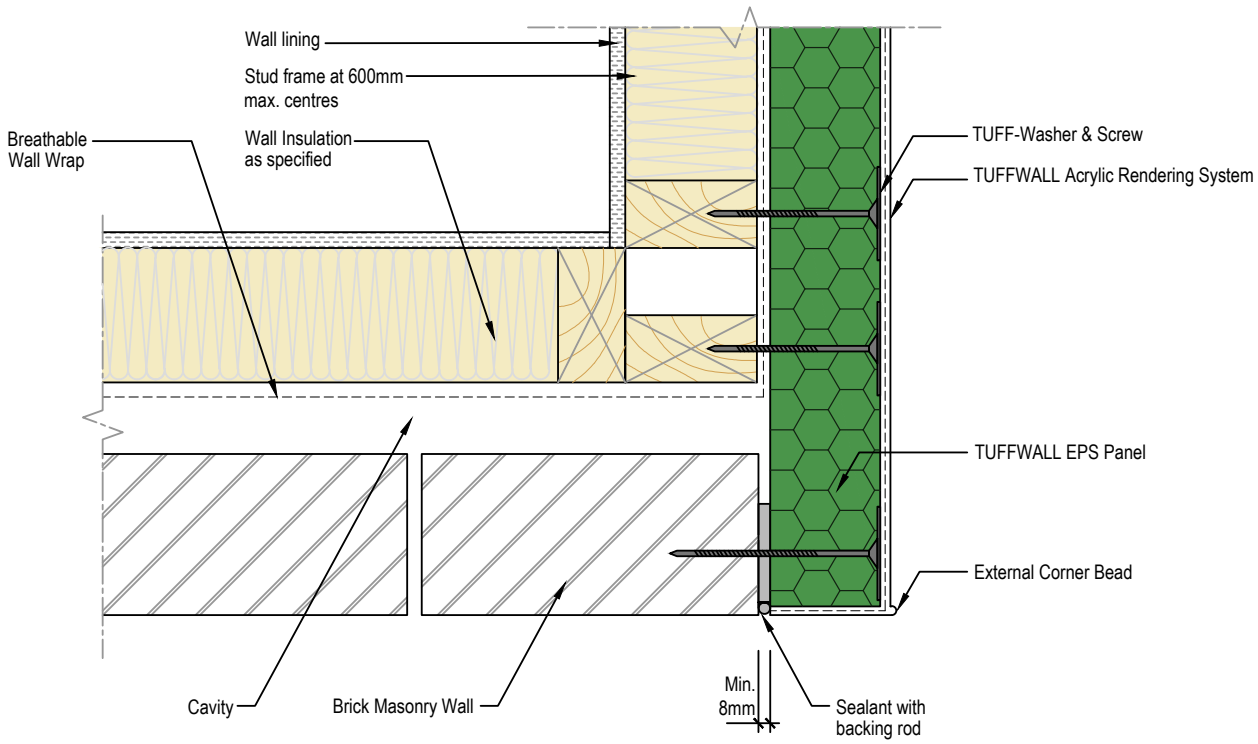
## 8.2.6 Panel Over Masonry Wall (Flush) - Non-Cavity




TUFF-006
TYPICAL PANEL OVER MASONRY WALL DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

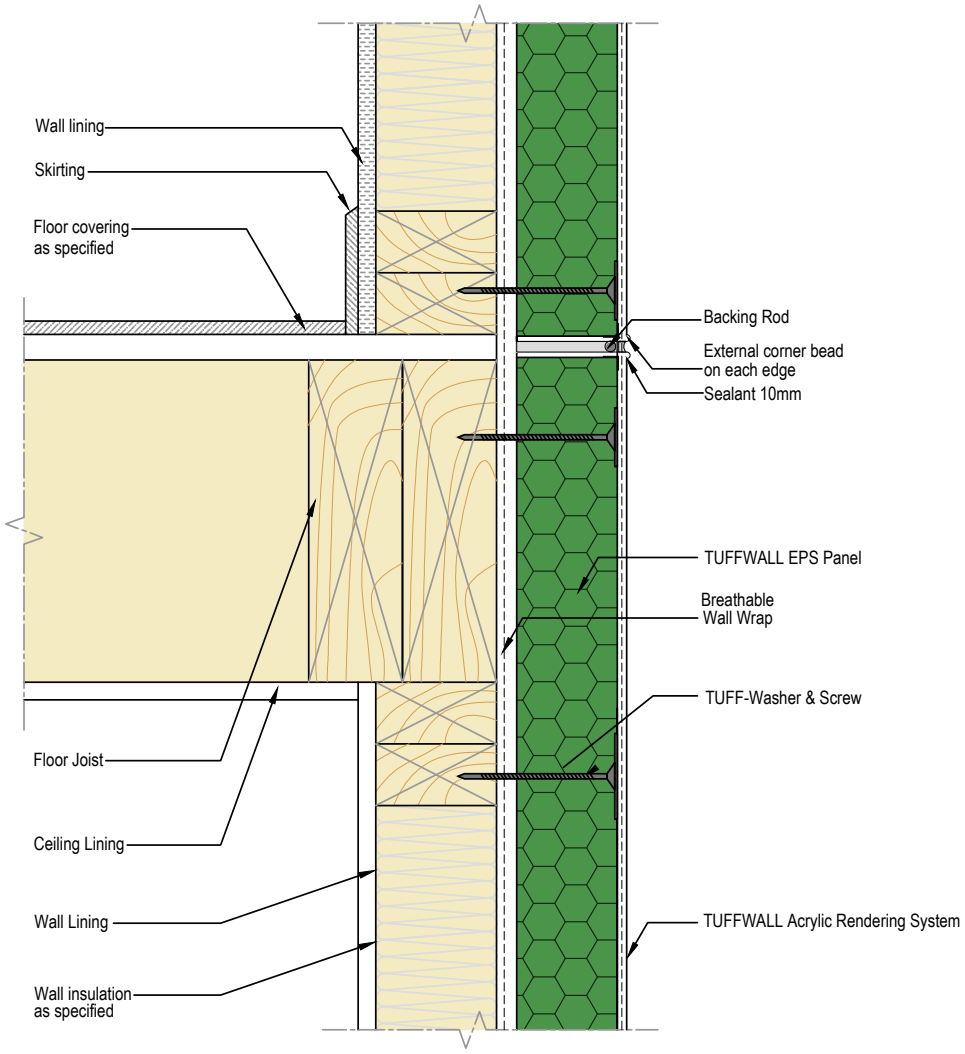
### 8.2.7 Junction to Masonry Wall - Non-Cavity



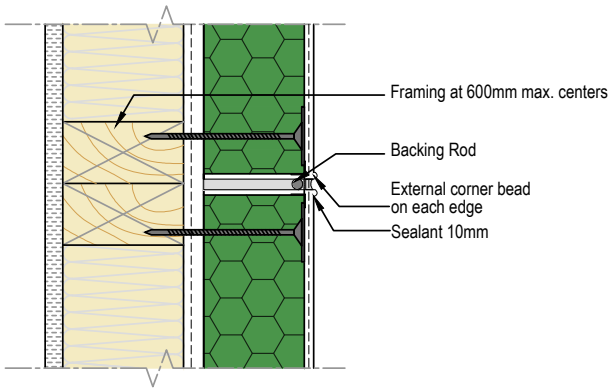

TUFF-007
TYPICAL PANEL JUNCTION TO MASONRY WALL DETAIL
PLAN VIEW

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

## 8.2.8 Horizontal Expansion Joint - Non-Cavity




HORIZONTAL EXPANSION JOINT (EXTERNAL CORNER BEADS ON EACH EDGE)

