

ALICLAD



= HORIZONTAL = ALPHA RAIL

high performance aluminium
weatherboard system



MATERIALS • SYSTEMS • SOLUTIONS



The Building Agency is the exclusive distributor of a cultivated selection of well-respected brand name cladding and roofing products and systems.

The Building Agency's focus is to ensure correct and comprehensive selections from our product and system ranges and to assist with design, specification and delivery of high performance buildings.

The Building Agency introduces our newly developed - ALICLAD System

Performance and aesthetics find a perfect balance in the latest contemporary aluminium cladding system designed in New Zealand for our local conditions.

The tough New Zealand climate calls for exterior products that can perform in all weather conditions, meet the most stringent code and standards, and bring elegance and architectural integrity.

AliClad, designed by The Building Agency, is a premium aluminium weatherboard system that has had every detail and feature designed, tuned and resolved. Backed by decades of local experience and international product knowledge, AliClad offers architects, builders and developers a robust and beautifully finished product, supported on an easy-to-install fixing system engineered to perform.

Designed for large-scale commercial projects with a residential application.
Designed for:

WEATHER-TIGHTNESS: The system has been designed in line with NZBC Acceptable Solutions. It is tested to be compliant with E2 via NZS4284:2008.

STRUCTURE: The AliClad system is designed for buildings in wind zones from Low to over Extra high wind loadings and engineered to be fixed at maximum span distances for easier application and reduced project costs.

FIRE PROTECTION: Aluminium is defined as non-combustible under the NZBC C clause and when correctly specified the support system forms a limited / non-combustible wall assembly. AliClad is tested for buildings over 25m in total height by a full-scale system fire performance test to BS8414.

FINISH AND AESTHETICS: Sublimated woodgrains, Flat and matt powdercoat options, Anodised, Anodised-look paint finishes, and horizontal and vertical profile alignments achieve both classic and contemporary designs with ease.



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Detail List

Detail Number

AC-H-AR-DL.2

Version

SEP 2022 [v1.3]



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COMPLIANCE STATEMENT

AliClad is an extruded aluminium cladding system that can be installed horizontally or vertically, comprised of 2.2mm thick interlocking weatherboards in multiple design profile options and an accompanying flashing system. The system has been designed up to extra high wind zone in accordance with NZS3604 and engineered to be fixed at increased span distances to provide simple, strong, and safe installations.

This compliance statement covers **AliClad Cladding System** on 20mm Drained & Ventilated cavities.

NZBC Clause B1 Structure

B1.1a, B1.1b, B1.1c, B1.2, B1.3.1, B1.3.2

AliClad weatherboard cladding system structural analysis was undertaken with capacities determined using and theoretical analysis. Span tables for 20mm cavities have been developed to determine the required cladding fixing, batten/rail fixing and screws to main structure fixing spacing.

The AliClad cladding system has been designed to withstand up to ± 2.40 kPa (ULS). When constructed in accordance with the structural and installation guidelines as per Appendix A, AliClad Cladding will meet NZBC Clause B1.

NZBC Clause E2 External Moisture

E2.1, E2.2, E2.3.2, E2.3.3, E2.3.5, E2.3.6, E2.3.7

AliClad weatherboard cladding is intended to be part of a rainscreen cladding system where the panels form the outermost water shedding layer. The cladding line is expected to deflect most of the water hitting the façade. The weather resistant line is located at the back of the rainscreen cavity that is typically constructed with a flexible building wrap or rigid air barrier compliant with NZBC E2/AS1: Table 23.

Where water does penetrate the cladding line, the cavity between the cladding and the structural wall is expected to prevent water being able to migrate onto the structural wall and allow water to drain down. The cavity also allows ventilation which aids in the drying of any residual water and drying of the structural wall.

NZBC C3 Fire Performance

C1a, C1b, C3.1, C3.2, C3.3

AliClad weatherboard cladding is manufactured from solid aluminium. As per MBIE Guidance (MBIE 2817 Fire Performance of External Wall Cladding Systems) that for buildings categorised as low risk (<10m high & >1m away from relevant boundary.) There are no requirements for fire testing protocols P1 to P5 and therefore all products are suitable for use in this application.

Where consideration of fire safety is required due to proximity of relevant boundaries, AliClad can contribute to a building's performance when specified on one of the applicable non-combustible support systems available.

