

TECHNICAL MANUAL



PSP

LIMITED

PSP ALPOLIC[®]/fr CLADDING SYSTEM



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PSP ALPOLIC®/fr CLADDING SYSTEM

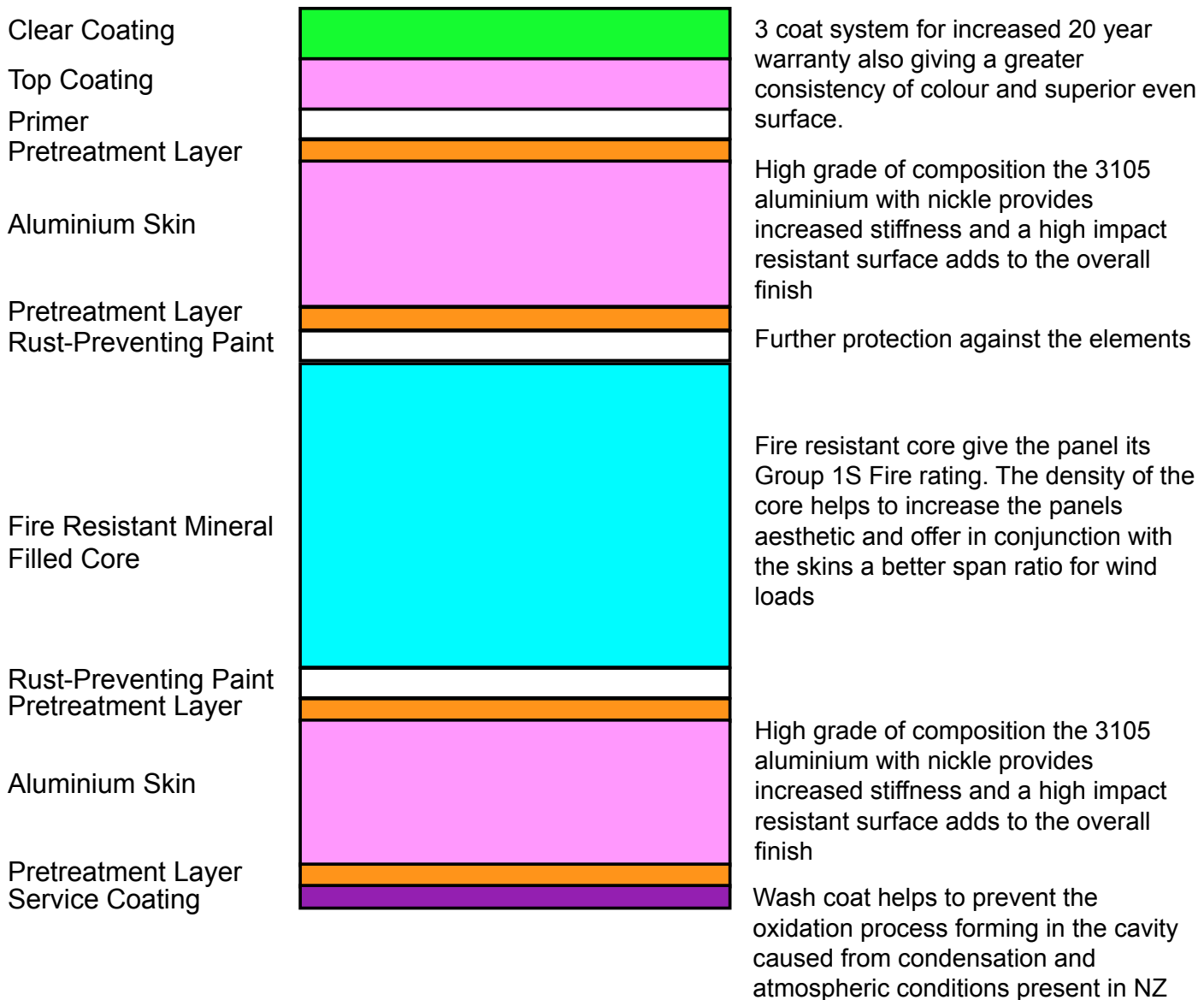
1. GENERAL DESCRIPTION

PSP ALPOLIC®/fr is an aluminium composite material (ACM) with a Fire Resistant mineral filled core. It is suitable for use for:

- Commercial, High Rise and curtain wall cladding
- Corporate Signage
- Fascia
- Fire-rated Wall linings
- Fire-rated Ceiling linings
- Feature Walls

ALPOLIC®/fr is coated with Lumiflon FEVE Polymer (CFTE) paint with a 20 year warranty for applications further than 1 km from the ocean and 15 years for closer to water applications.

ALPOLIC®/fr



2. COMPLIANCE WITH THE BUILDING CODE

ALPOLIC®/fr when used as part of the PSP ALPOLIC®/fr Cladding System is CodeMark certified, confirming that the product has guaranteed acceptance by the regulatory bodies. Any building consent authority must accept a Codemark™ certified product or system, as long as it is used within the conditions and limitations of its certificate of conformity.

3. COMPLIANCE OF SCOPE

The PSP ALPOLIC®/fr Cladding System, if designed used and installed and maintained in accordance with this Technical Manual and Details, will meet or contribute to the following provisions of the New Zealand Building Code (NZBC)

Clause B1 - Structure:

Clause B2 – Durability:

Clause C3.4 (a) -

Clause C3.5 and C3.7 (b) and (c)

Clause F2.3.1, F2.3.3(a) and (b)

Clause E23.2, E2.3.5 and E2.3.7 (a, b, c)

3.1 CLAUSE B1 STRUCTURE

PSP ALPOLIC®/fr Cladding System (PACS), including their fixings, is able to withstand all wind loadings and earthquake zones in all areas of New Zealand in accordance with NZS 3604:2011;

3.2 CLAUSE B2 DURABILITY

When installed in accordance with this technical manual, the PACS meet the requirements of NZBC Clause B2.

When fixed in accordance with this technical manual, the PACS fixings meet the requirements of NZBC Clause B2.

The Lumiflon-based fluorocarbon paint system (ALPOLIC®/fr) is known for its high durability. The PACS meets the requirements of NZBC B2 relating to the resistance of all kinds of weathering attack, provided the integrity of the specified external system.

3.3 CLAUSE E2 EXTERNAL MOISTURE

The PACS, when installed in accordance with technical Literature, will prevent the penetration of water that could cause undue dampness and/or damage to building elements and will therefore comply with clause E2.3.2.

3.4 CLAUSE F2 HAZARDOUS BUILDING MATERIALS

In reference to NZBC Clause F2 regarding Hazardous Building Materials, PSP panels installed in the PACS are non-hazardous, and will not present a health hazard to people.

4. DESIGN REQUIREMENTS

The PSP ALPOLIC®/fr Cladding System is certified for use as a non-load bearing, internal lining or external cladding system on new and existing buildings and the scope of use is defined as:

- a) Buildings which fall under the New Zealand Building Code acceptable solutions C/AS1 to 6 and for verification method C/VM2 for buildings with an importance level not greater than 3.
- b) Buildings constructed with timber framing, or timber framing infill complying with NZBC. This does not limit the panel being fixed to steel framing, concrete or concrete masonry.
- c) Buildings subject to maximum wind pressures for weather-tightness design of 2.5kPa Ultimate Limit State (ULS).
- d) Buildings where the cavity is drained and ventilated at least at every second floor level-or 10m height, whichever is the lesser.

Compliance with B2.3.1. (b) for a 15 year period where the building is within a 1 km distance from the sea, otherwise for a 20 year period.

Compliance with C3.4 (a) is applicable where a Group 1-S rating is permitted.

Compliance with C3.5 and C3.7 (b) and (c) includes buildings greater than 10m in height and less than 1m in distance to the boundary provided the building is designed by a suitably qualified engineer in accordance with AS/NZS 1170.

The compliance requirements of the wall the PSP ALPOLIC®/fr Cladding System is attached to is outside the scope of this technical manual, including fire resistance, acoustics and energy efficiency.

Weather tightness details which are developed by the designer outside the scope of this technical manual are the responsibility of the designer for compliance with the NZBC. Significant acceleration of corrosion can occur due to industrial contamination and corrosive atmospheres and contamination from agricultural chemicals and fertilisers. Specific Engineering Design is required under these micro climatic conditions.

5 CONSTRUCTION REQUIREMENTS

- a) The PSP ALPOLIC[®]/fr Cladding System must be installed by an installer approved by PSP Limited.
- b) The wall structure to which the Cladding System is attached to must be able to support the intended building work as designed by suitably qualified engineers and must not be subjected to wind loads exceeding ULS 2.5kPa. Supporting substrates may be timber or steel framing, concrete or concrete masonry.
- c) Vertical compartmentalisation with airtightness exceeding 0.1 MNs/m³ is required of the cladding cavity within 500mm of every corner, at 2m centres after that, to a maximum of 5m centres where cladding panels are located further than 2.5m from any edge of the cladding, or areas where airflows are interrupted.
- d) A building with wind exposure of less than 1.1 kPa ULS must have a building wrap complying with NZBC Clause E2/AS1 Table 23, or a rigid air barrier (RAB)
- e) A building with any exposure to wind above 1.1 kPa ULS must have building wrap or a rigid air barrier that has an airflow resistance of greater than 0.1 MNs/m³.
- f) A building with exposure on any part of its face above a 1.55 kPa ULS must use a RAB as the backing for a cavity.
- g) The installation must be carried out in accordance with the PSP ALPOLIC[®]/fr technical literature.

6 MAINTENANCE REQUIREMENTS

Regular maintenance is essential to maximise the serviceable life of the PSP ALPOLIC[®]/fr Cladding system.

An inspection of PSP ALPOLIC[®]/fr Cladding system installations should be undertaken at least annually to determine the condition of the whole building. Items to be checked include, but are not limited to:

- a) Dirt - any accumulation of dirt should be washed from the surface of the panels.
- b) Scratches and Dents - these need to be identified and repaired.
- c) Joint Sealant - identify any failures and repair

7. WARRANTY

The manufacturer of the ALPOLIC[®]/fr ACM panels provides a minimum of 15 years warranty (from date of completion) when the panel forms part of the PSP ALPOLIC[®]/fr cladding system closer than 1 km from the ocean.

The manufacturer of the ALPOLIC[®]/fr ACM panels provides a minimum of 20 years warranty (from date of completion) when the panel forms part of the PSP ALPOLIC[®]/fr cladding system further than 1 km from the ocean.

PSP Limited warrant the PSP ALPOLIC[®]/fr Cladding System for not less than 15 years provided it is installed in accordance with the most current PSP technical literature.

8. NOMINATED SYSTEM REQUIREMENTS

a) ALPOLIC®/fr ACM Panels

Sizes available: 2489mm x 1575mm, 3099mm x 1270mm, 3099mm x 1575mm & 4000mm x 1575mm

Colours Available: White M9010, Black MJ062, Charcoal M7991, Silver Metallic M9170, Dark Grey Metallic MB106, Champagne Metallic M9177, Medium Bronze Metallic M9221, Galaxy Metallic BF7542, Sparkling White MD046, Sparkling Black MD044, Sparkling Grey MD045, Sparkling Dark Grey MD049 & Cloud White Matte CWM

- b) Stainless Steel fixings in accordance E2/AS1 Table 20 and current NZBC legislation
- c) Flashings – Marshall innovations trade seal self-adhesive collar
- d) Metal flashings complying with E2/AS1 Table 7 and current NZBC legislation
- e) Sealants Sikaflex AT Façade
 Holdfast Fix All MS Polymer
- f) Aluminium Angle Fixing Brackets
- g) PEF backing rods
- h) Plastic Packers/shims

Where products other than the above are substituted it is the responsibility of the installer to ensure that the product is fit for purpose. If nominated components are substituted without the knowledge of PSP Limited, any warranties may be void.

PRE-CLADDING CHECKLIST

For builders, trained installers & building inspectors

Consent No: _____
Commence Date: _____
Client Name: _____ phone: _____
Builder: _____ phone: _____
Architect: _____ phone: _____

Owner/Builder must have the framing and other components of the building correctly installed to enable the installation of the cladding system.

Floor slab layout:

- Ensure distance from outside of framing to outside of concrete footing is exactly 50 on all sides of building.
- If slightly under it is okay on single storey. This allows 50mm for the PSP ALPOLIC®/fr panels.
- Ensure ground level is 250mm below floor level, minimum 300mm out around base to allow for installation work.

Rebate:

- Install approved DPC as per manufacturers' specifications.
- Smooth and level

Framing:

- All straight and level
- Studs straightened for wall lining before PSP ALPOLIC®/fr panels are installed

Wall Wrap/ Rigid Air Barrier:

- Exterior timber framed walls must be wrapped with building wrap that complies compliance document E2/AS1 table 23.
- RAB/Wall wrap must be fixed to the exterior wall framing prior to installation of PSP ALPOLIC®/fr panels.
- Ensure wall wrap/RAB is continuous around corners and installed horizontally.
- Ensure that all penetrations such as waste water pipes and the like have been flashed to the building wrap using "approved flexible flashing tape".

Joinery:

- The builder is also responsible for the application of approved flexible flashing tape around openings prior to the installation of any joinery.

Plumbing:

- All plumbing including gas lines need to be pressure tested prior to installation of internal linings.