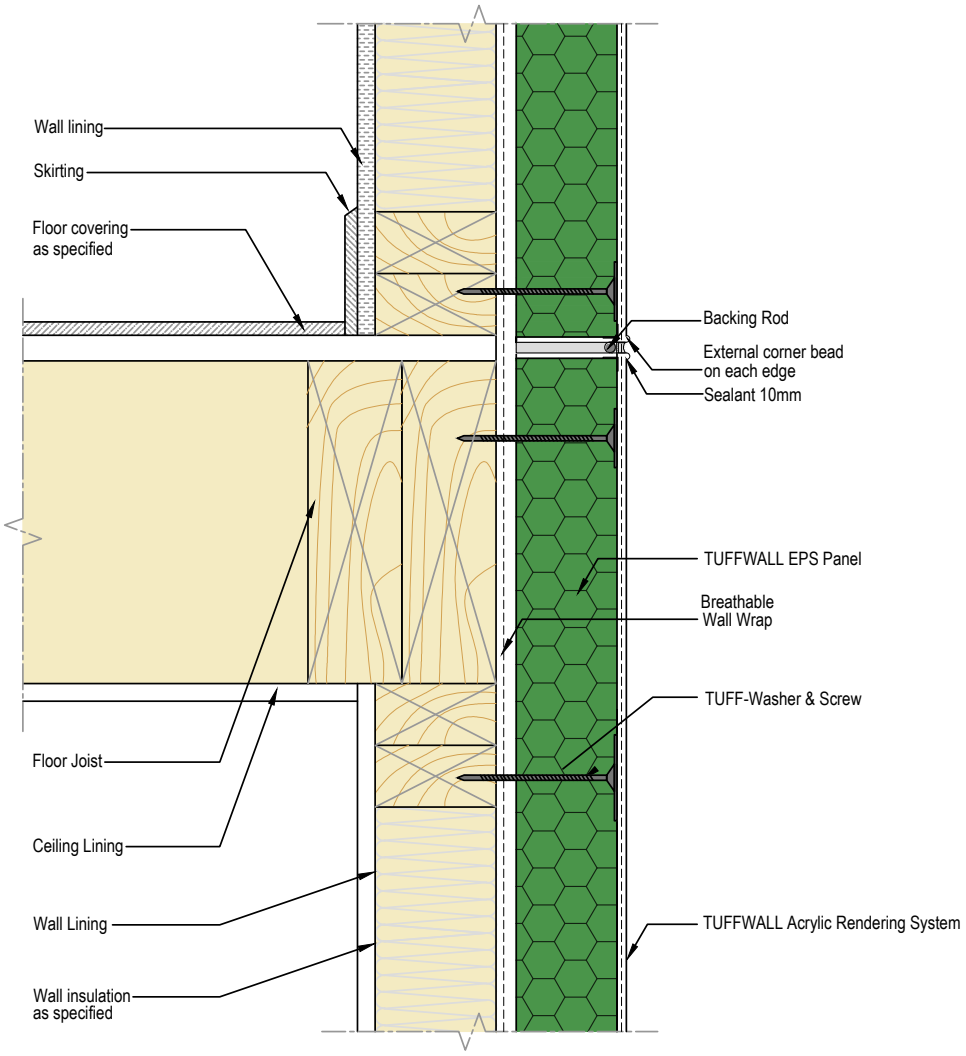



VERTICAL EXPANSION JOINT
(EXTERNAL CORNER BEADS ON EACH EDGE)

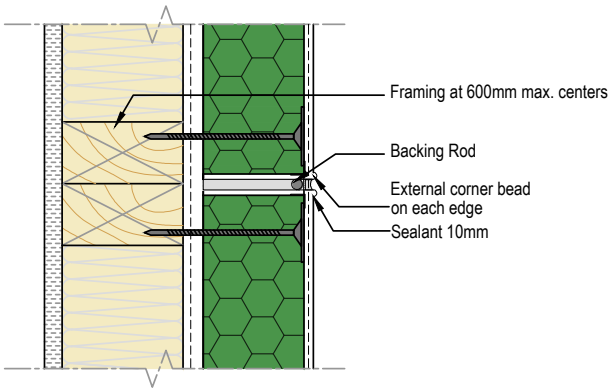
TUFF-008
TYPICAL HORIZONTAL_VERTICAL EXPANSION JOINT DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

## 8.2.9 Vertical Expansion Joint - Non-Cavity




HORIZONTAL EXPANSION JOINT (EXTERNAL CORNER BEADS ON EACH EDGE)

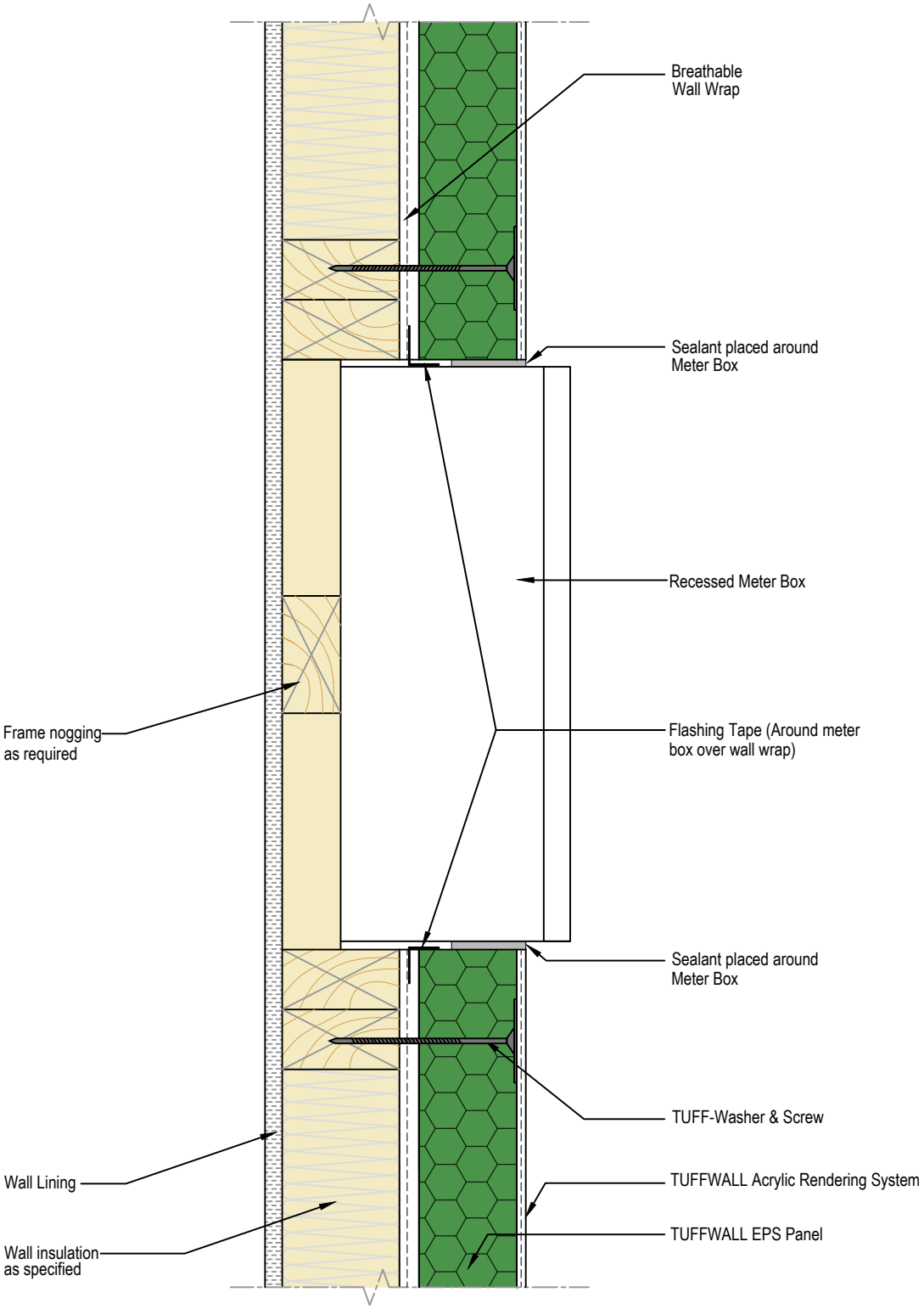



VERTICAL EXPANSION JOINT
(EXTERNAL CORNER BEADS ON EACH EDGE)