NZBC Clause B2 Durability

B2.1, B2.2, B2.3.1, B2.3.2

AliClad weatherboard base material is 6063-T5 grade aluminium and by its nature is inherently durable. Aluminium is a reactive metal that quickly forms a stable oxide layer upon contact with the atmosphere which seals the raw aluminium from further oxidation. Therefore, aluminium is fundamentally durable. Aluminium supports are suitable to be used in all New Zealand exposure/atmospheric zones.

In addition, the AliClad weatherboard cladding is finished using premium powder coating systems.

Timber and Plastic Battens and Fixings

On Low-Risk buildings where fire requirements allow, a timber or HDPE cavity packer batten system may be used. Where timber is used it must be at a minimum of H3.1 treatment. If applicable a suitable bond breaker must be utilised to ensure no contact between cladding, flashings, and treated battens. Fixings for AliClad must achieve >35mm structural embedment into main structure.

Refer to Appendix A Fixing Table 1

Aluminium Battens and Fixings

Cladding rails and fixings are also manufactured from aluminium and stainless steel, both materials are recognised as sufficiently durable and should remain serviceable throughout the expected serviceability of the cladding system. Fixings of Aluminium rails must achieve >45mm embedment into main structure.

Refer to Appendix A Fixing Tables 2 & 4

Galvanised Support and Battens

To meet the durability requirements, mild steel support and battens need to be protected against corrosion. Support frames must have a minimum wall thickness of 1.15BMT. Support frames are to be coated with Zinalume steel AZ150. The Building Agency only specify Zinalume coatings for buildings with Exposure Zone of B and C to achieve the durability requirement specified in NZBC Clause B2. In addition, as outlined on NZBC E2/AS1 Table 20, hidden elements coated with AZ150 can achieve 50-year durability. Fixings of galvanised support battens rails must achieve >35mm embedment into main structure.

Refer to Appendix A Fixing Tables 3 & 5

Design Responsibility

It is expected that the architect/specifier's design intent and specifications (including specified materials, & compatibility where items are subject to material run-off affecting durability) where applicable have been reviewed against the New Zealand Building Code. AliClad, when correctly specified will comply to or contribute to compliance to the following NZBC Clauses and their listed performance clauses as listed.



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appendix a - span tables

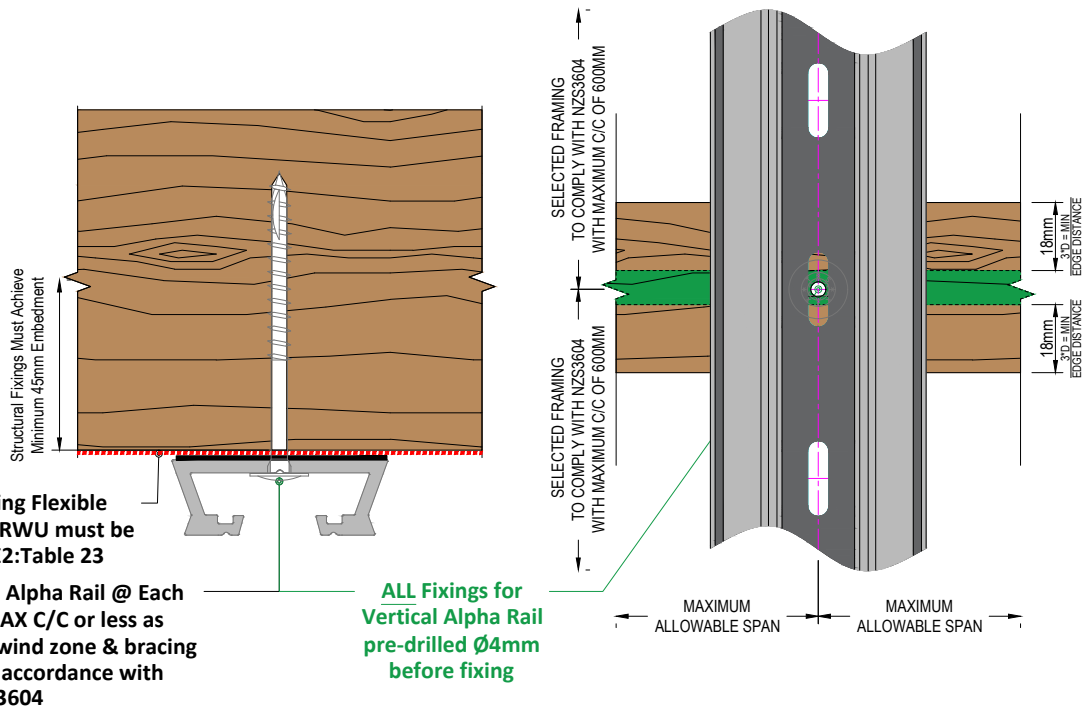
Table 4: Horizontally Aligned - Installed on AlphaRail20