PSP ALPOLIC[®] /fr CLADDING SYSTEM

Variables / Concerns / Comments:

Builder / Owner: _____

Signature: _____

PRE-SEALANT CHECKLIST

For builders, trained installers & building inspectors

Consent No: _____
Commence Date: _____
Client Name: _____ phone: _____
Builder: _____ phone: _____
Architect: _____ phone: _____

PSP recommends an inspection by Building Inspector prior to sealant

- Panels must be flat, true & straight with minimum 6 screws per sheet
- All external and internal corners are vertical and square, and fastened with the screws tightly
- Ensure that the drainage holes of window head, cladding base are in place and installed properly
- Ensure window head flashing tape is fixed in place, level, straight, tightly and properly
- Sill and base flashings are installed as required in this specification
- All pipe work/penetrations through cladding are installed as required in this specification

Variables / Concerns / Comments:

Allegiance Installer: _____

Signature: _____

Approved by: _____

Signature: _____

FINAL CHECKLIST

For builders, trained installers & building inspectors

Consent No: _____

Commence Date: _____

Client Name: _____ phone: _____

Builder: _____ phone: _____

Architect: _____ phone: _____

- Specified depth and width of sealant have been applied, finished to manufacturer's specification
- All the drainage holes are working and not blocked
- Specified review of coating system has been applied, any damage of coatings is repaired and finished to manufacturer's standard
- All the penetrations including plumbing pipe work and the like are filled with foam tape under fittings

Variables / Concerns / Comments:

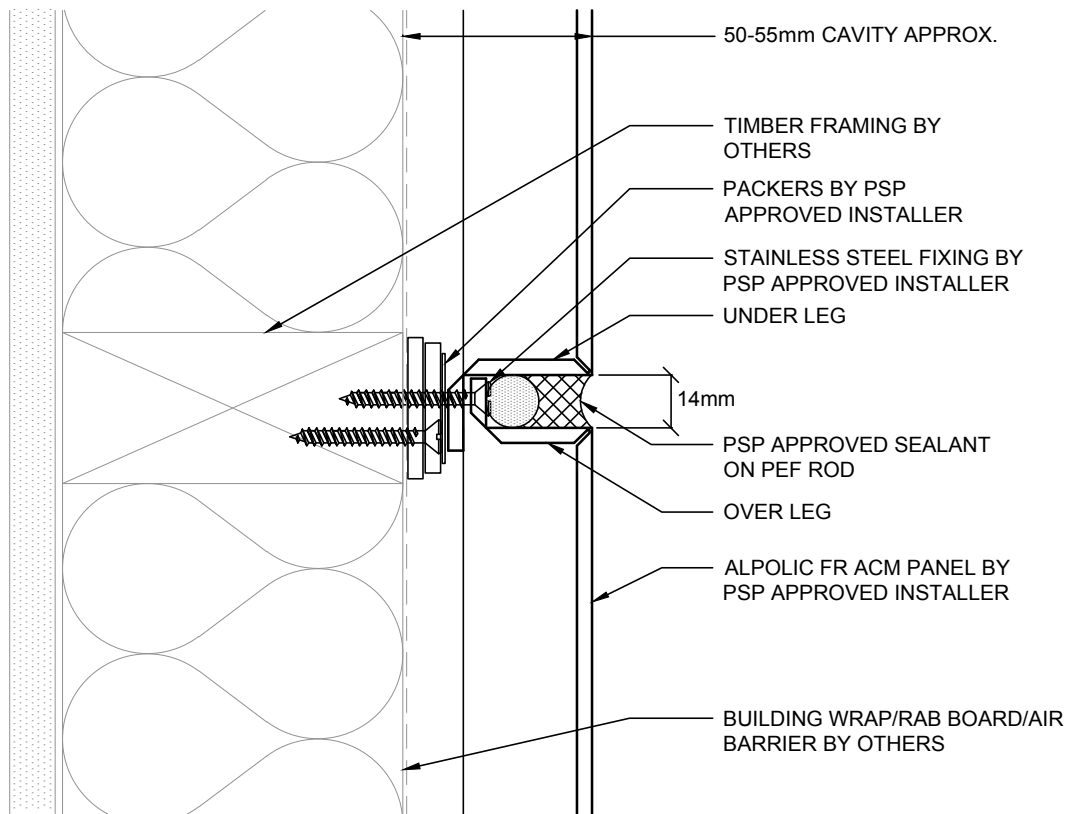
Builder/Owner: _____

Signature: _____

Approved by: _____

Signature: _____

STANDARD HORIZONTAL JOINT DETAIL



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STANDARD HORIZONTAL
JOINT DETAIL

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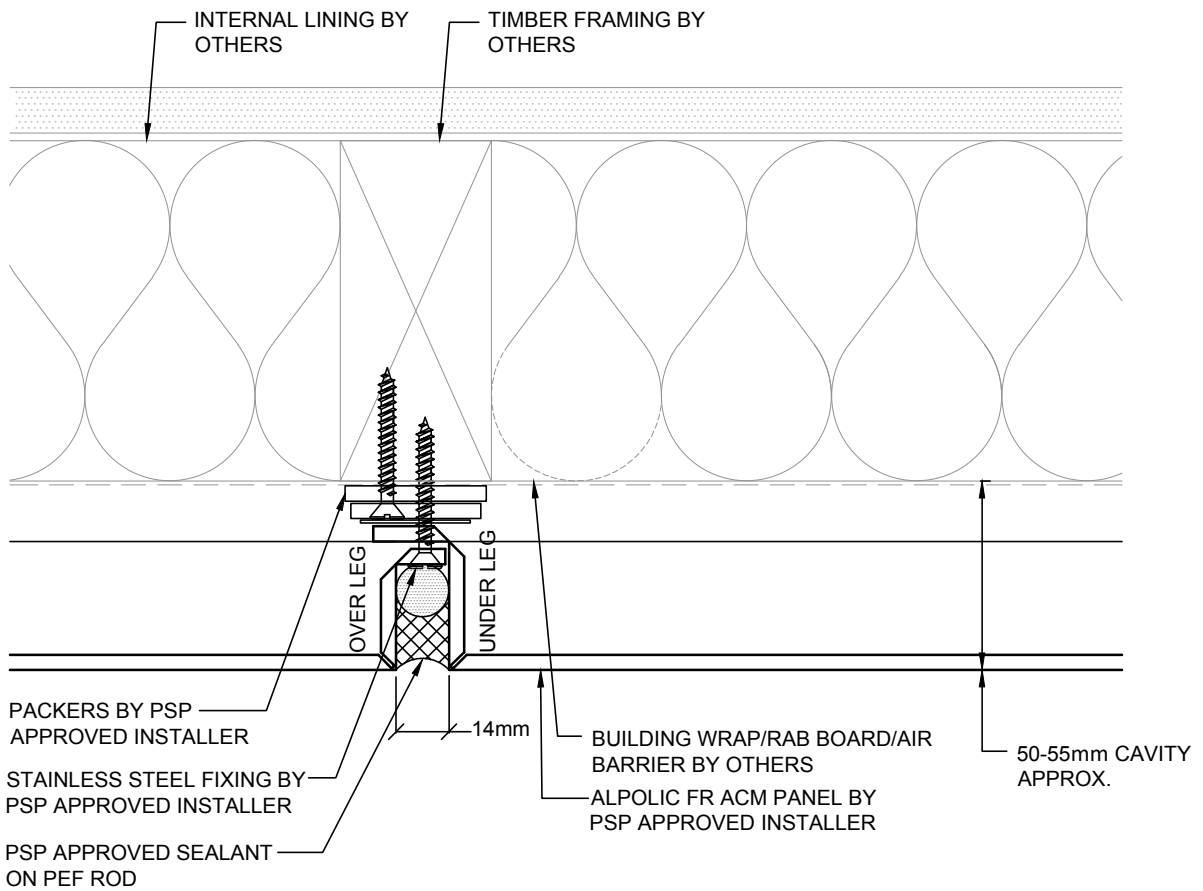
01

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STANDARD VERTICAL JOINT DETAIL



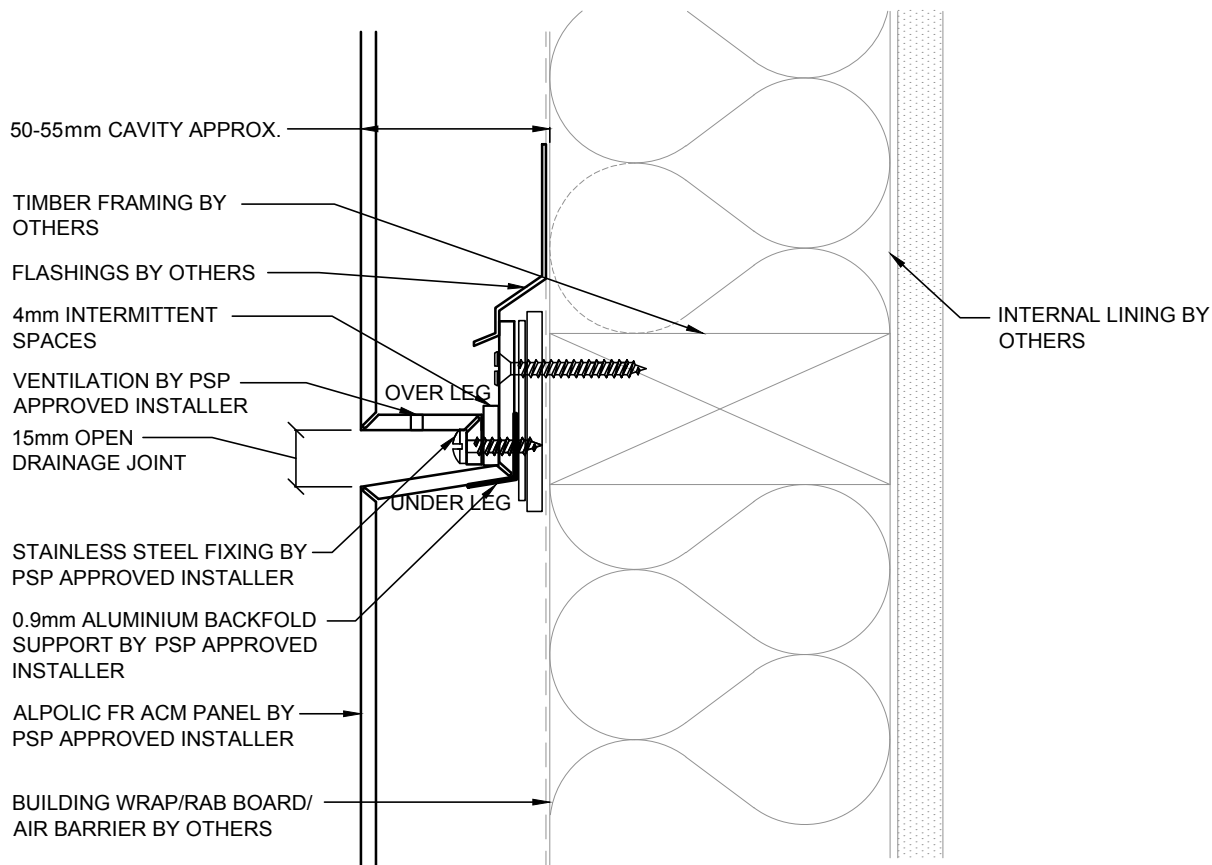
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STANDARD OPEN JOINT DETAIL



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STANDARD OPEN JOINT DETAIL

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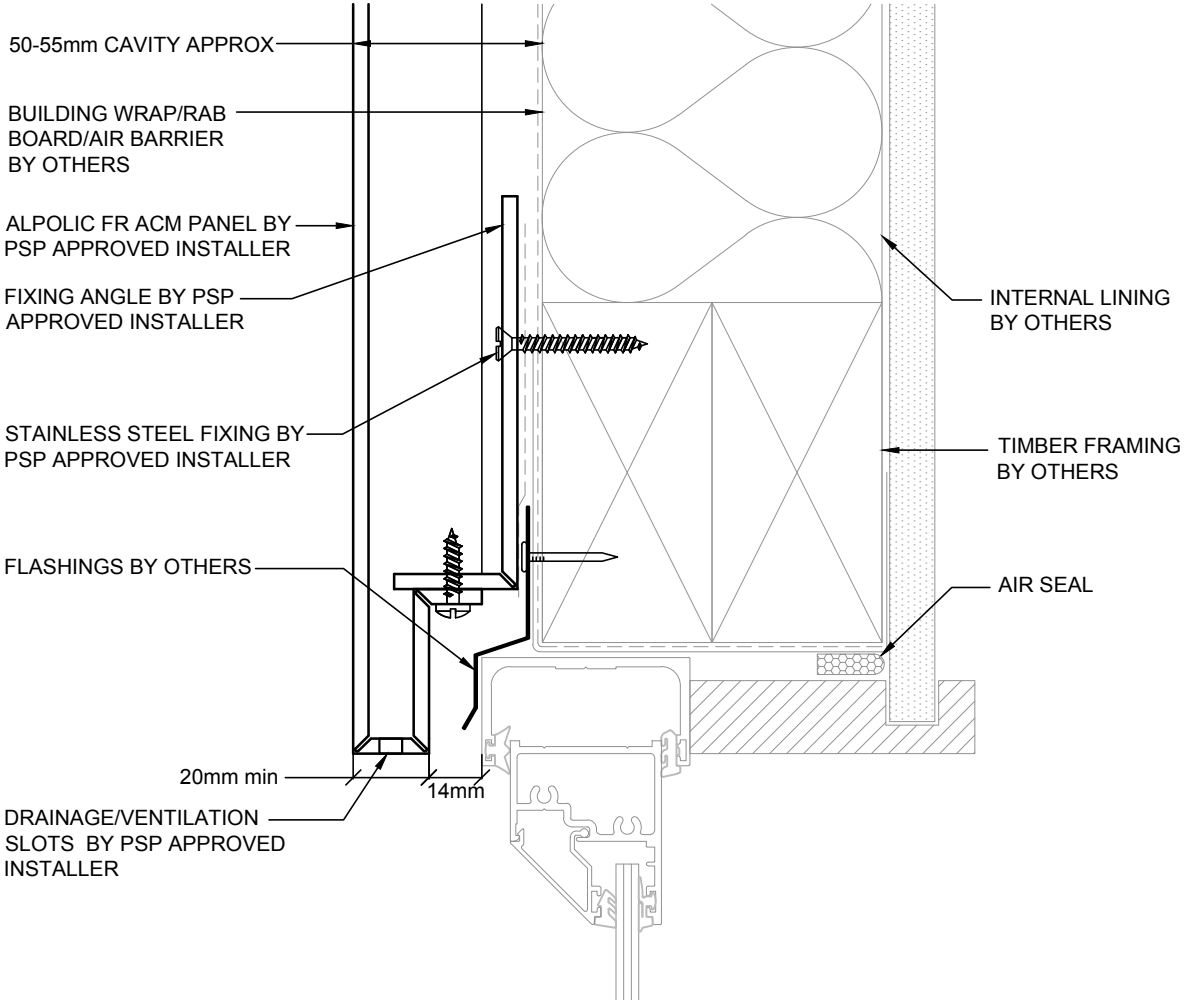
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COMMERCIAL WINDOW HEAD DETAIL