TUFF-008
TYPICAL HORIZONTAL_VERTICAL EXPANSION JOINT DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

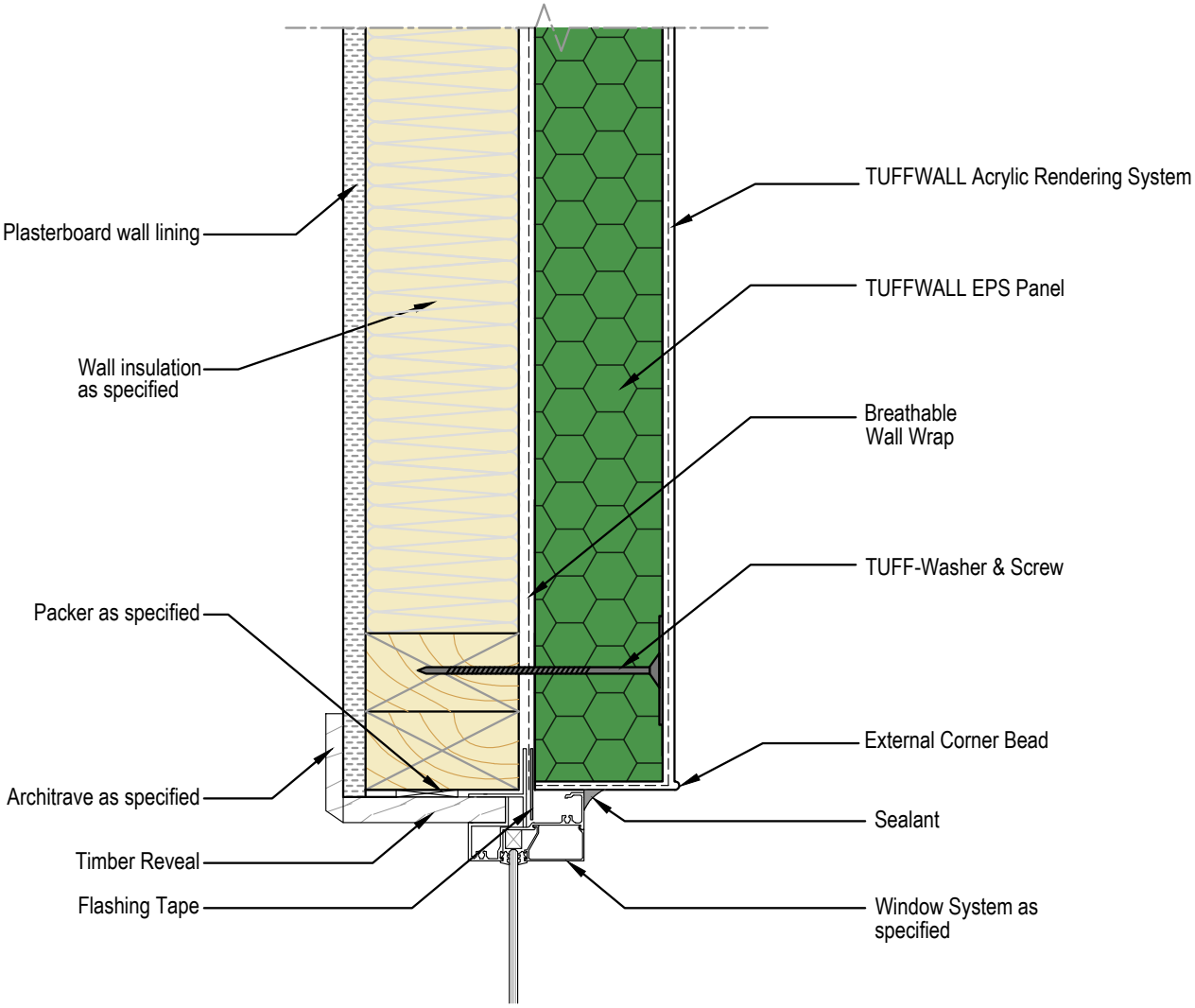
## 8.2.10 Meter Box Penetration - Non-Cavity




TUFF-009
TYPICAL METER BOX PENETRATION DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

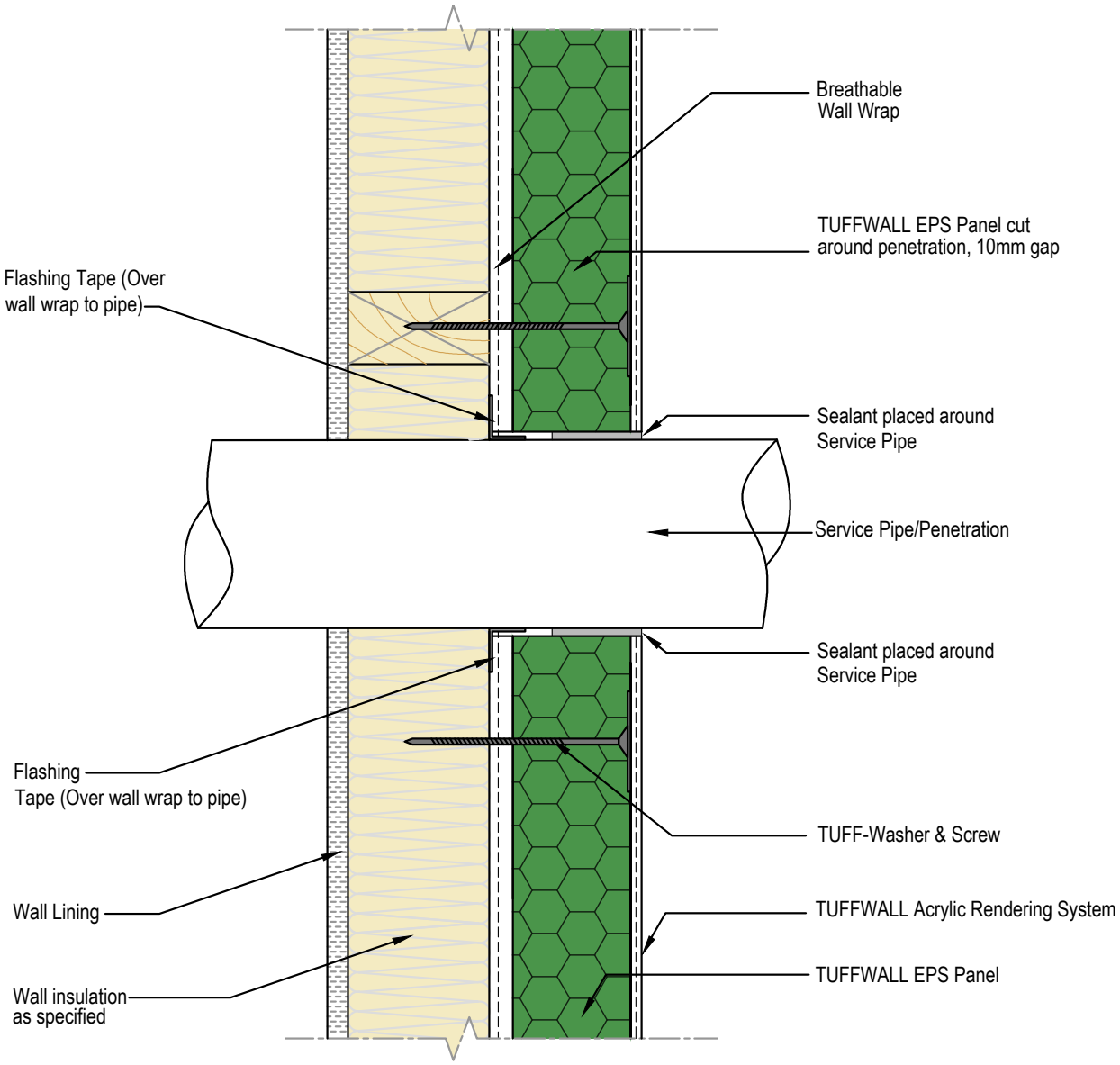
### 8.2.11 Window Jamb - Non-Cavity




TUFF-010
TYPICAL WINDOW JAMB DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