WIND ZONE	ALICLAD TYPE				
	V136	V200	S150	S200	S125/75
	MAXIMUM ALLOWABLE SPAN (mm)				
LOW 00m/s-32m/s <0.6kPa	1200	1200	1200	1200	1200
MEDIUM 32m/s-37m/s >0.66kPa & <0.88kPa	900	800	800	800	800
HIGH 37m/s-44m/s >0.88kPa & <1.25kPa	600	600	600	600	600
VERY HIGH 44m/s-50m/s >1.25kPa & <1.61kPa	500	400	400	400	400
EXTRA HIGH 50m/s-55m/s >1.61kPa & <1.9kPa	400	400	400	400	400
SPECIFIC ENGINEERING DESIGN >55m/s >1.9kPa	SED	SED	SED	SED	SED

1. C4 Evo TBS680 Flange Head Screw TX30 (≥ 45mm minimum embedment, Ø4mm Pre-drill, 3*D Edge Distance)
2. AlphaRail20 - 20mm Aluminium cavity battens, fixed at every stud at 600mm o/c
3. Wind Zone Classifications - ULS From NZS3604, considered in Positive(+) Pressure and Negative(-) Suction

*** Design Assumptions:**

1. The wind pressures are for external wind only. Internal pressures will not be applied to the cladding and assumed to be resisted by the internal lining.
2. Load on each panel is uniformly distributed.
3. The span/deflection limit for SLS wind load is 250mm for aluminium battens/zincalume top hats and L/175 for the AliClad boards, with the serviceability wind load equal to 68% of the ULS wind load.
4. SS304 10g x 19mm HexTek SD Screw 10mm Hex (AliClad board to AlphaRail 20/Zincalume tophat).
5. Timber is assumed Radiata Pine (Group J4 for withdrawal, group 5 in shear, with a characteristic density in excess of 420kg/m³).
 - 5.1. Timber studs at 600mm o/c and
 - 5.2. timber nog/dwangs at 800mm o/c and
6. For Edge Distances Framing fixing face thickness is assumed as 45mm





PARTS LIST

CLADDING PROFILES

- ACV136** - AliClad V136, 136x25 V Shiplap Weatherboard, 5.8m.
ACV200 - AliClad V200, 200x25 V Shiplap Weatherboard, 5.8m.
ACS150 - AliClad S150, 150x25 Shadow Groove Weatherboard, 5.8m.
ACS200 - AliClad S200, 200x25 Shadow Groove Weatherboard, 5.8m.
ACS125/75 - AliClad S200-125/75, 200x25 Shadow Groove Weatherboard with 75mm & 125mm board look, 5.8m.

2 PIECE BASE CLIPS

- ACHMDB-58** AliClad - H Mould Base, 5.8m.
ACJMDB-58 AliClad - J-Mould Base, 5.8m.
ACJMDF-58 AliClad - J-Mould Face, 5.8m, Selected Finish.
ACINTB-58 AliClad - Internal Corner Base, 5.8m, Selected Finish.
ACEXTB-58 AliClad - External Corner Base, 5.8m.
ACJMDBC-58 AliClad - Bottom of Cladding Base, 5.8m, Selected Finish.

2 PIECE FACES & TRIMS

- ACINTF** - AliClad - Internal Corner Face, 5.8m.
ACWNS - AliClad - Window Sill Face, - to suit WANZ supported window, 5.8m, Selected Finish.
ACWNSP - AliClad - Window Sill Face - to suit Punched Window, 5.8m, Selected Finish.
ACJMDF - AliClad - J Mould Face, 5.8m, Selected Finish.
ACHMDF - AliClad - H Mould Face, 5.8m, Selected Finish.
ACEXTF - AliClad - External Corner Face, 5.8m, Selected Finish.