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COMMERCIAL WINDOW HEAD DETAIL

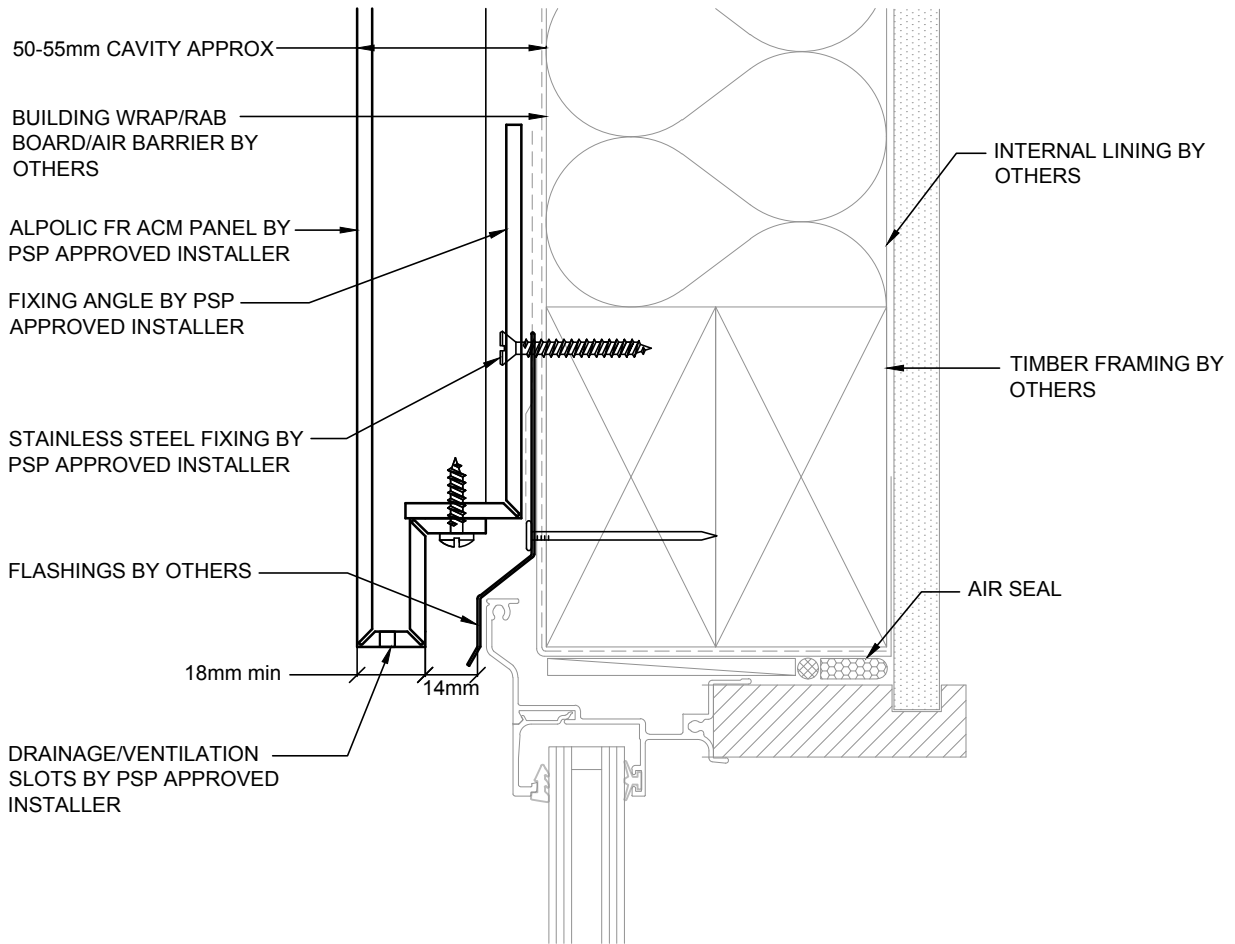
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RESIDENTIAL WINDOW HEAD DETAIL



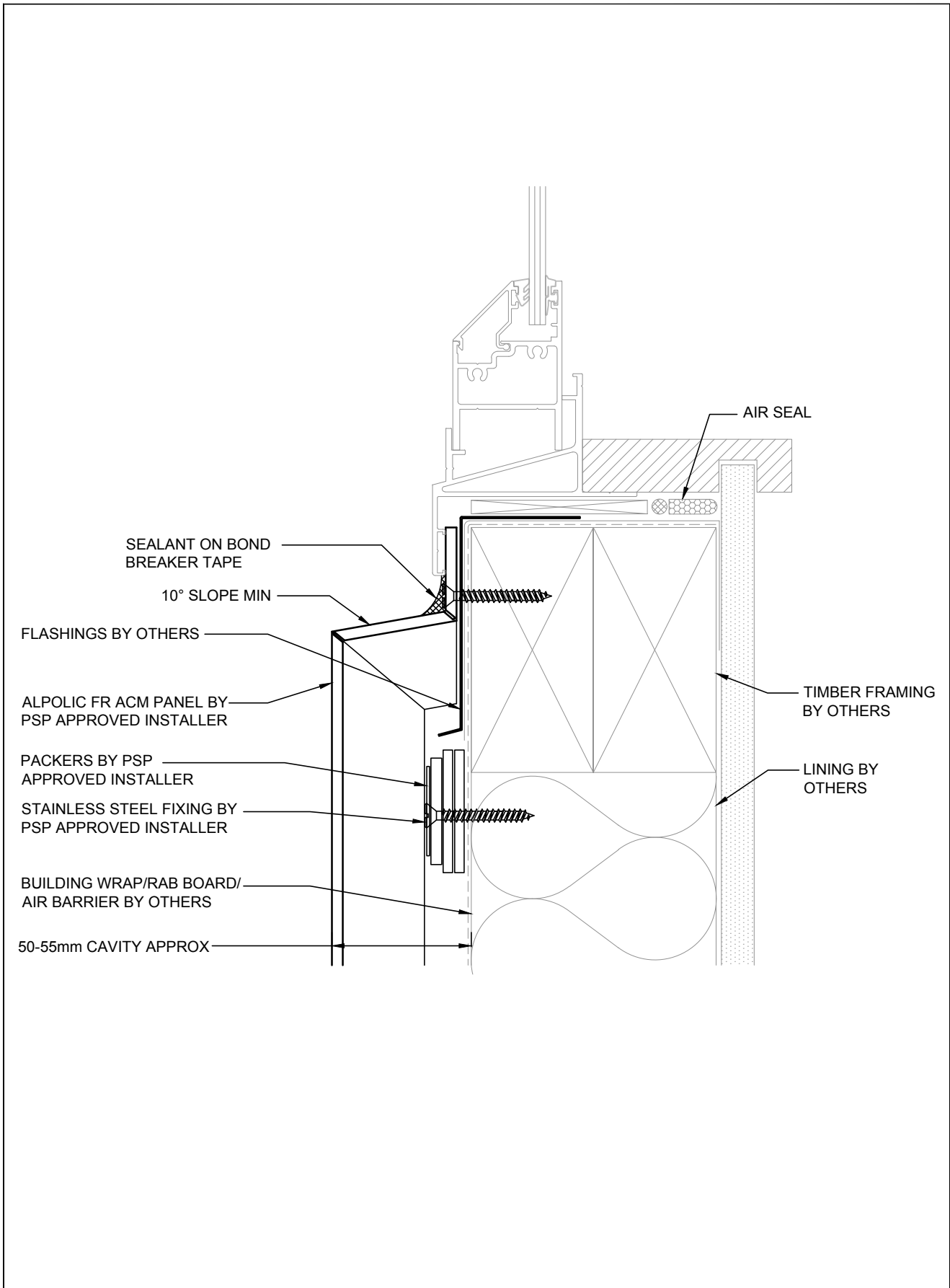
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COMMERCIAL WINDOW SILL DETAIL



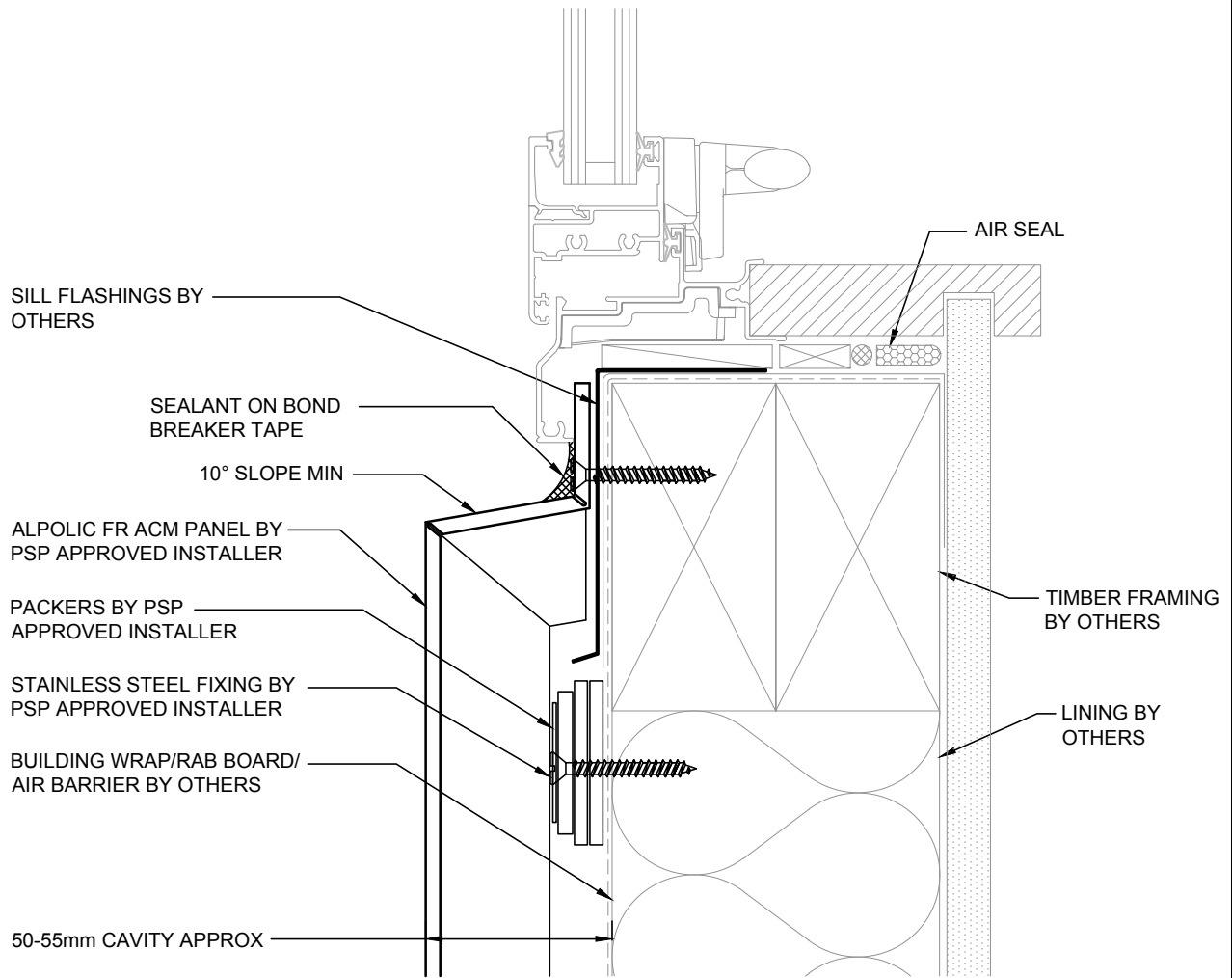
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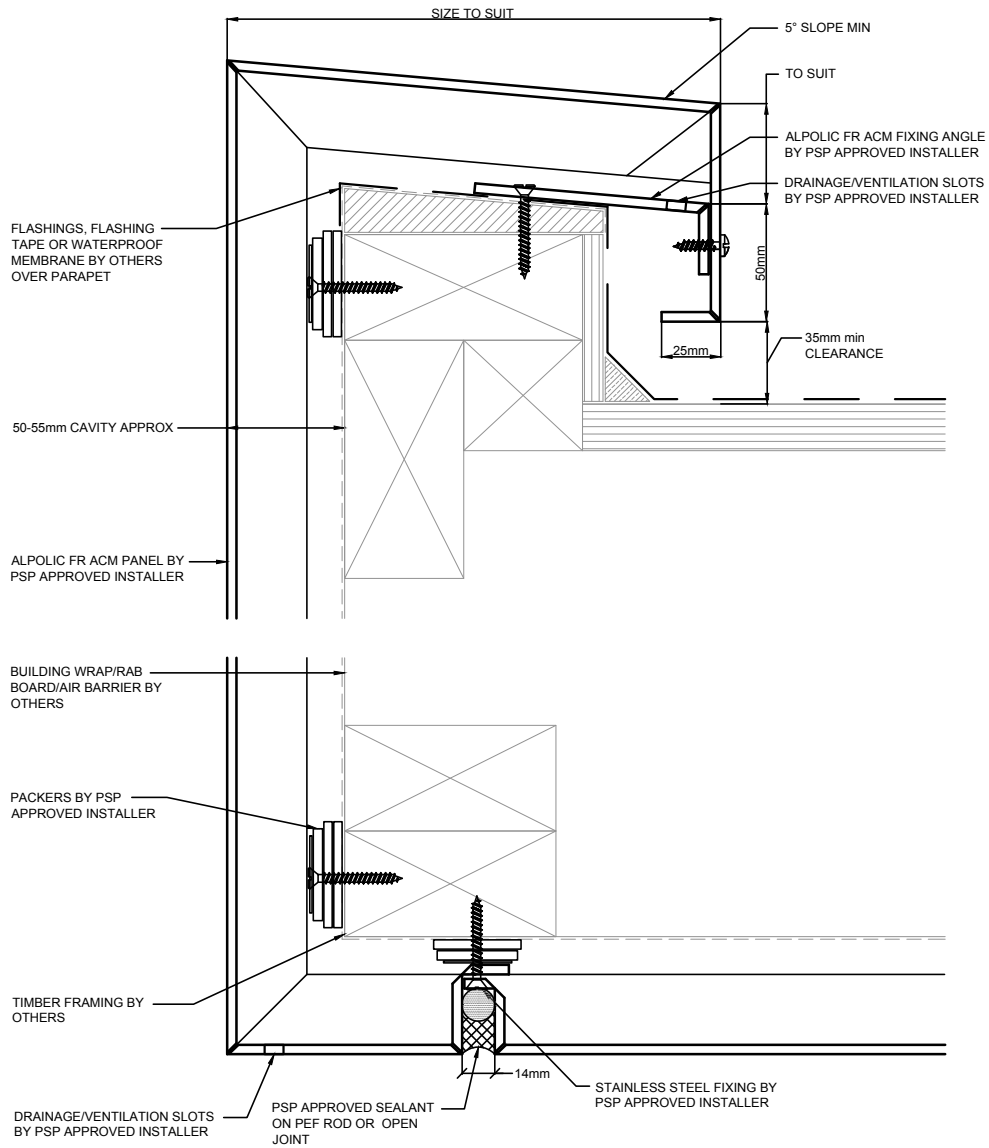
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FASCIA DETAIL 1 - ACM PANEL SOFFIT