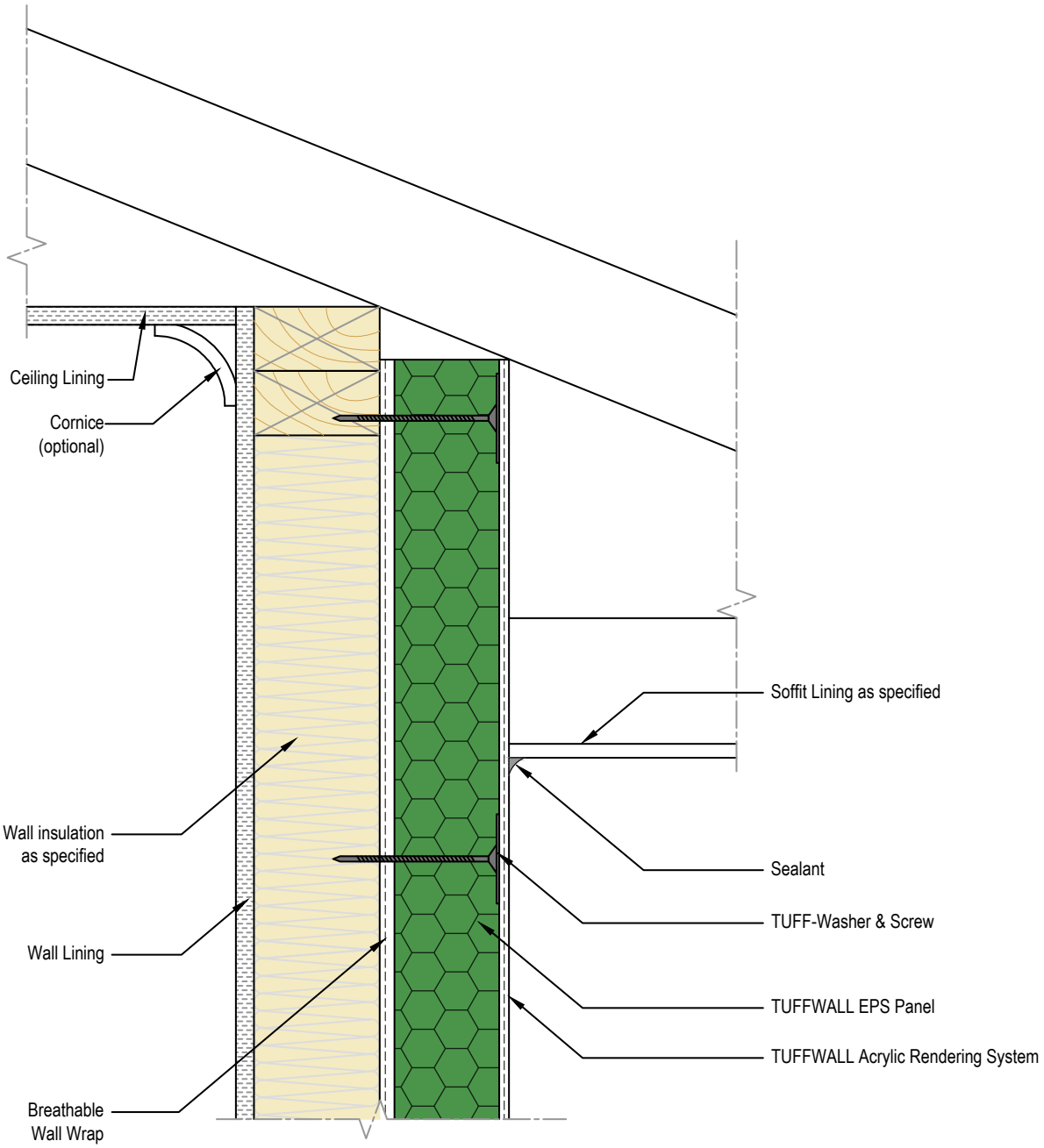
### 8.2.12 Service Penetration - Non-Cavity




TUFF-0011
TYPICAL SERVICE PENETRATION DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

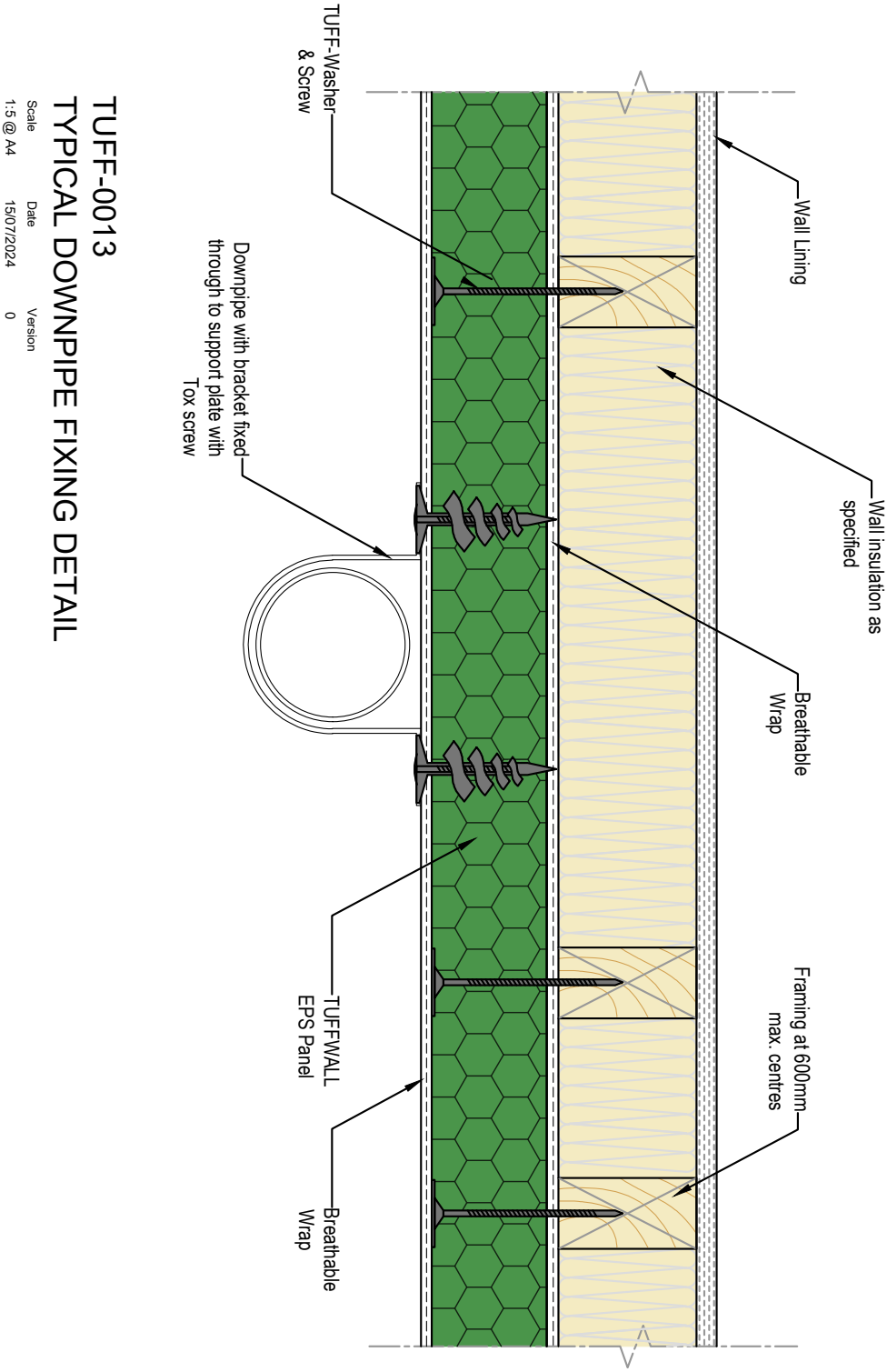
### 8.2.13 Eave Soffit - Non-Cavity




TUFF-0012
TYPICAL EAVE SOFFIT DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