JUNCTION ELEMENTS

- ACCLZ-58** AliClad - Clamp Zed, 5.8m, Selected Finish.
ACCLC-58 AliClad - Clamp Channel, 5.8m, Mill Finish.
ACSTR-58 AliClad - Starter Rail, 5.8m, Mill Finish.
ACJMC-58 AliClad - Jamb Clip, 5.8m, Mill Finish.
ACJMF-58 AliClad - Jamb Flashing, 5.8m, Selected Finish.

MECHANICAL DRAINAGE SYSTEM

- ACJMT-01RIGHT** AliClad - Type 1a Jamb Tray Right
ACJMT-01LEFT AliClad - Type 1b Jamb Tray Left
ACJMT-02RIGHT AliClad - Type 2a Jamb Tray Right
ACJMT-02LEFT AliClad - Type 2b Jamb Tray Left

ALPHA RAIL SUPPORT SYSTEM PROFILES

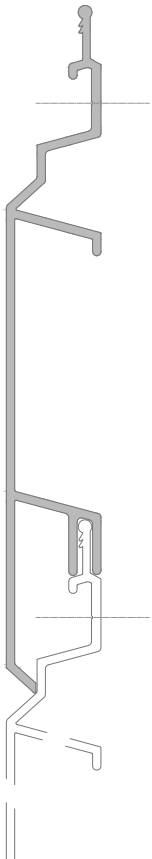
- AR-CLIP100** Alpha Rail Packer Clip 10mm, 50mm.
AR-CLIP50 Alpha Rail Packer Clip 5mm, 50mm.
AR-CLIP30 Alpha Rail Packer Clip 3mm, 50mm.
AR-CLIP16 Alpha Rail Packer Clip 1.6mm, 50mm.
AR-RAIL20H Alpha Rail Vertical Rail 20mm, 5.8m.
AR-RAIL20V Alpha Rail Horizontal Rail 20mm, Drained, 5.8m.

CLADDING PROFILES

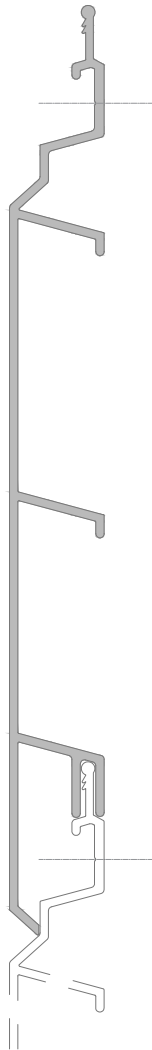
HIGH PERFORMANCE ALUMINIUM
WEATHERBOARD SYSTEM

2.1

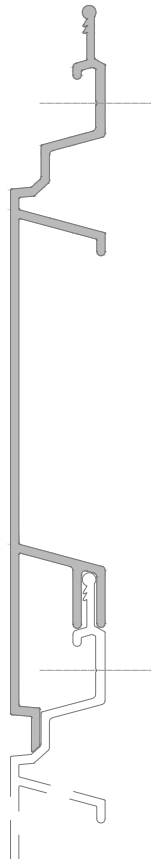
VI36



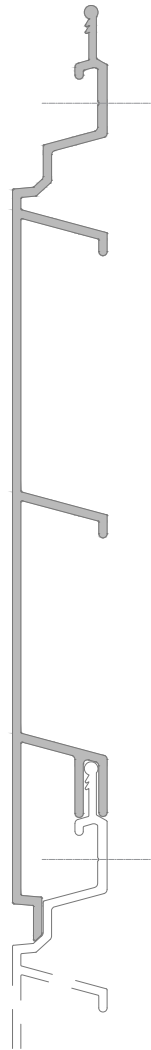
V200



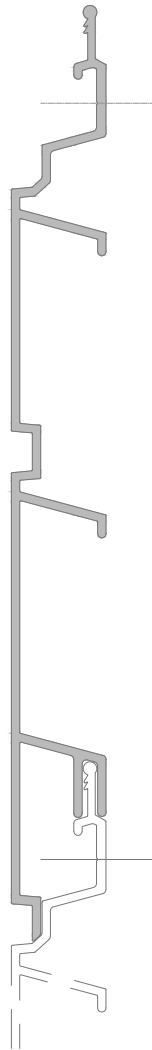
SI50



S200



SI25-75



V

≡ - GROOVE

S

□ - GROOVE

Extruded Profiles - Cladding

Detail Number

AC-H-AR-PRO-01

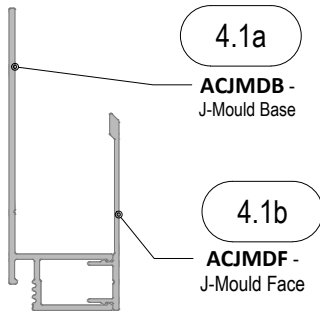
Version

JUNE 2023 [v1.4]