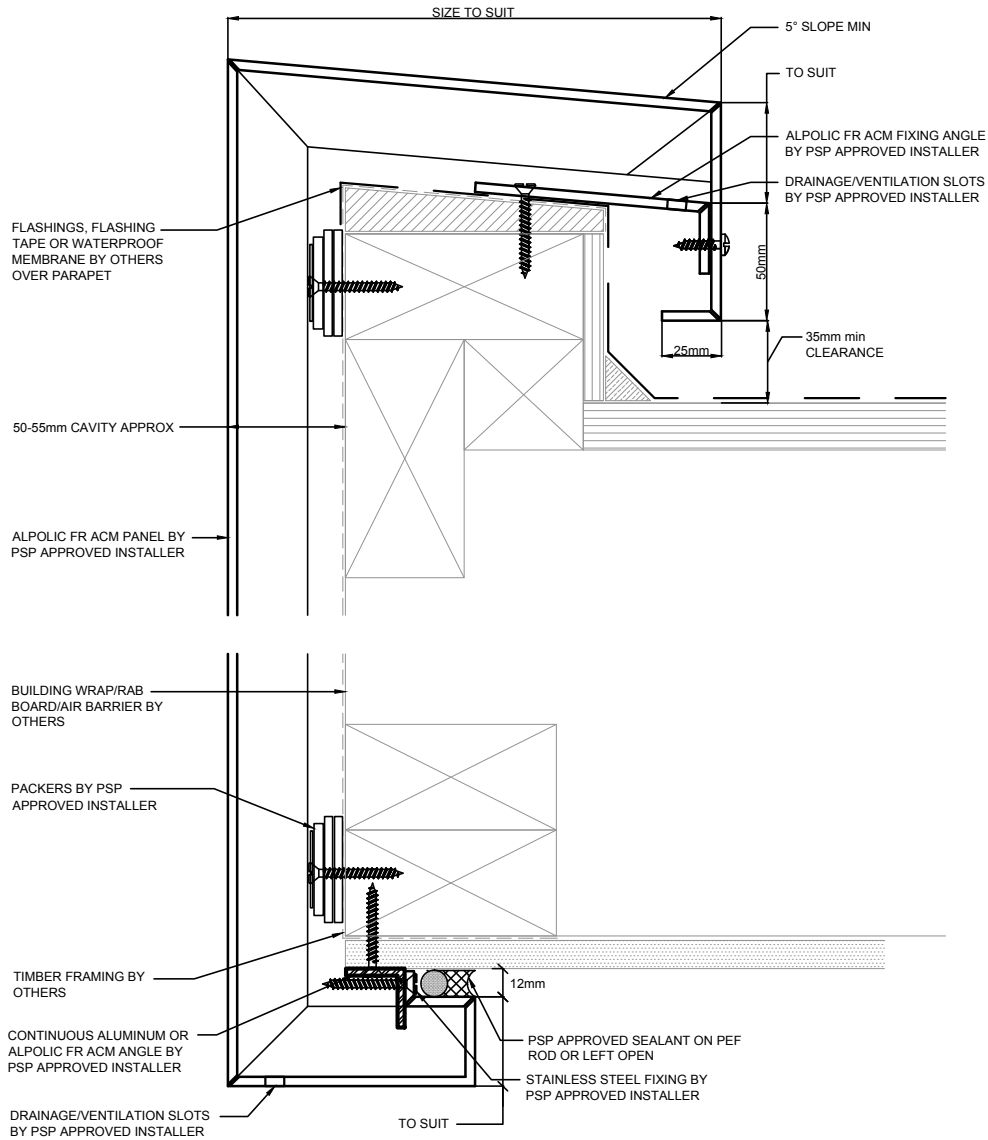
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FASCIA DETAIL 2 - ACM PANEL SOFFIT 1



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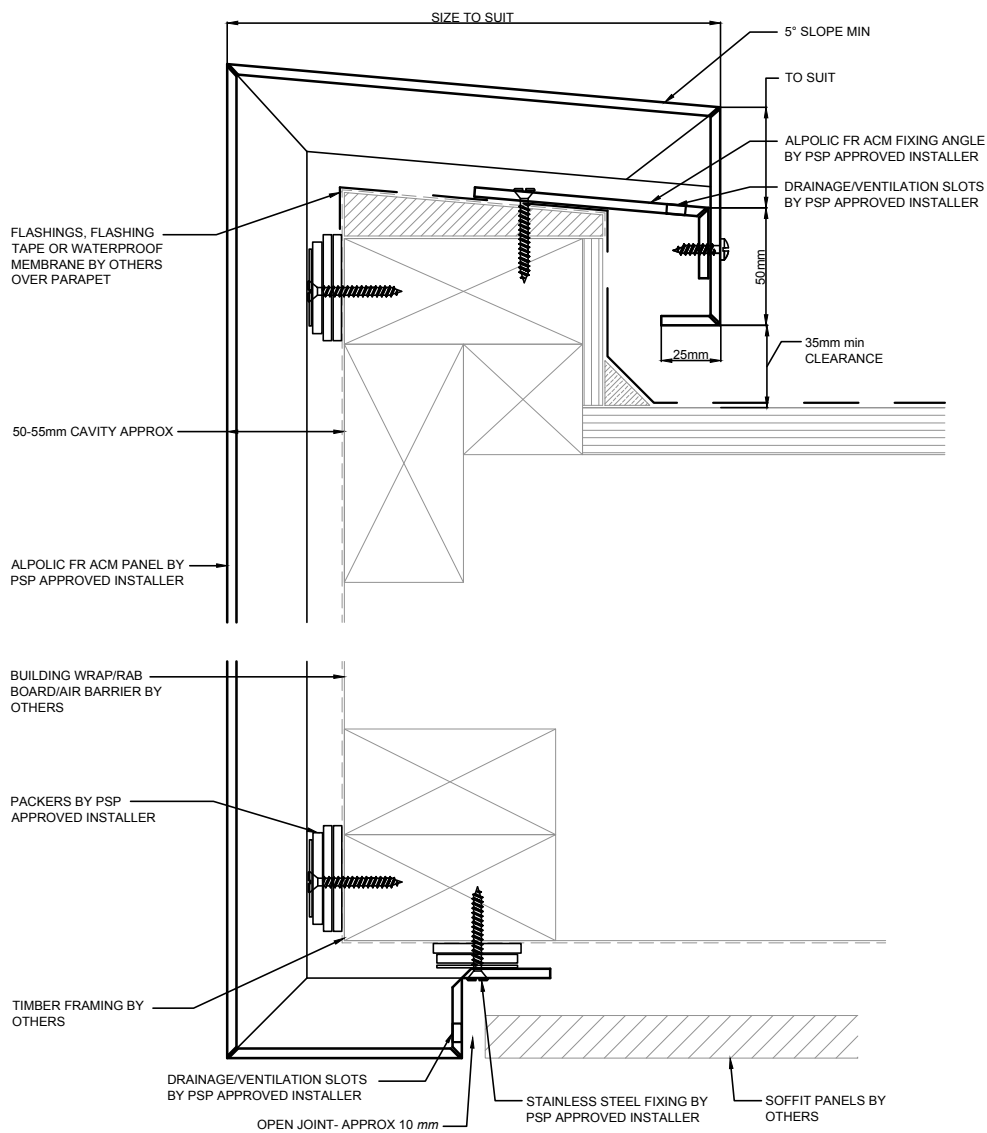
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FASCIA DETAIL 3 - ACM PANEL SOFFIT 2



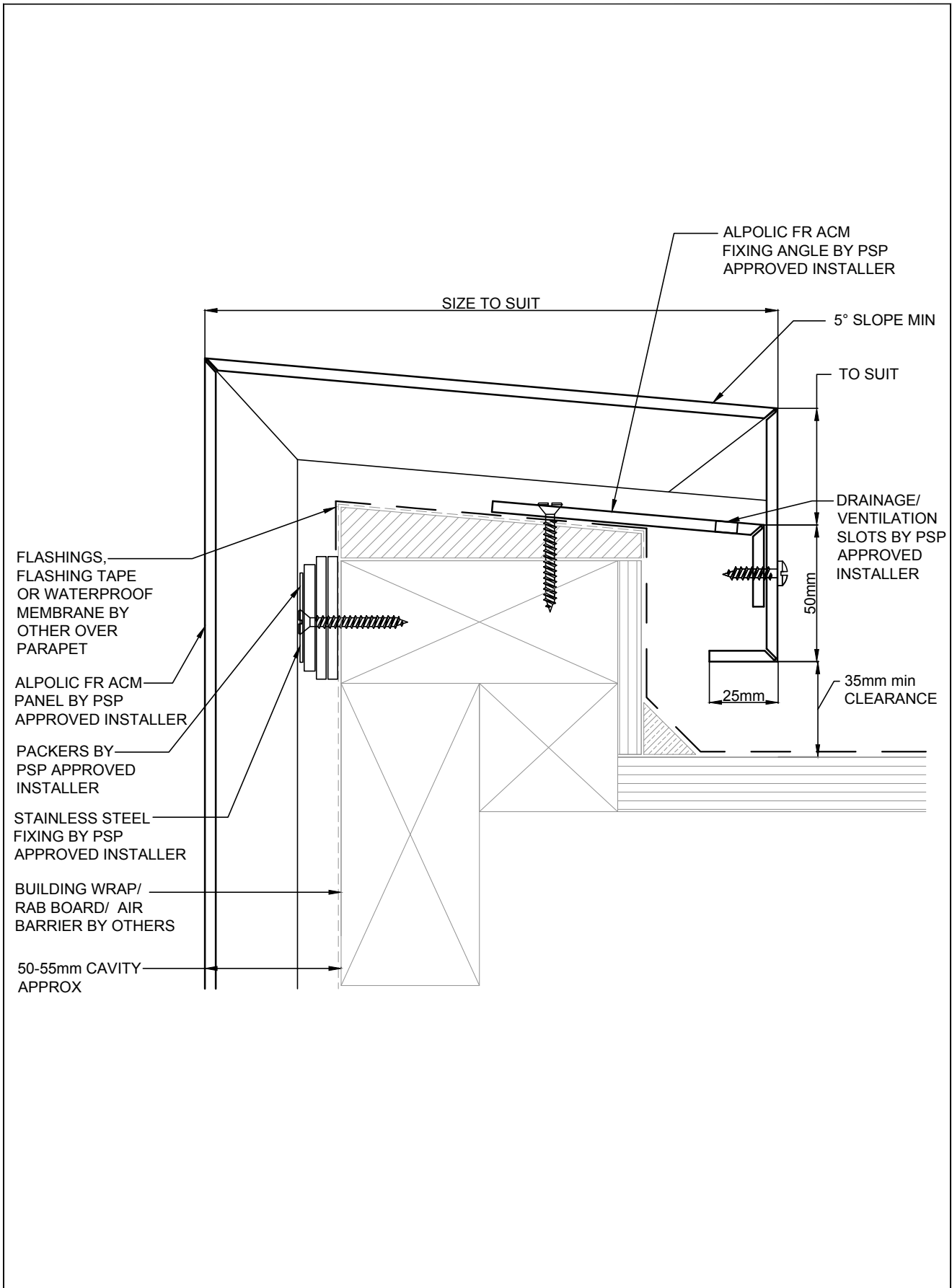
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PARAPET DETAIL