## 8.2.14 Downpipe Fixing - Non-Cavity




TUFF-0013

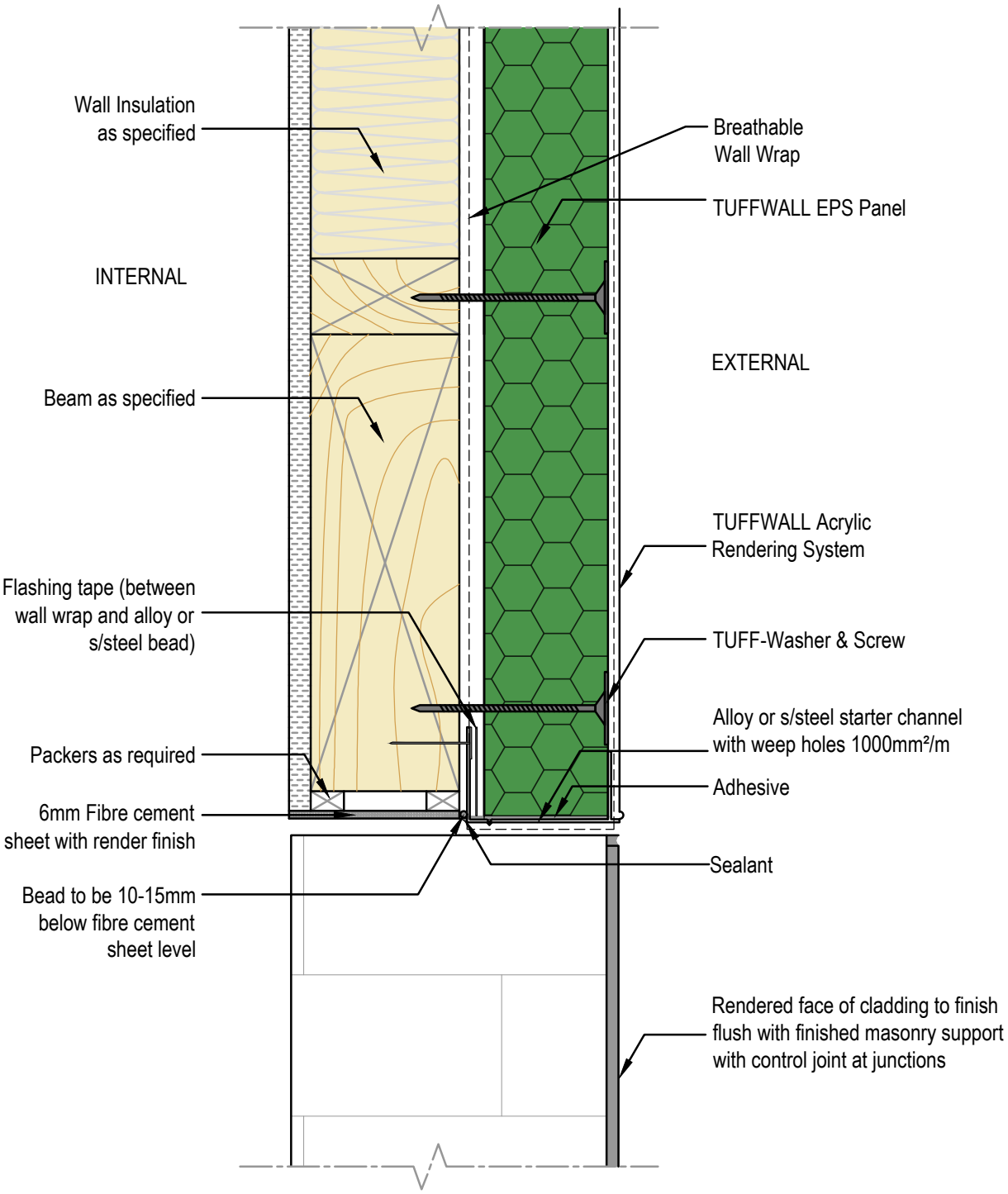
TYPICAL DOWNPIPE FIXING DETAIL

Scale 1:5 @ A4

Date 15/07/2024

Version 0

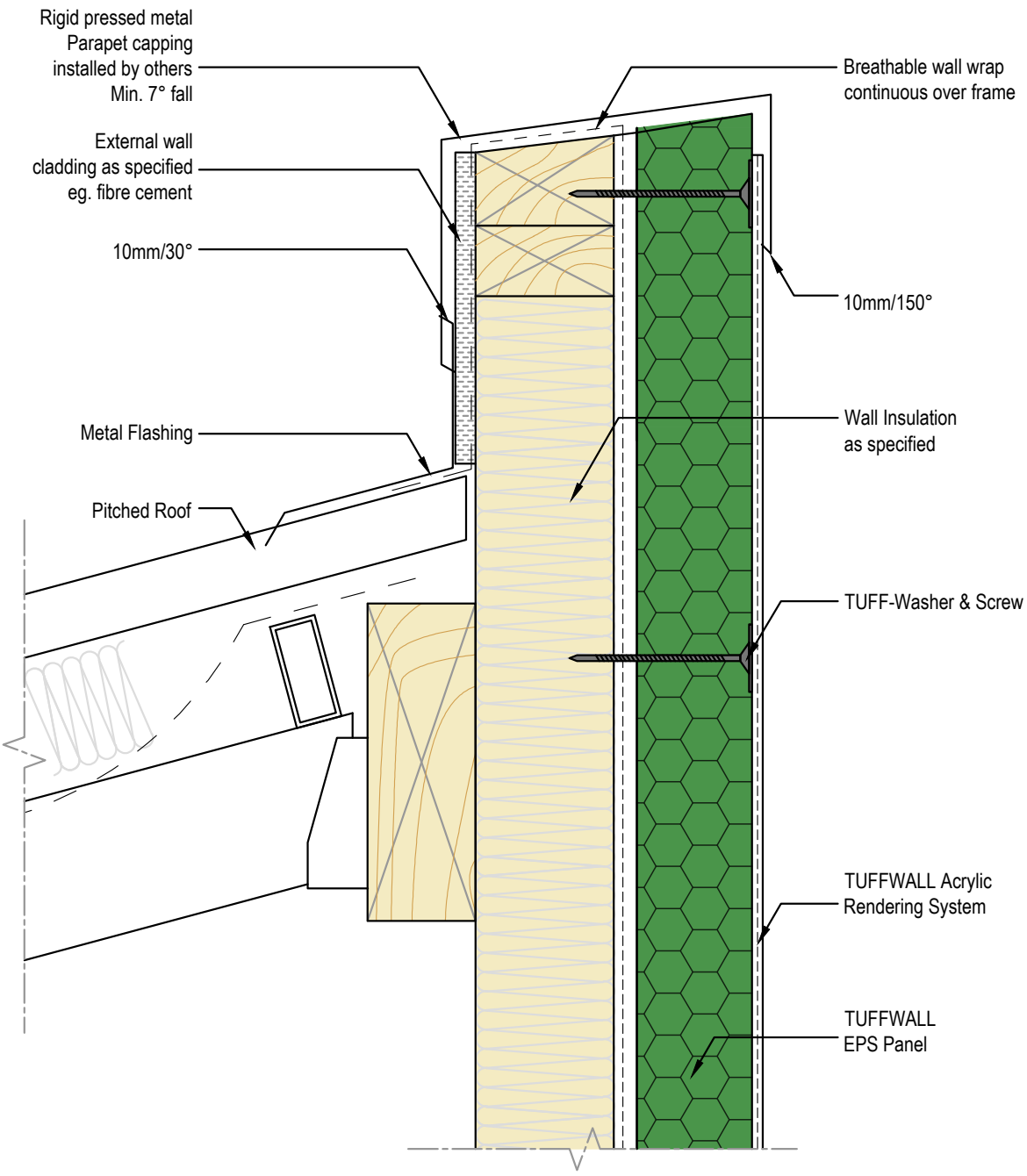
## 8.2.15 Garage / Bulkhead / Overhang / Drip - Non-Cavity