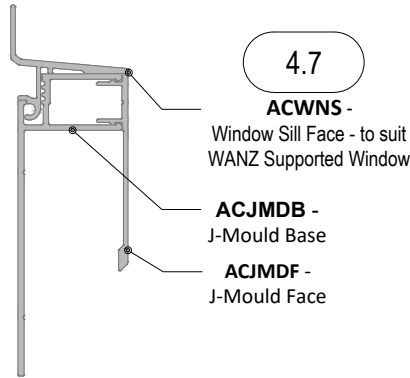
TRIMS - PROFILES

TYPICAL ASSEMBLIES

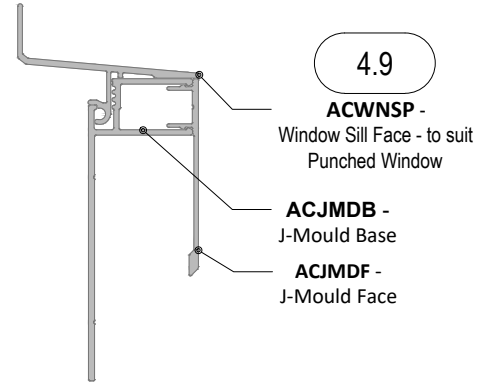
J-MOULD



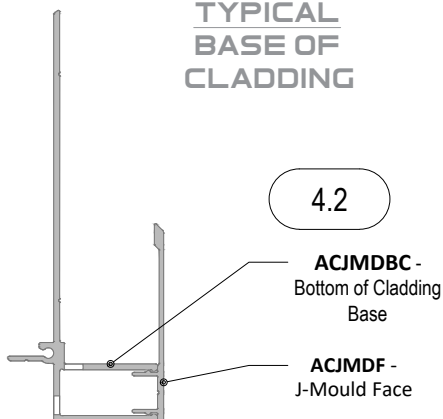
WANZ WINDOW SILL



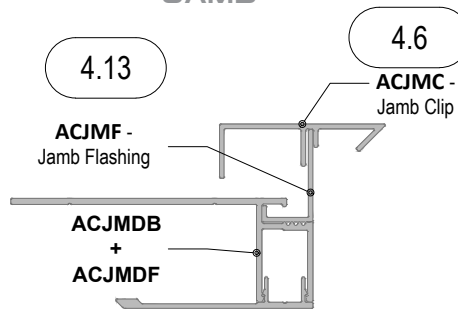
PUNCHED WINDOW SILL



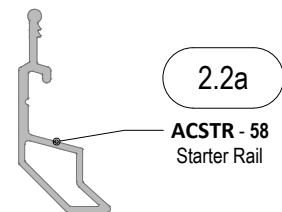
TYPICAL BASE OF CLADDING



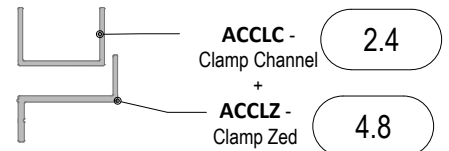
TYPICAL JAMB



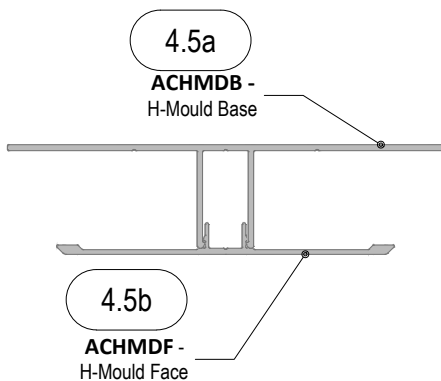
STARTER



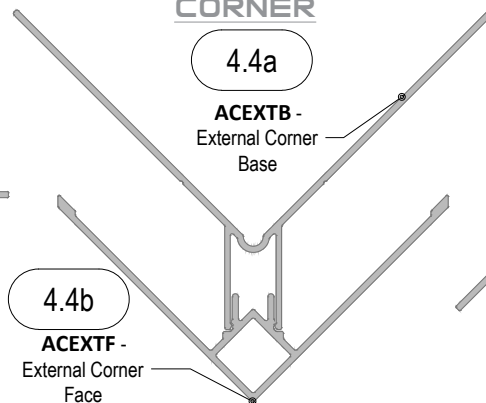
ENDER



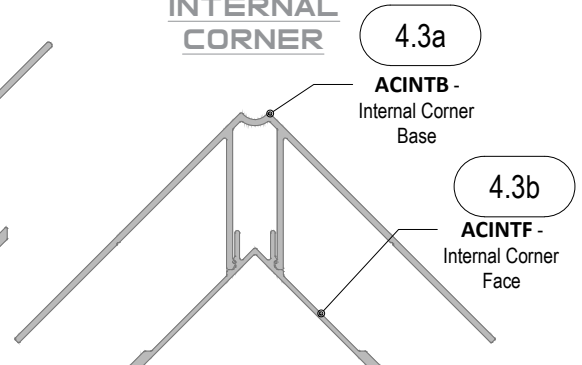
TYPICAL VERTICAL H-JOINT



EXTERNAL CORNER



INTERNAL CORNER



Extruded Profiles - Trims

Detail Number

AC-H-AR-PRO-02

Version

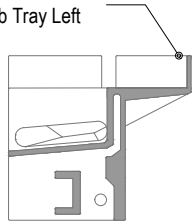
JUNE 2023 [v1.4]