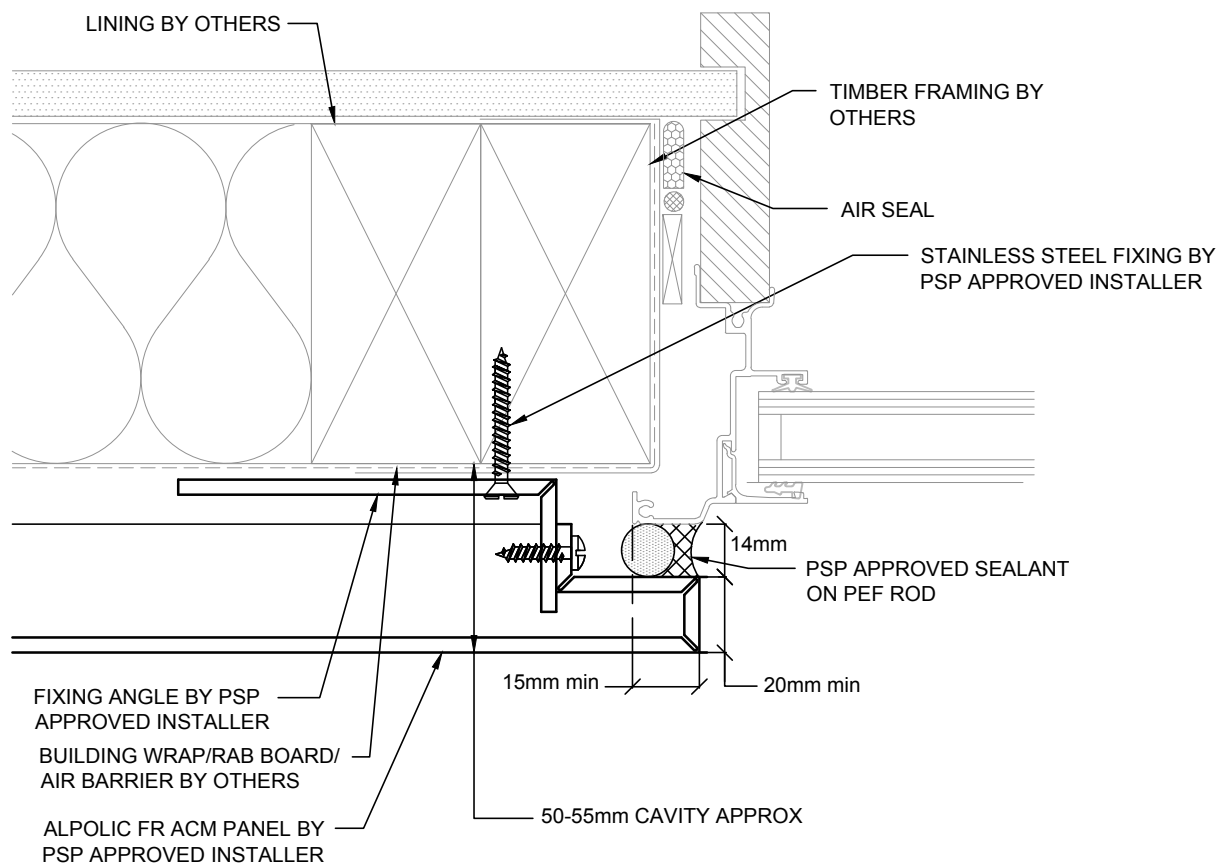
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RESIDENTIAL JAMB DETAIL



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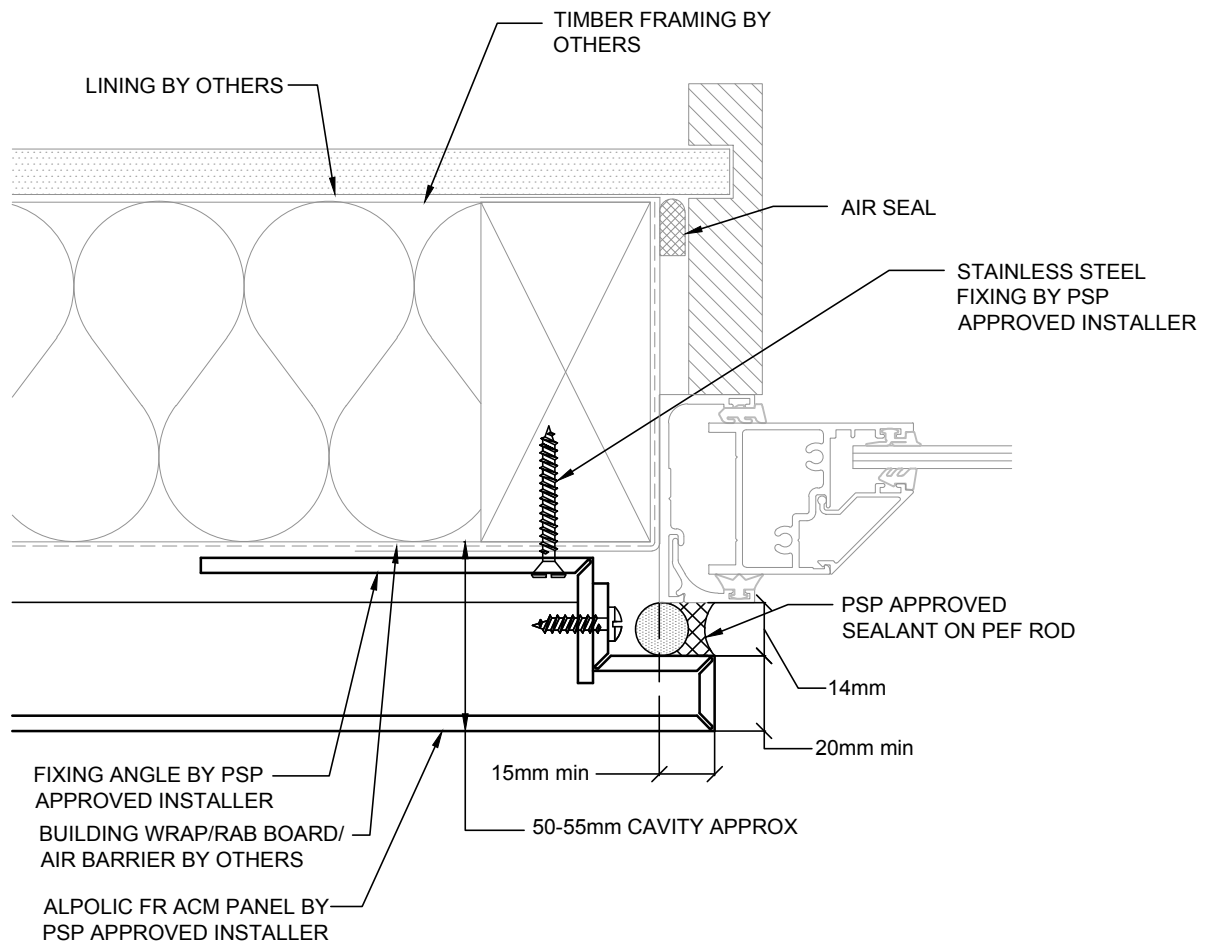
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COMMERCIAL JAMB DETAIL



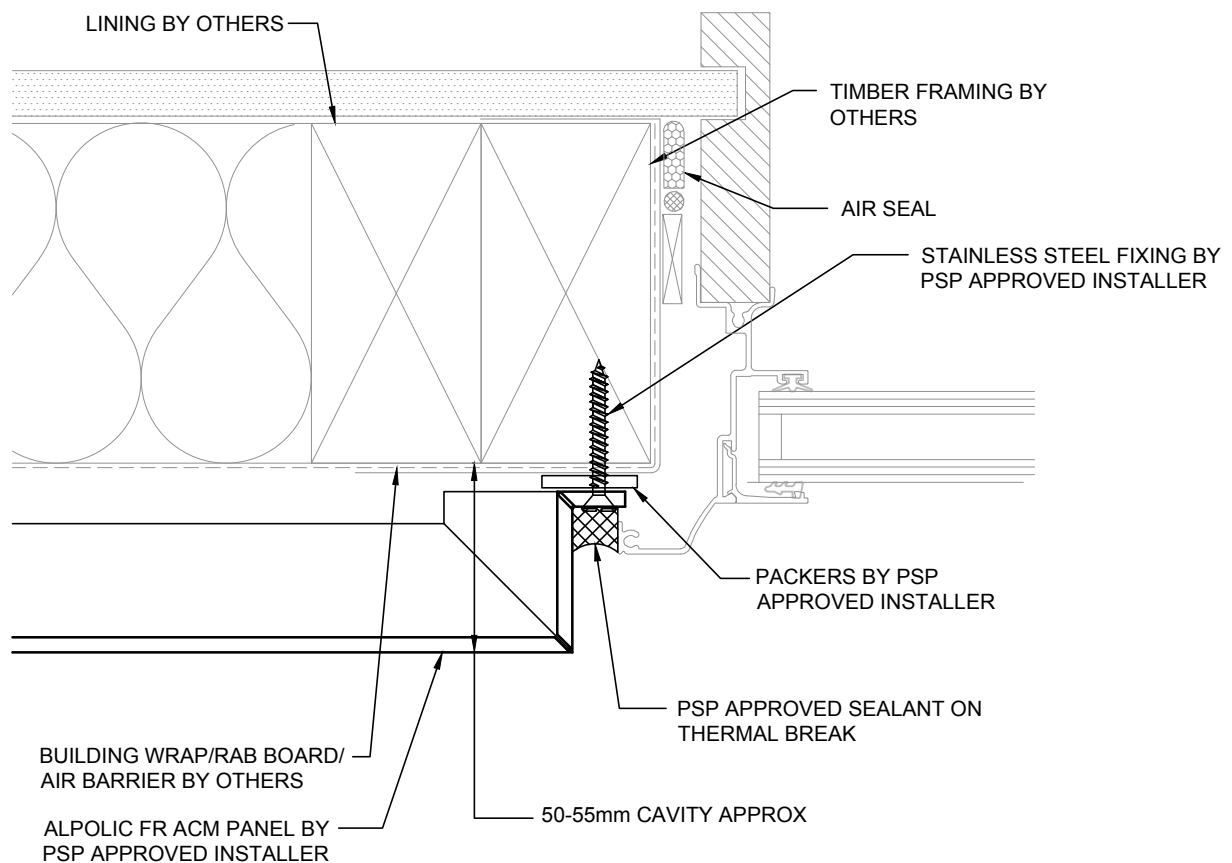
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ALTERNATIVE RESIDENTIAL JAMB DETAIL



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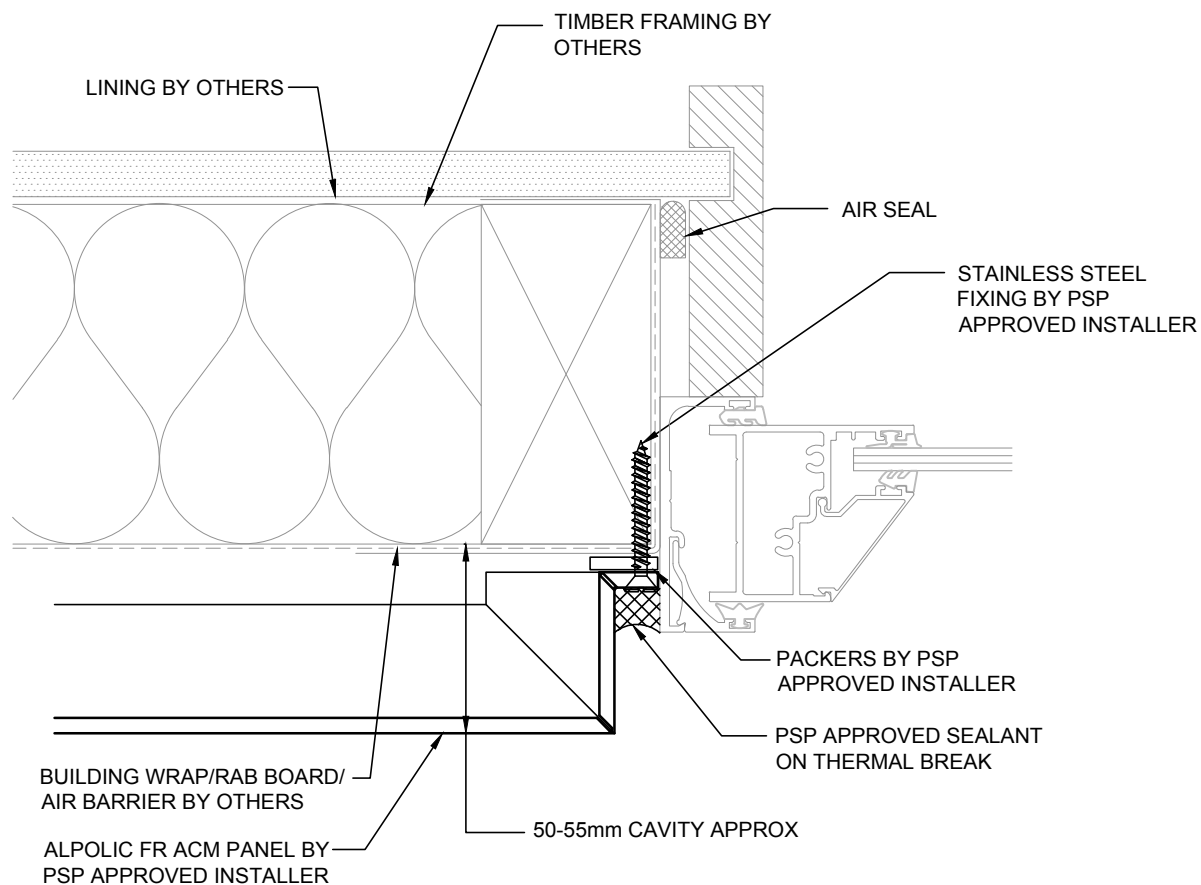
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ALTERNATIVE COMMERCIAL JAMB DETAIL