# TUFF-0014
# TYPICAL GARAGE/BULKHEAD/OVERHANG DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

## 8.2.16 Metal Capping Parapet Wall to Roof - Non-Cavity

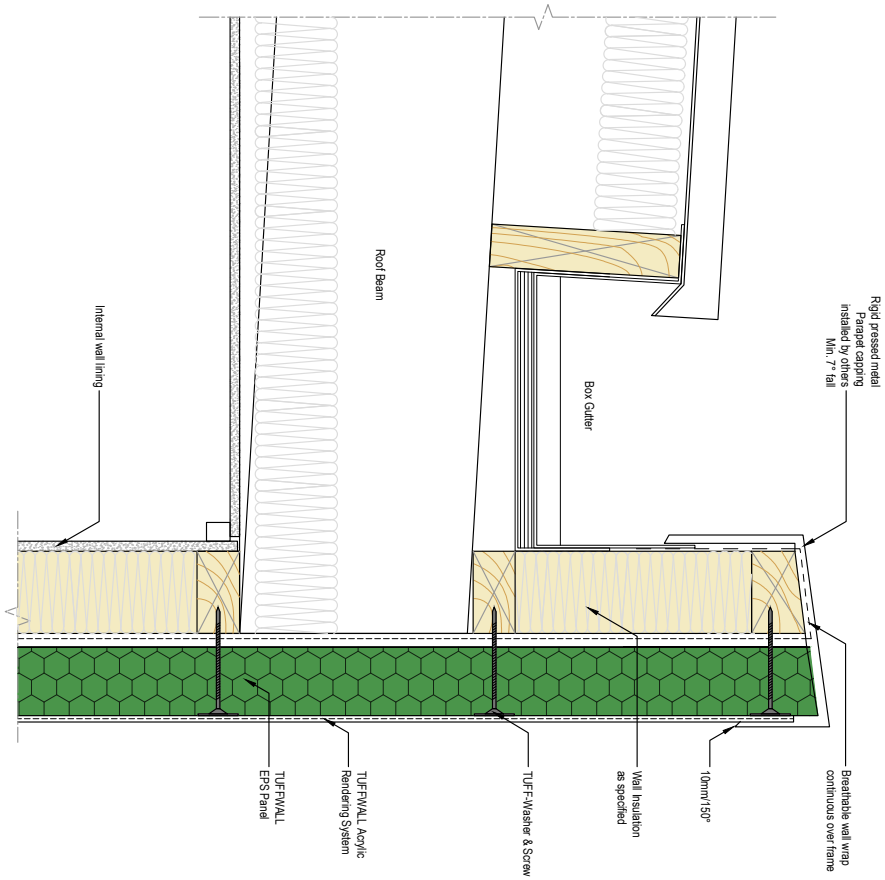



TUFF-0015

TYPICAL METAL CAPPING PARAPET WALL TO ROOF DETAIL

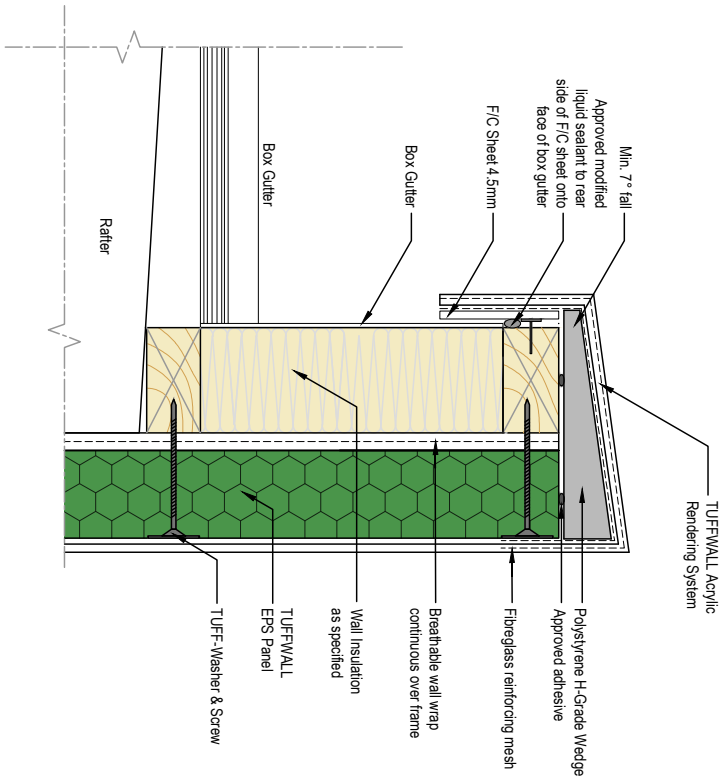
| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

## 8.2.17 Metal Capping Parapet Wall to Box Gutter - Non-Cavity




TUFF-0015a
TYPICAL METAL CAPPING PARAPET WALL TO ROOF WITH BOX GUTTER DETAIL

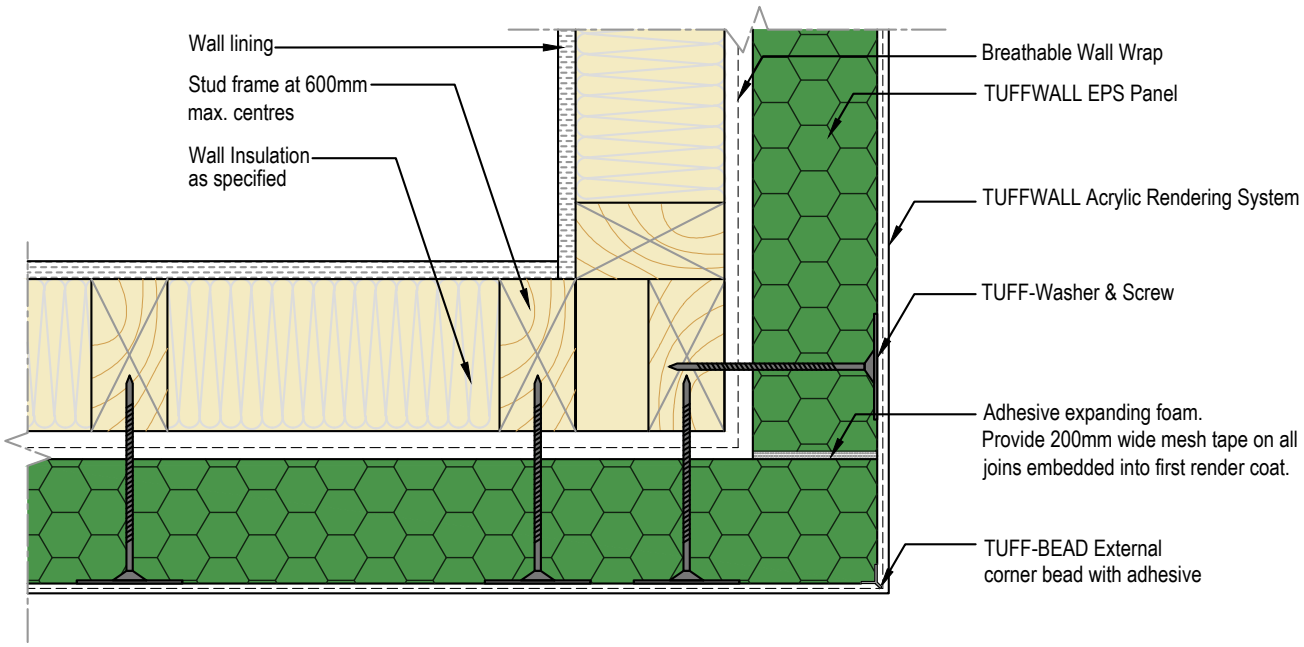
Scale 1:5 @ A4 | Date 15/07/2024 | Version 0