MECHANICAL DRAINAGE SYSTEM

PROPRIETARY JAMB-TO-SILL DRAINAGE CLIPS
- AVAILABLE IN WHITE, GREY AND BLACK.

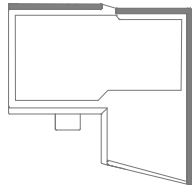
TYPE I - FOR WINDOWS USING WANZ BAR SUPPORT

ACJMT-01LEFT -
Type 1 Jamb Tray Left



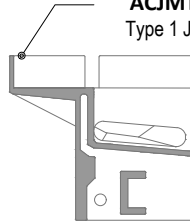
SECTION

4.11a

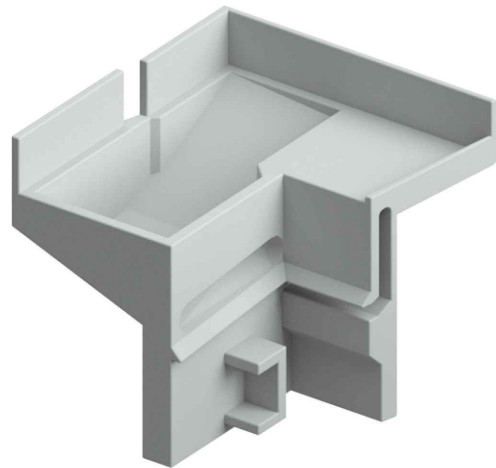
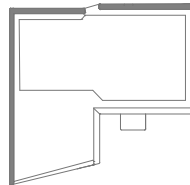


PLAN

ACJMT-01RIGHT -
Type 1 Jamb Tray Right

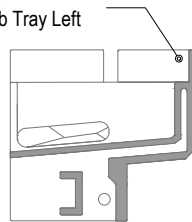


4.11b



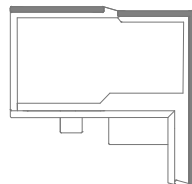
TYPE II - FOR PUNCHED OR RECESSED WINDOWS

ACJMT-02LEFT -
Type 2 Jamb Tray Left



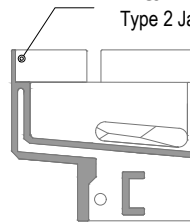
SECTION

4.12b

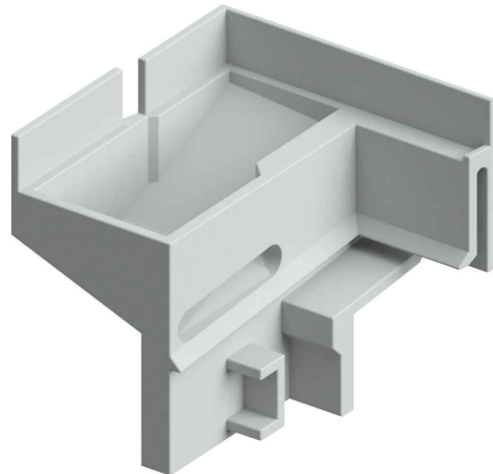
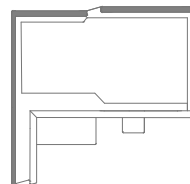