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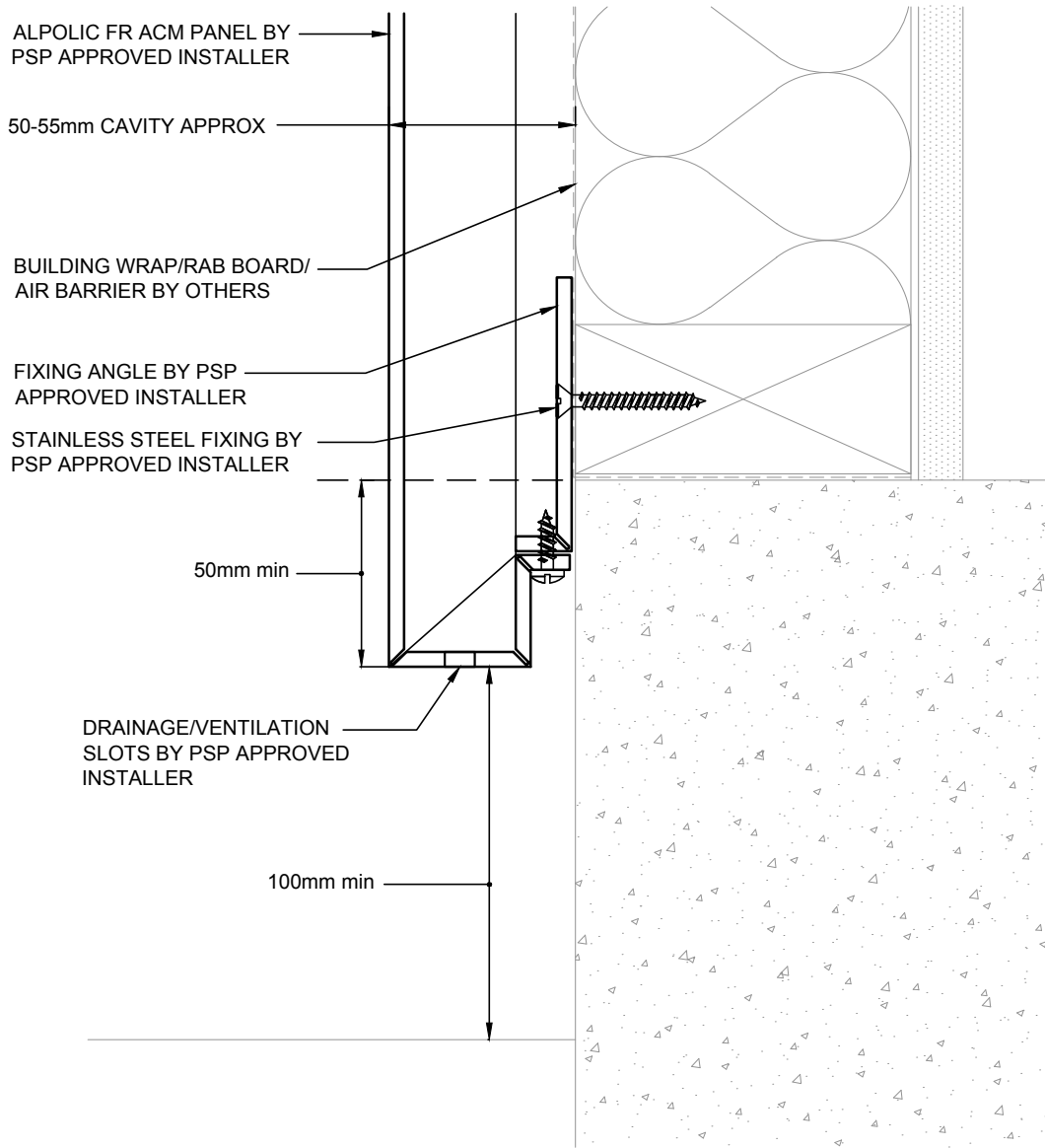
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BASE CLEARANCE DETAIL - 1



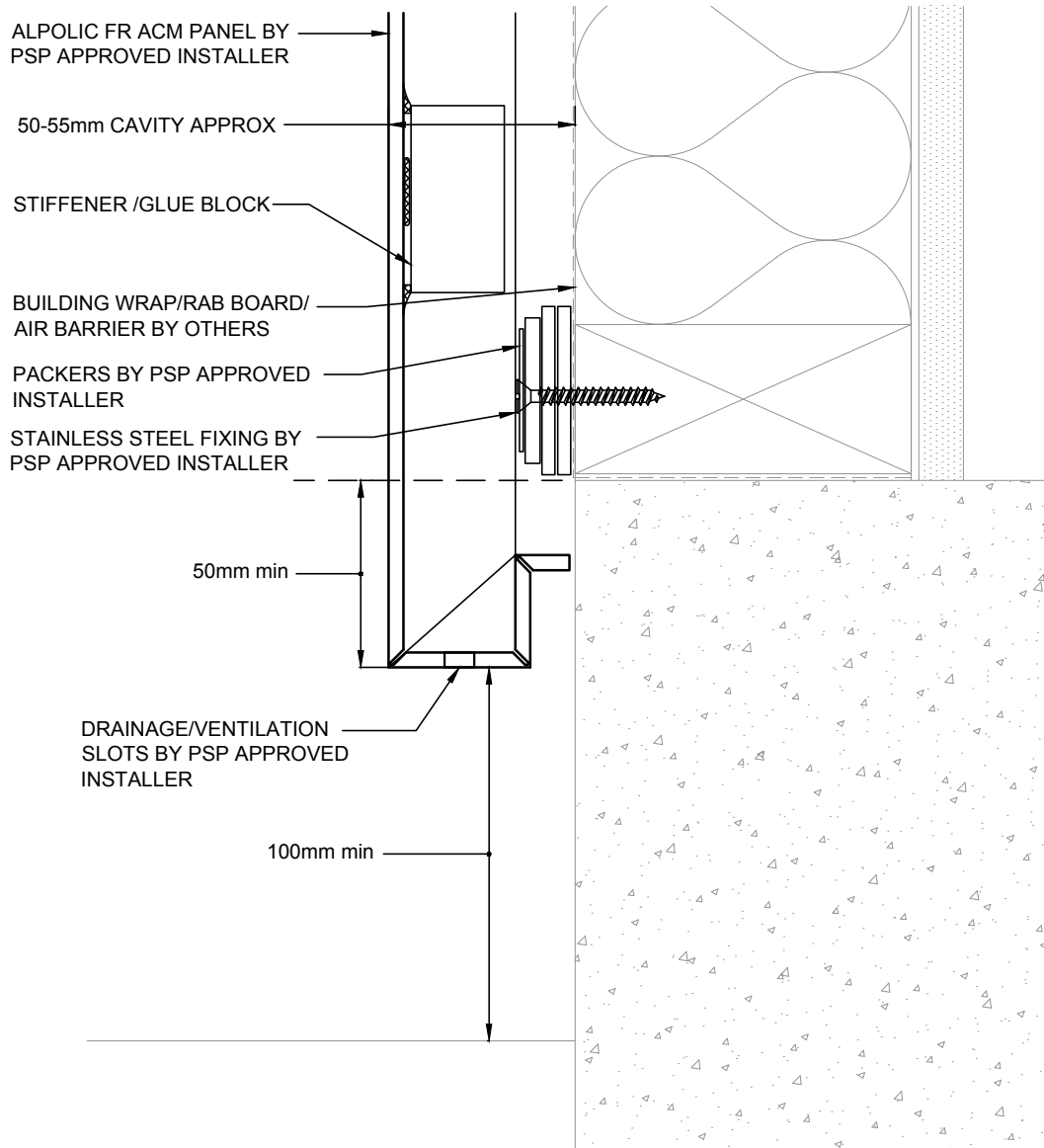
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BASE CLEARANCE DETAIL - 2



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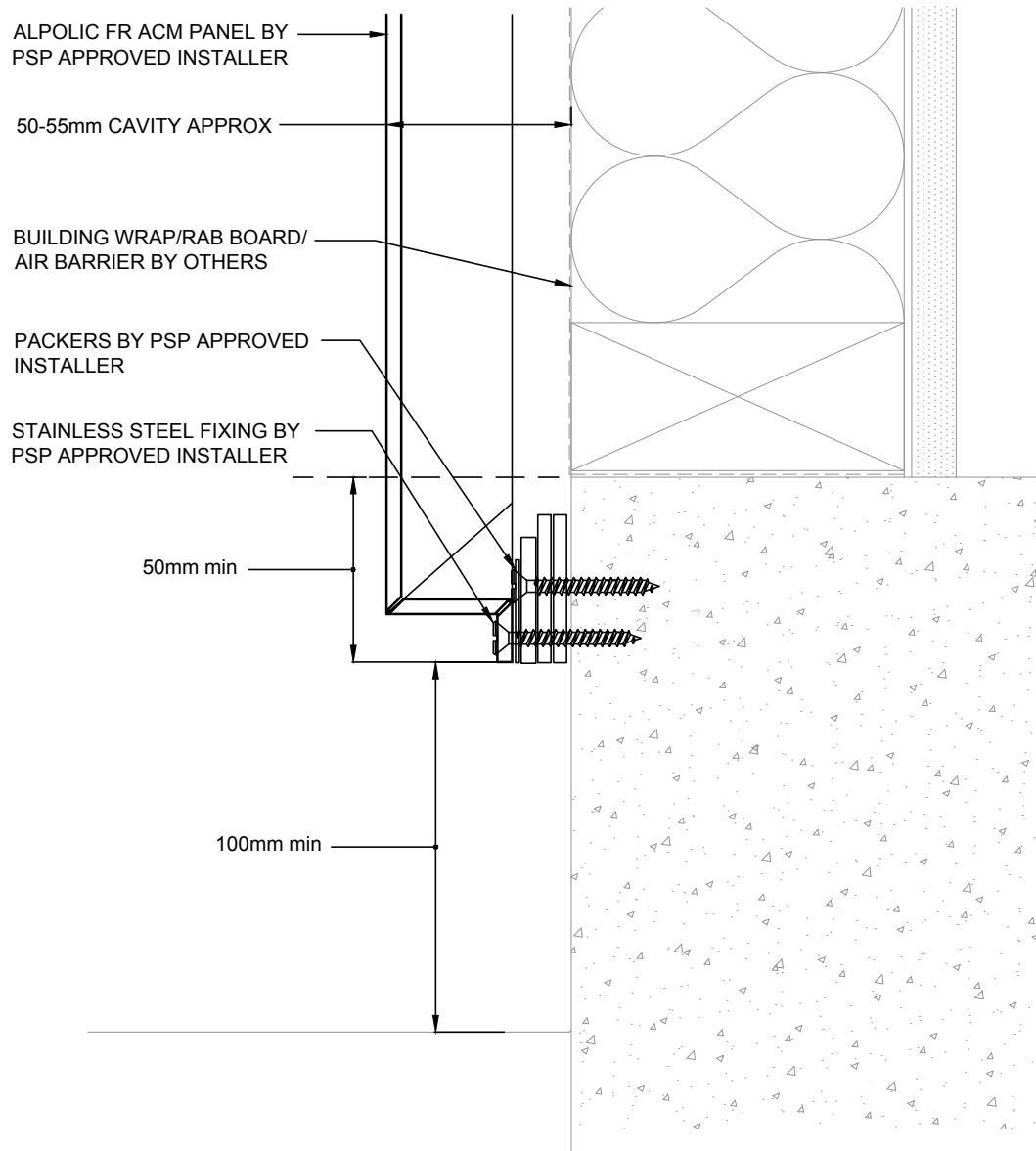
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BASE CLEARANCE DETAIL - 3



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BASE CLEARANCE DETAIL-3

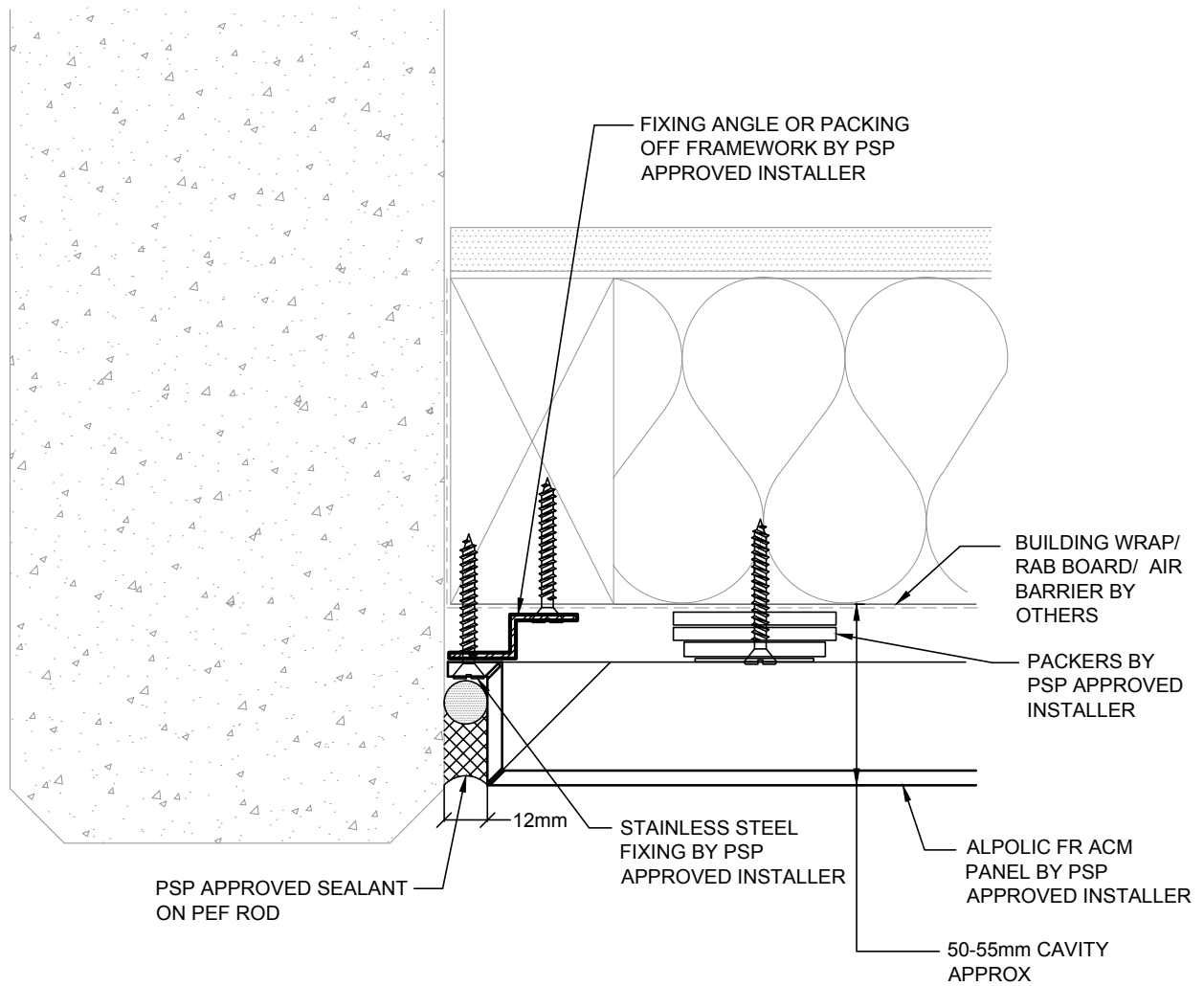
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ACM PRECAST JUNCTION DETAIL -1