TUFF-0015b
TYPICAL METAL CAPPING PARAPET WALL TO ROOF WITH BOX GUTTER DETAIL

Scale 1:5 @ A4 | Date 15/07/2024 | Version 0

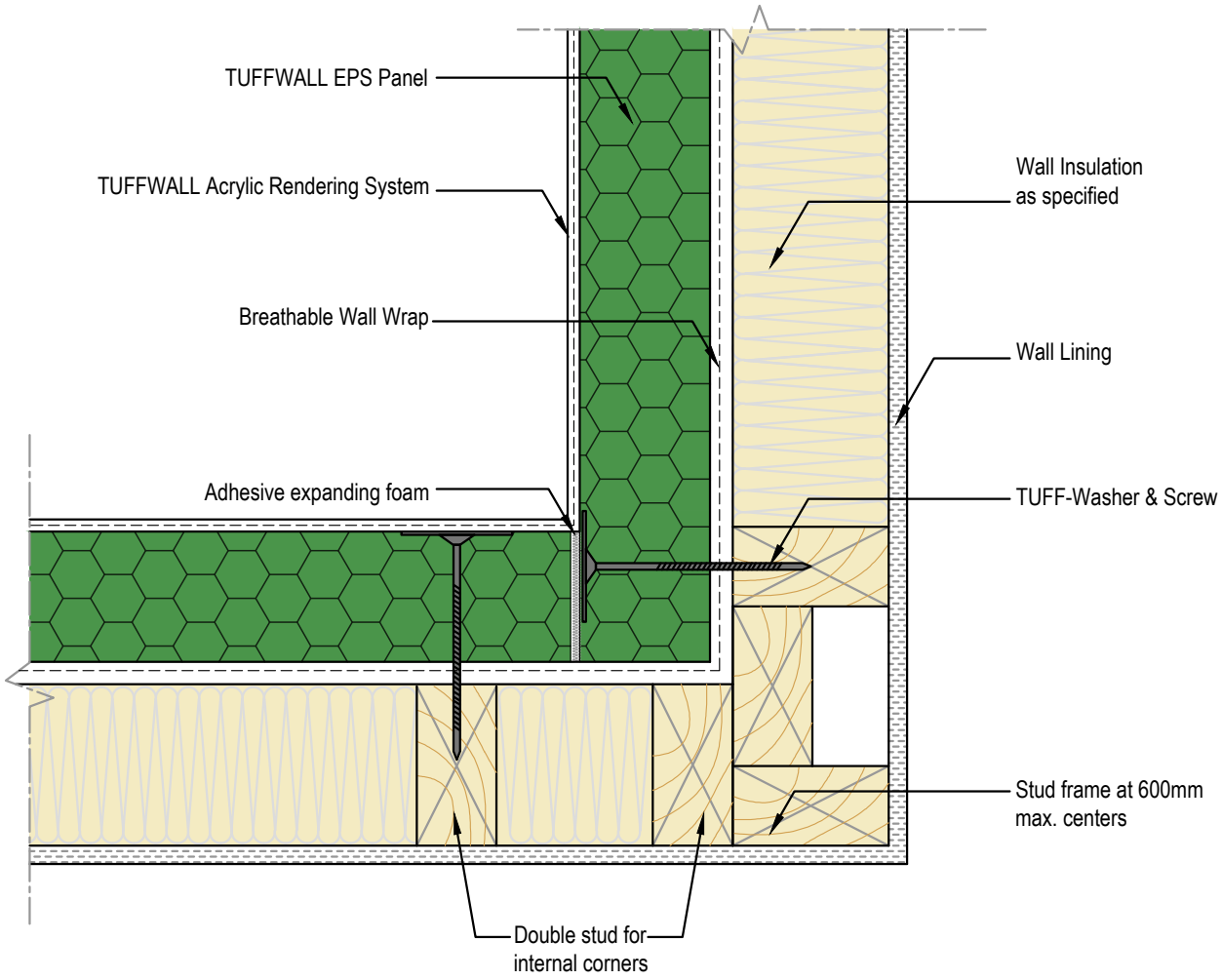
### 8.2.18 External Corner - Non-Cavity




TUFF-0016
TYPICAL EXTERNAL CORNER DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

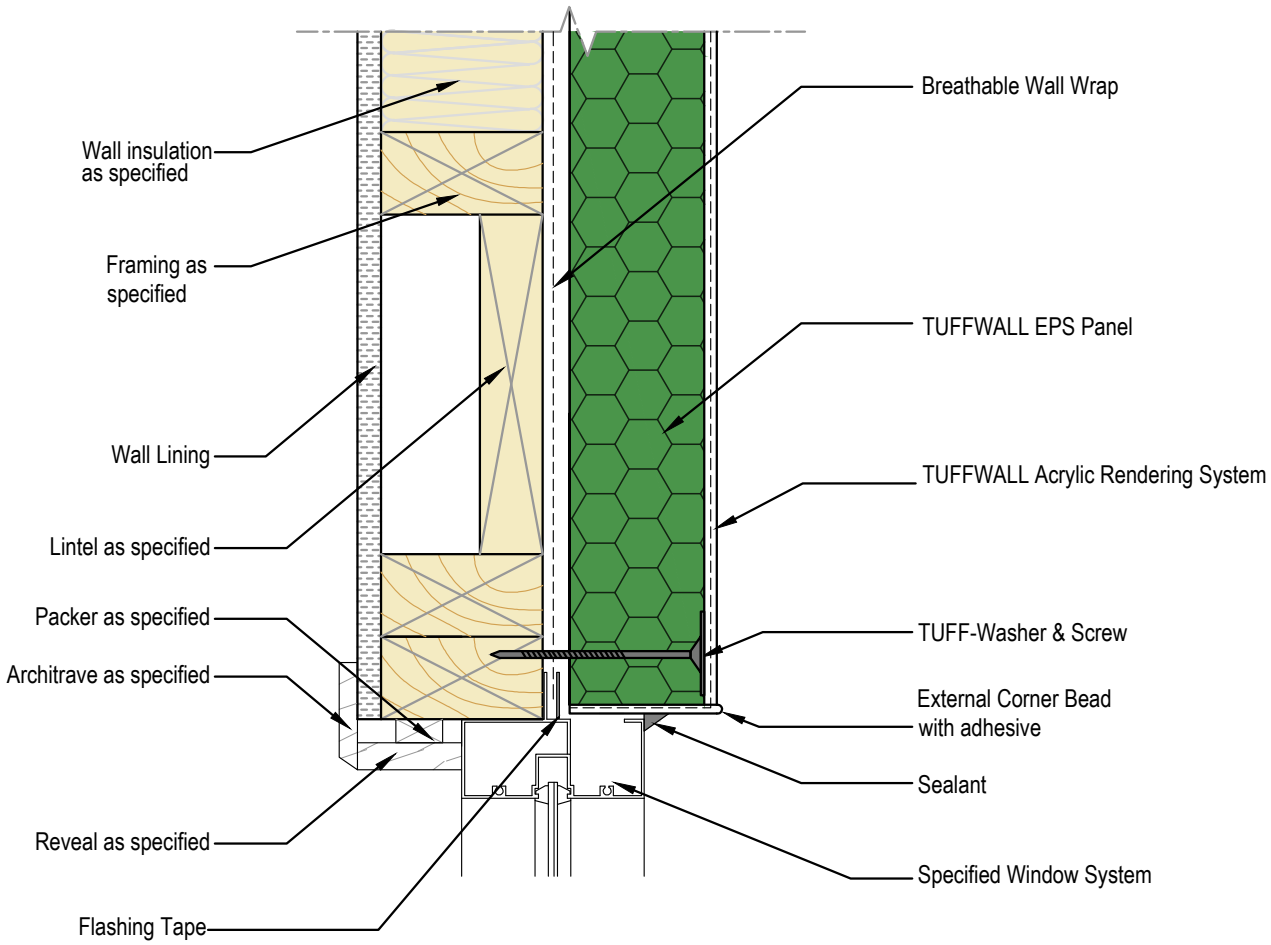
### 8.2.19 Internal Corner - Non-Cavity




TUFF-0017
TYPICAL INTERNAL CORNER DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