PLAN

ACJMT-02RIGHT -
Type 2 Jamb Tray Right



4.12a



Mechanical Drainage System

Detail Number

AC-V-AR-ACC-01

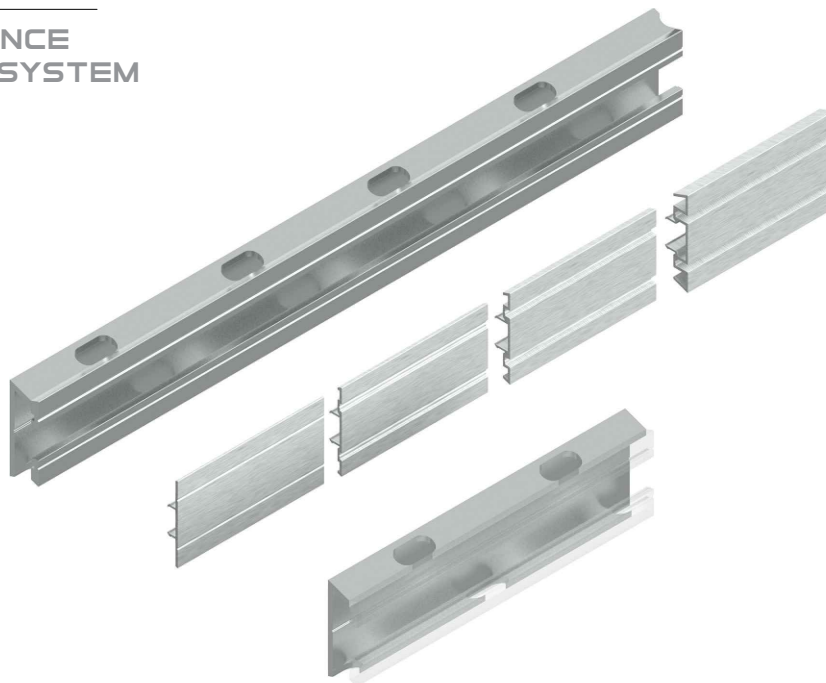
Version

JUNE 2023 [v1.4]



ALPHA RAIL SYSTEM

HIGH PERFORMANCE
ALUMINIUM BATTEN SYSTEM
PROFILES



3.1d



ALPHA CLIP 10MM
Order Code: AR-Clip100

3.1c



ALPHA CLIP 5MM
Order Code: AR-Clip50

3.1b



ALPHA CLIP 3MM
Order Code: AR-Clip30

3.1a



ALPHA CLIP 1.6MM
Order Code: AR-Clip16

3.1



ALPHA RAIL 20MM - 5.8LM
Order Code: AR-Rail20V

3.1



ALPHA RAIL 20MM - 5.8LM
Order Code: AR-Rail20H

Alpha Rail System

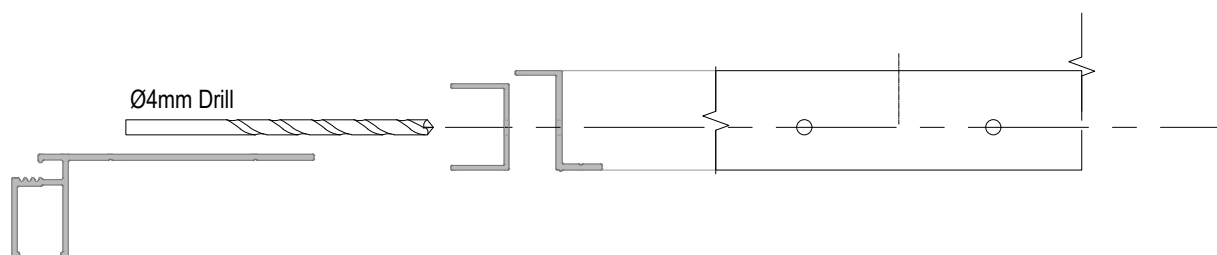
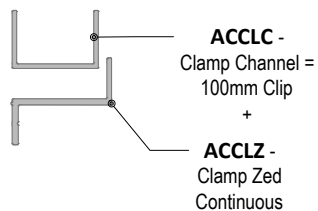
Detail Number

AC-V-AR-ACC-02

Version

JUNE 2023 [v1.4]