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ACM PRECAST JUNCTION DETAIL-1

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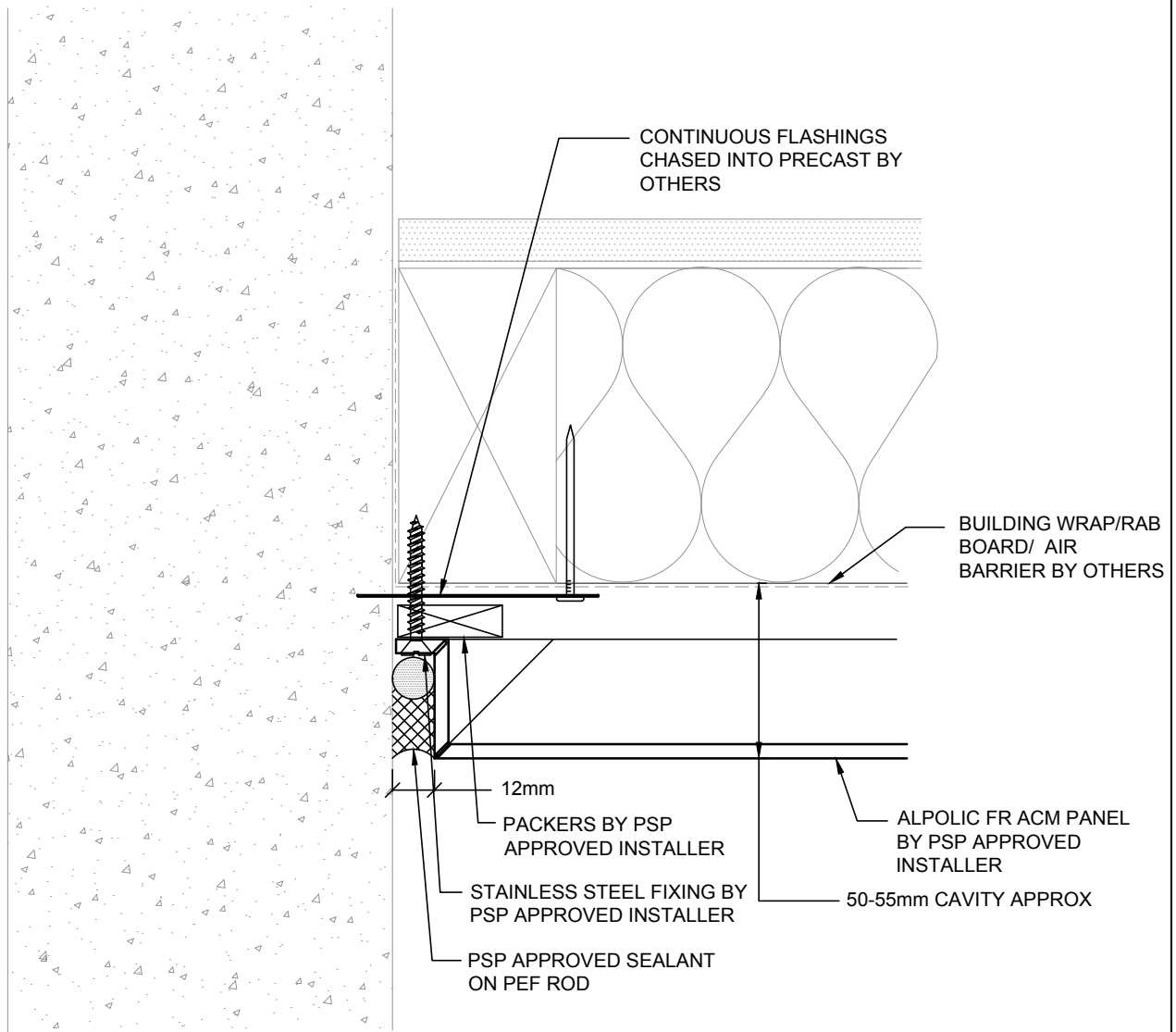
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ACM PRECAST JUNCTION DETAIL -2



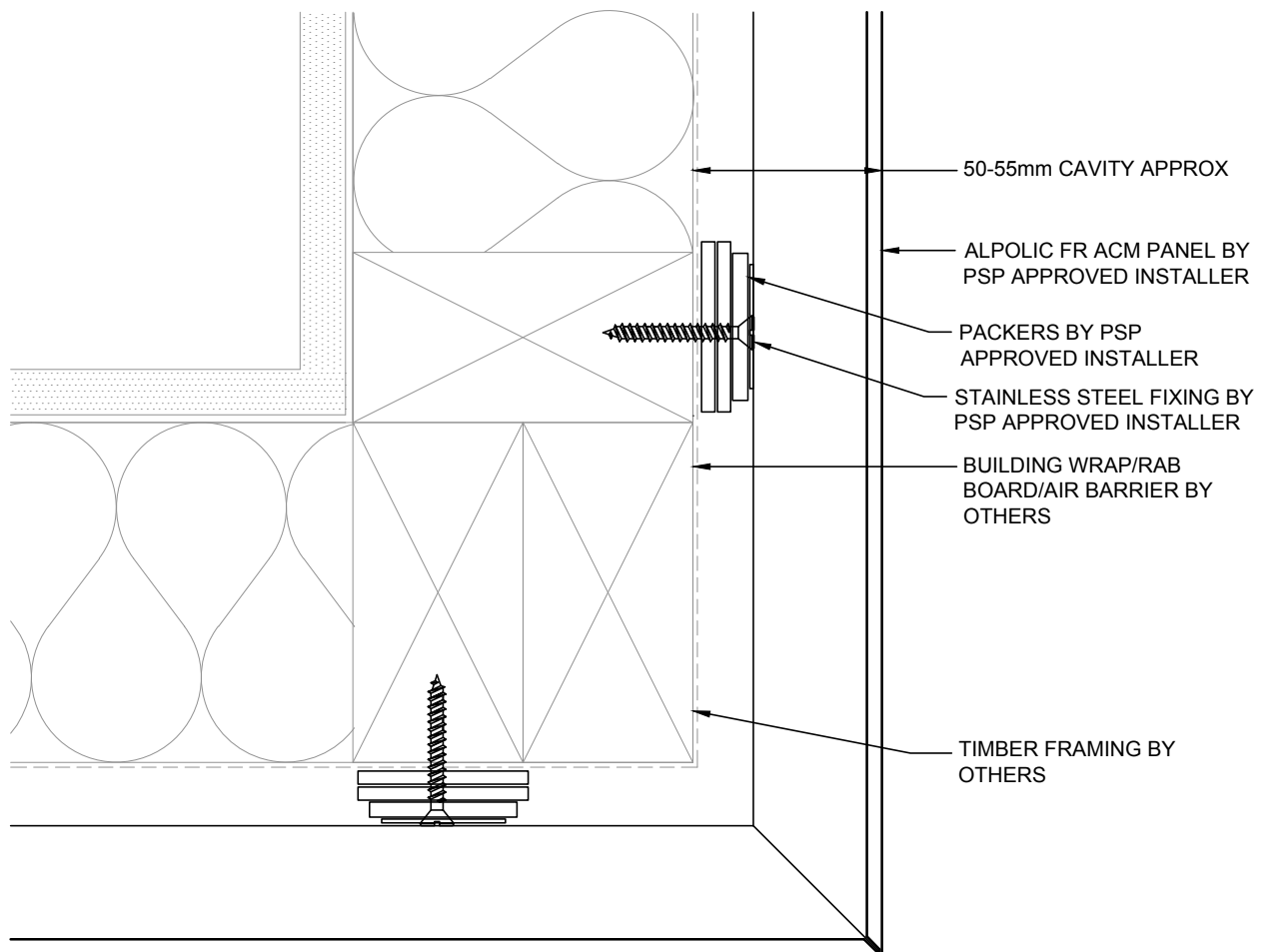
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EXTERNAL CORNER DETAIL



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EXTERNAL CORNER DETAIL

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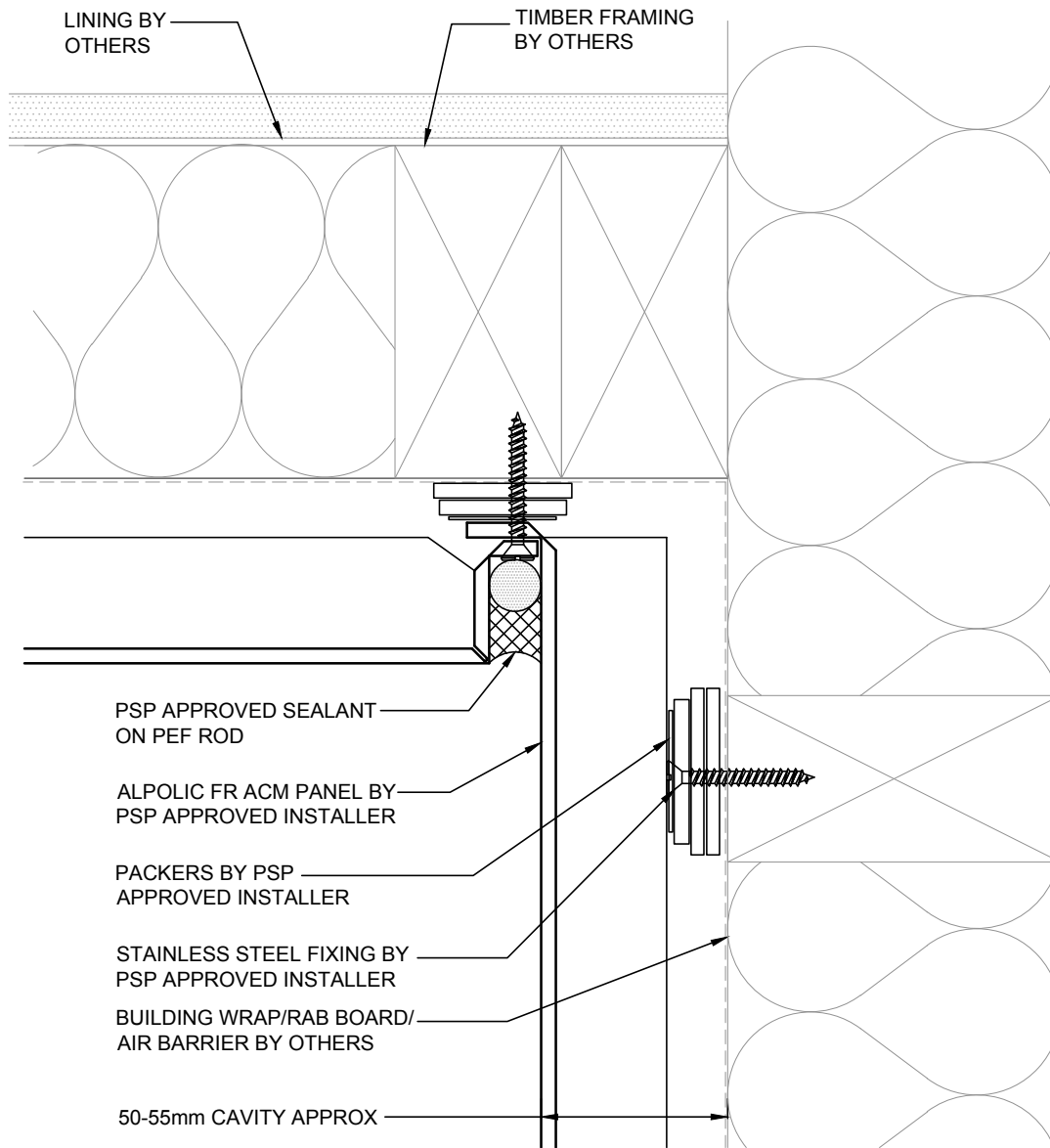
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INTERNAL CORNER DETAIL