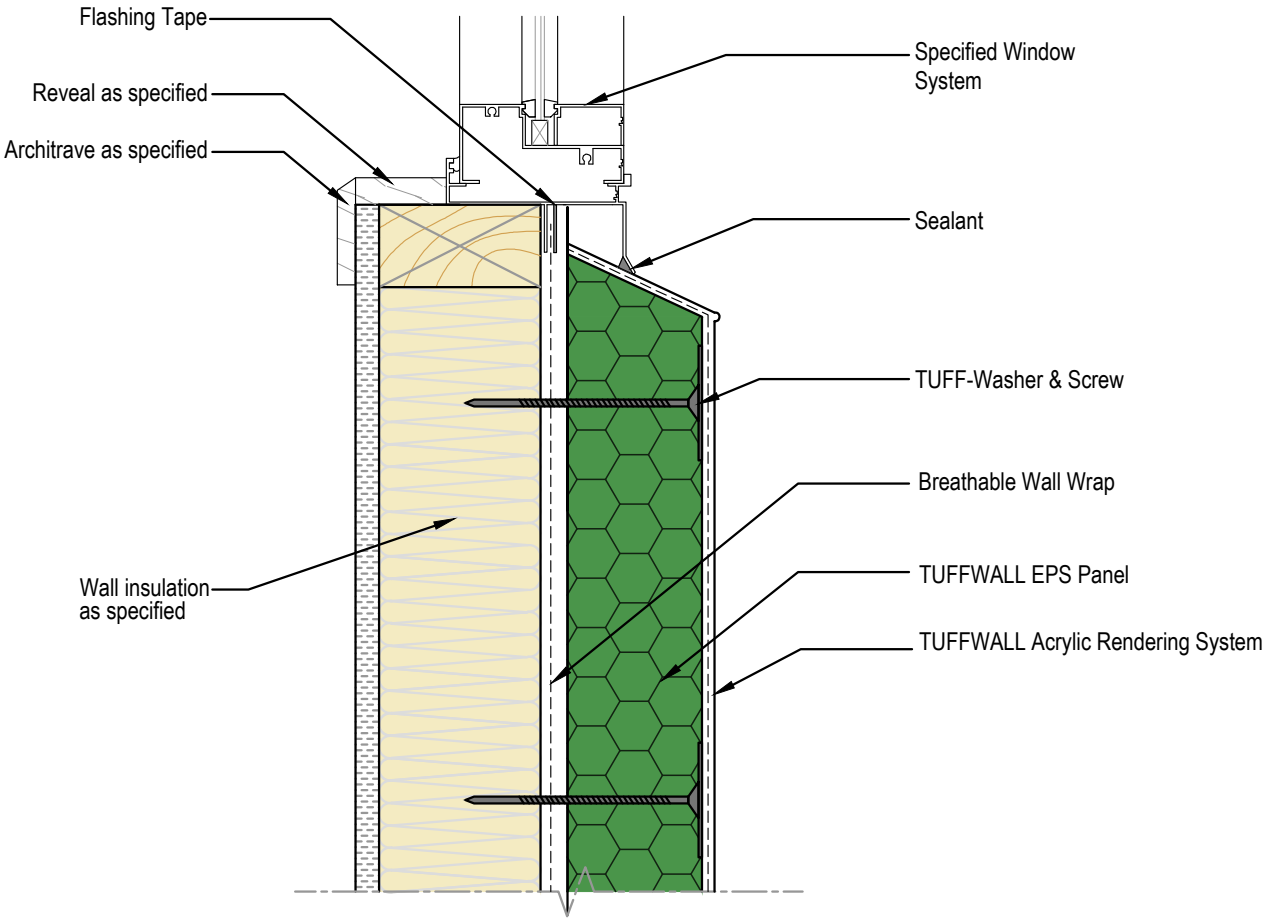
### 8.2.20 Window Head - Non-Cavity




TUFF-0019
TYPICAL WINDOW HEAD DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

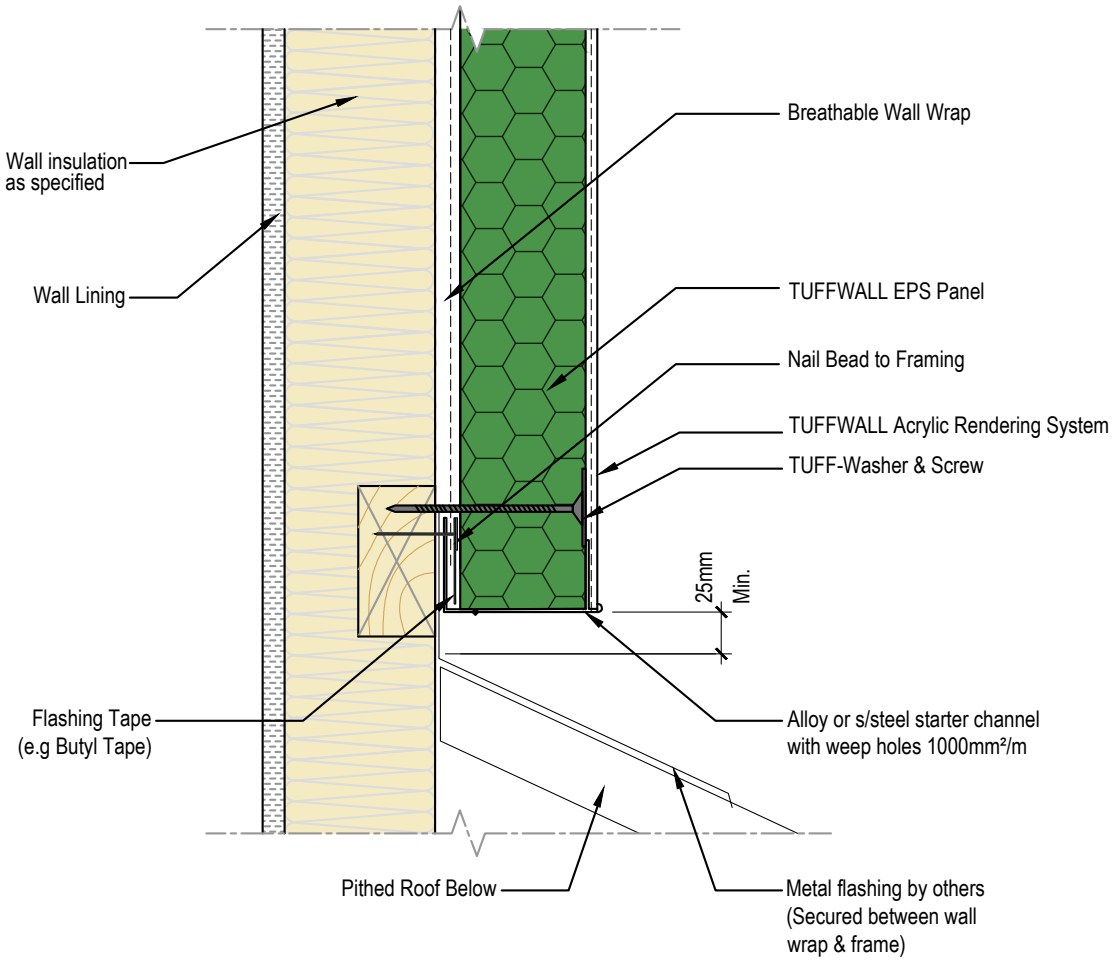
### 8.2.21 Window Sill - Non-Cavity




TUFF-018
TYPICAL WINDOW SILL DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

### 8.2.22 Wall Over Roof - Non-Cavity



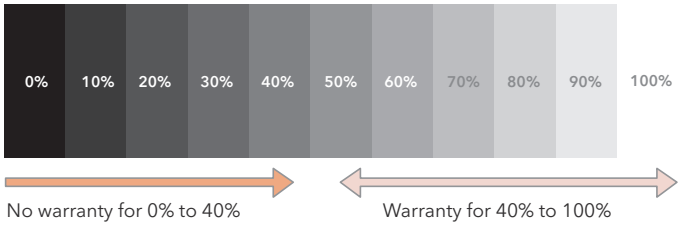

TUFF-020
TYPICAL WALL OVER ROOF DETAIL

| Scale | Date | Version |
|---|---|---|
| 1:5 @ A4 | 15/07/2024 | 0 |

# 9 WARRANTY & LIABILITY

## 9.1 WARRANTY

| Warranty & LRV | | | | | |
|---|---|---|---|---|---|
| | | | WARRANTY (Years) | LRV (Range applicable for warranty) | CONDITIONS (if applicable) |
| TUFFTEX | **TUFFTEX TEXTURE & SPECIALTY FINISHES** | | | LRV 40-100 | |
| | TUFFTEX TEXTURE PRODUCTS (Coarse, Graff etc) | | 7 | | Annual inspection |
| | TUFFTEX TEXTURE PRODUCTS (with TUFFSHIELD Exterior Paint applied) | | 12 | | Minimum 2 coats TUFFSHIELD Exterior Paint |
| | TUFFTEX VENETIAN PLASTER | | 7 | | Annual Inspection & re-seal if required |
| | TUFFTEX POLISHED PLASTER | | | | |
| | TUFFSHIELD Exterior Paint | | 5 | | Minimum 2 coats |
| | TUFFSHIELD Elastomeric Membrane EM Paint | | | | |
| | | | | | |
| | **TUFFMOULDINGS** | | | | |
| | TUFFmouldings - Liteweight | | 5 | LRV 40-100 | |
| | TUFFmouldings - Designer Series | | | | |
| | | | | | |
| | **TUFFWALL** | | | | |
| | TUFFWALL / Texture | 1. Joints -TUFFWALL RENDER BASE COAT | 7(12*) | LRV 40-100 | *apply 2 coats of TUFFSHIELD Exterior Paint for extra 5 years warranty |
| | | 2. Skimcoat -TUFFWALL RENDER | | | |
| | | 3. TUFFTEX QUARTZ Primer | | | |
| | | 4. COARSE Texture | | | |
| | | 5. TUFFSHIELD Exterior Paint (optional - see note) | | | |
| | TUFFWALL / Polished Plaster | 1. Joints -TUFFWALL RENDER BASE COAT | 7 | LRV 40-100 | |
| | | 2. Skimcoat -TUFFWALL RENDER | | | |
| | | 3. TUFFTEX QUARTZ Primer | | | |
| | | 4. TUFFTEX POLISHED PLASTER system incl 2 coats of Silicone Sealer | | | |
| NOTE: For any colours with LRV below 40, no colour warranty applies unless top coated with two coats of TUFFSHIELD Exterior Paint. | | | | | |




Information on TUFFWALL Insulated Wall System can be found at:
www.tuffwall.com.au

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INSULATED
WALL SYSTEM

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**contact@tufftex.com.au**
**tufftex.com.au**