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INTERNAL CORNER DETAIL

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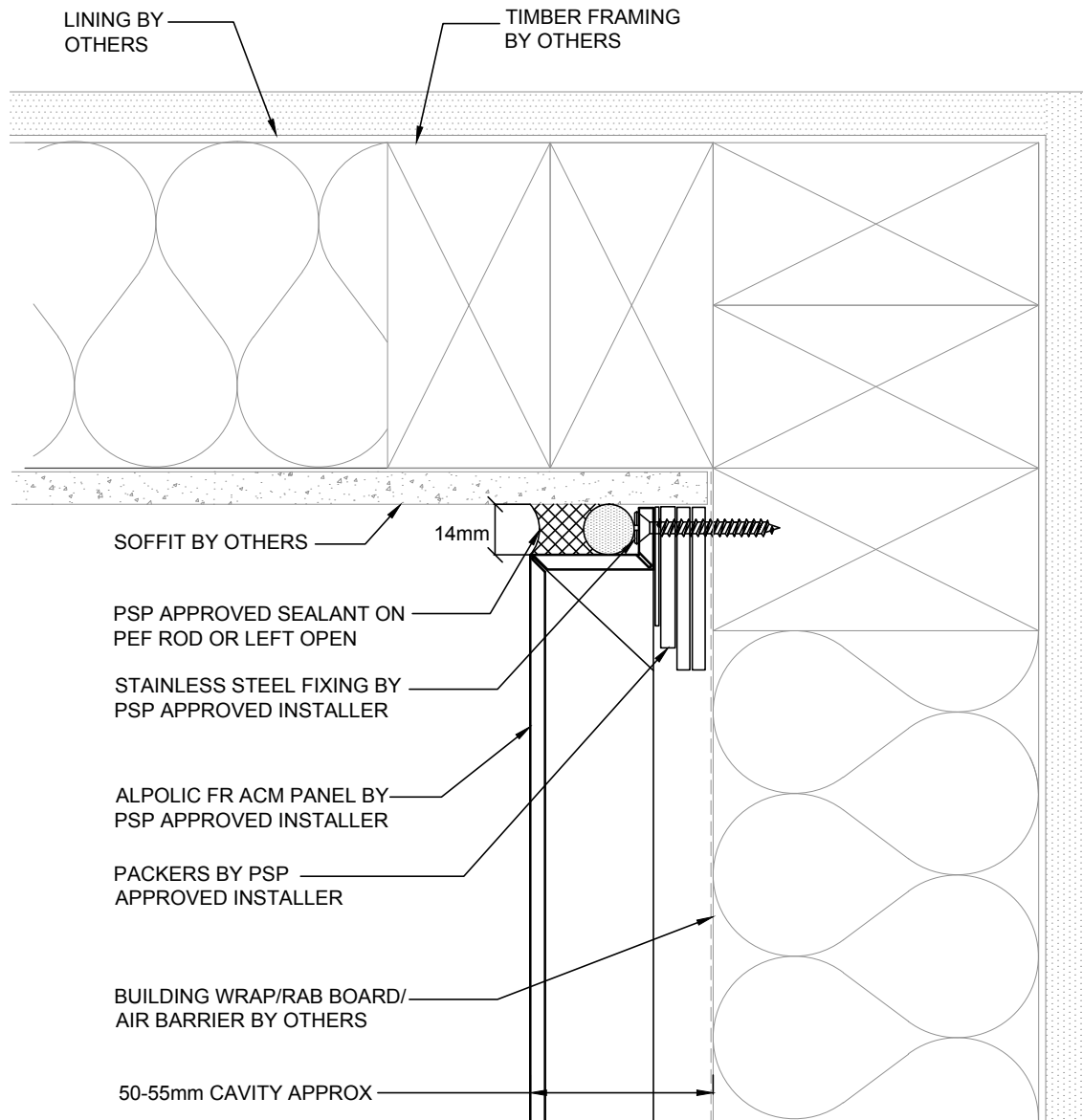
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SOFFIT/WALL JUNCTION DETAIL - 1



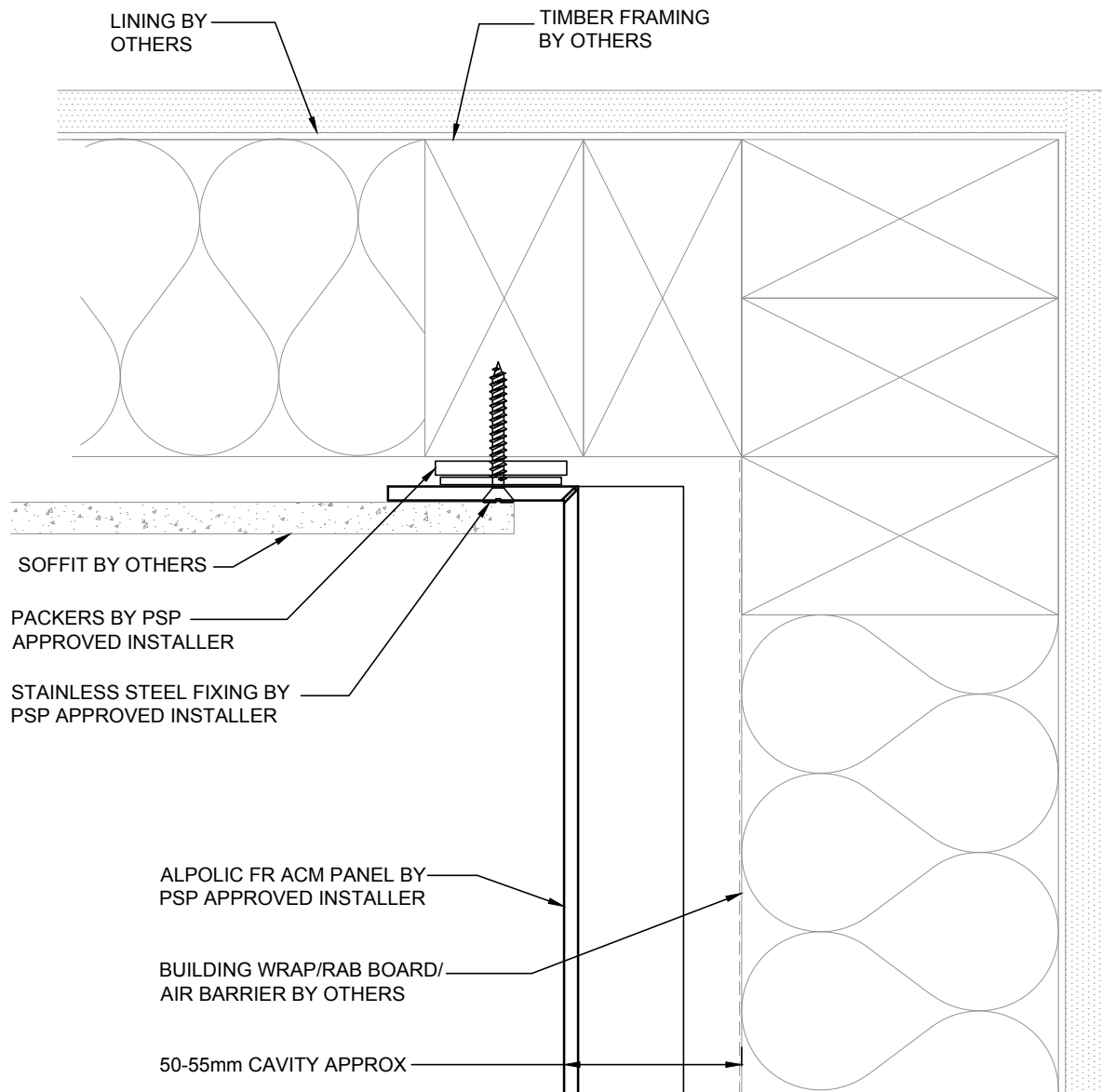
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SOFFIT/WALL JUNCTION DETAIL - 2



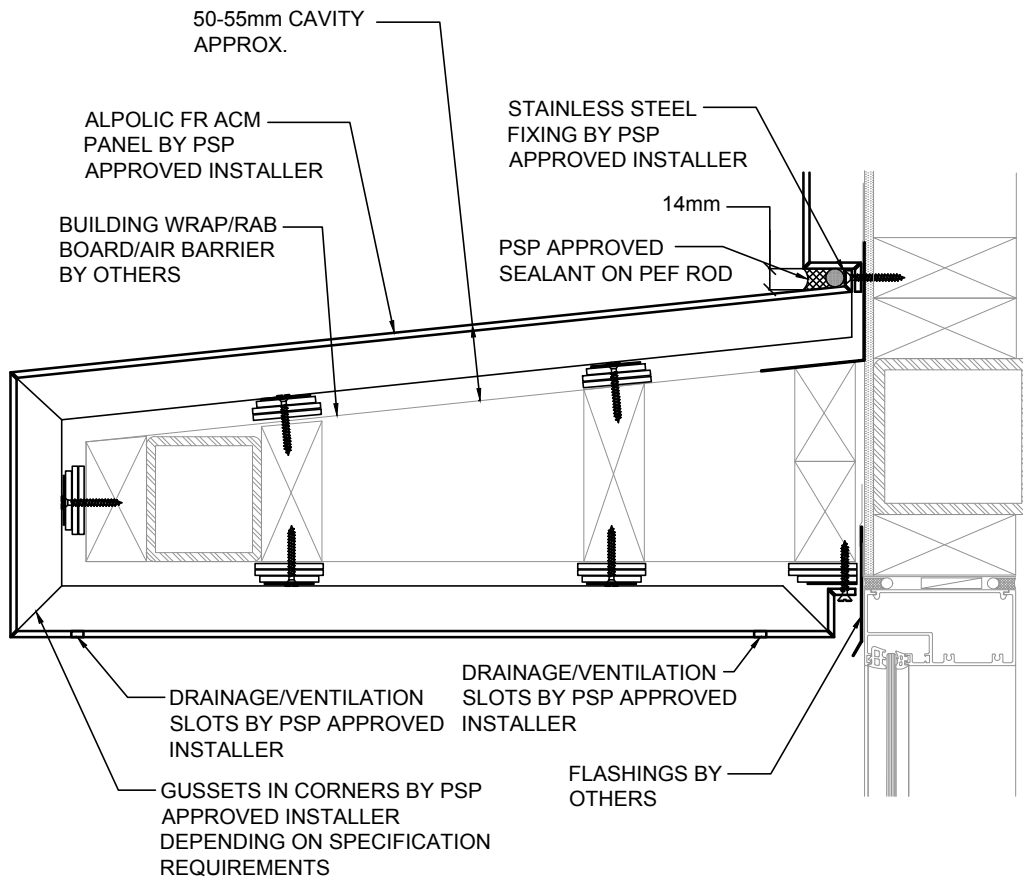
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TYPICAL EYEBROW DETAIL



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TYPICAL EYEBROW DETAIL

SHEET NO.

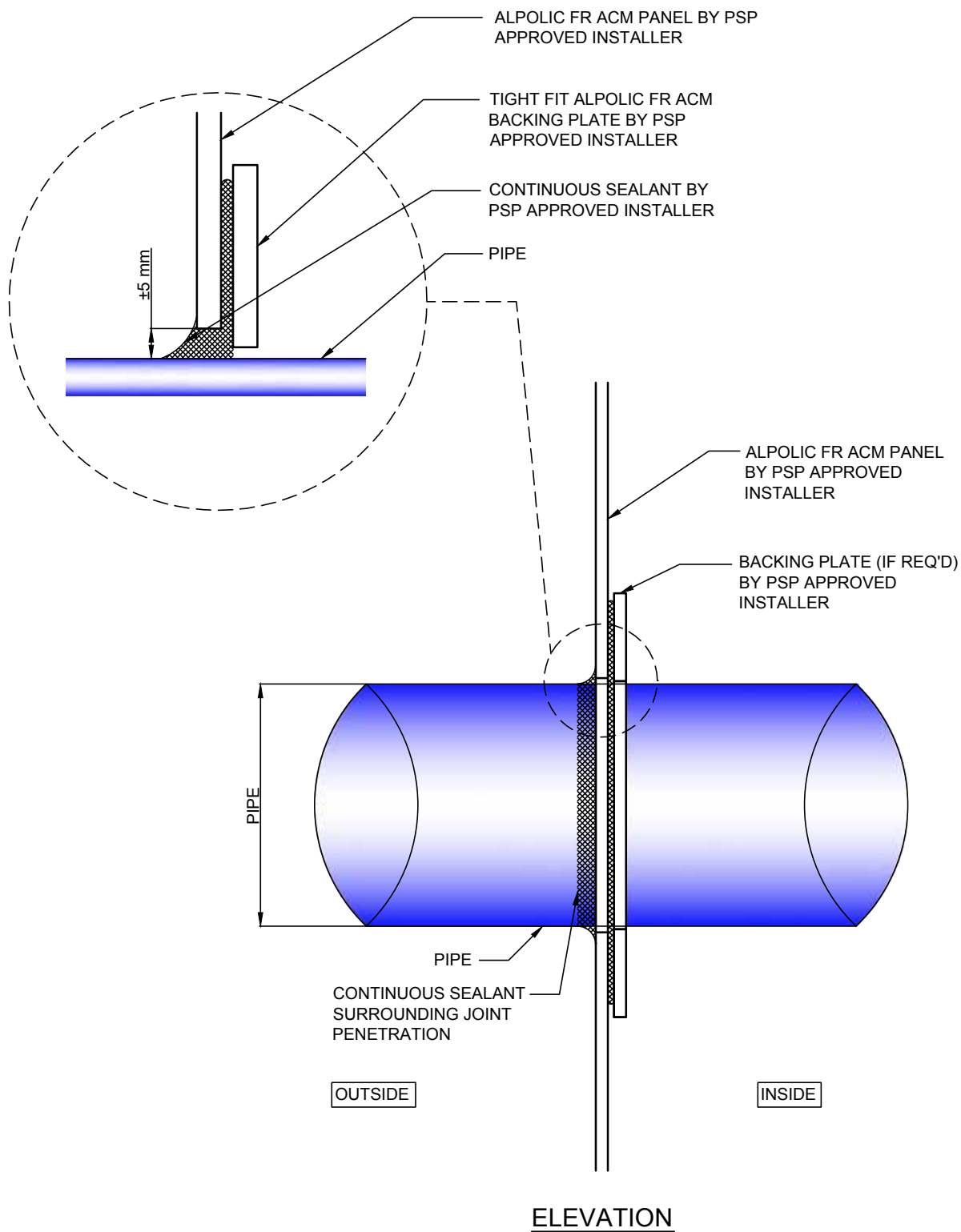
25

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Issue date: August 15, 2016

STANDARD



SCALE:	1:2 @ A4
DRAWN BY:	PSP
CHECKED BY:	
DATE:	JUNE, 2016



DRAWING TITLE:
STANDARD PENETRATION DETAIL

SHEET NO.
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