PROCESSING - RIPPED WEATHERBOARD TERMINATION



Common location for
termination assembly :
Into J-Moulds or Corner
moulds

ACCLC - Clamp Channel 100mm
Clips Fixed with 2x No4-4 Pop
Rivets to continuous **ACCLZ** at
800mm MAXIMUM centres &
100mm MAX from Ends

**Ripped Board Edge Goes
Here**



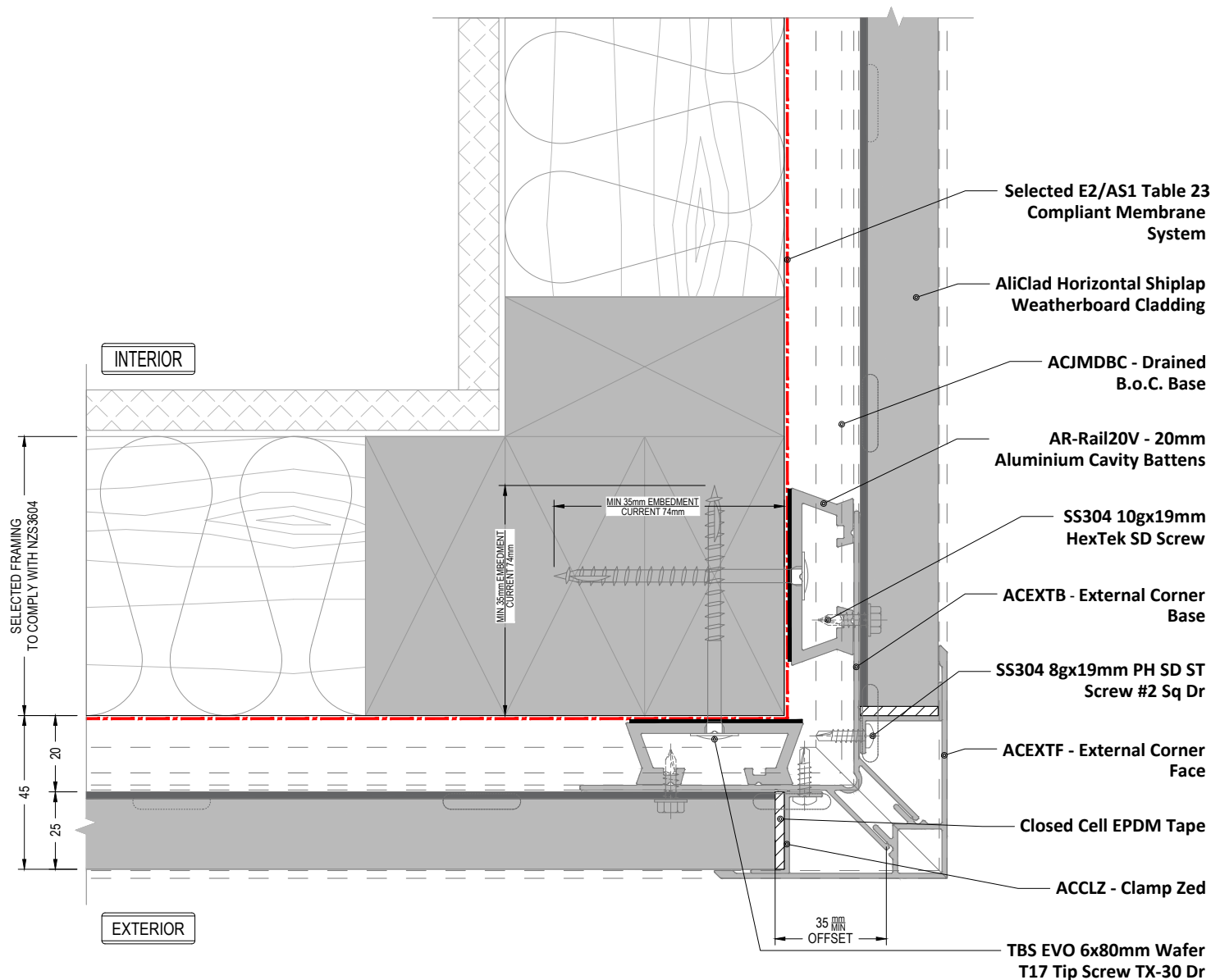
General Processing

Detail Number

AC-GP-1

Version

JUNE 2023 [v1.4]



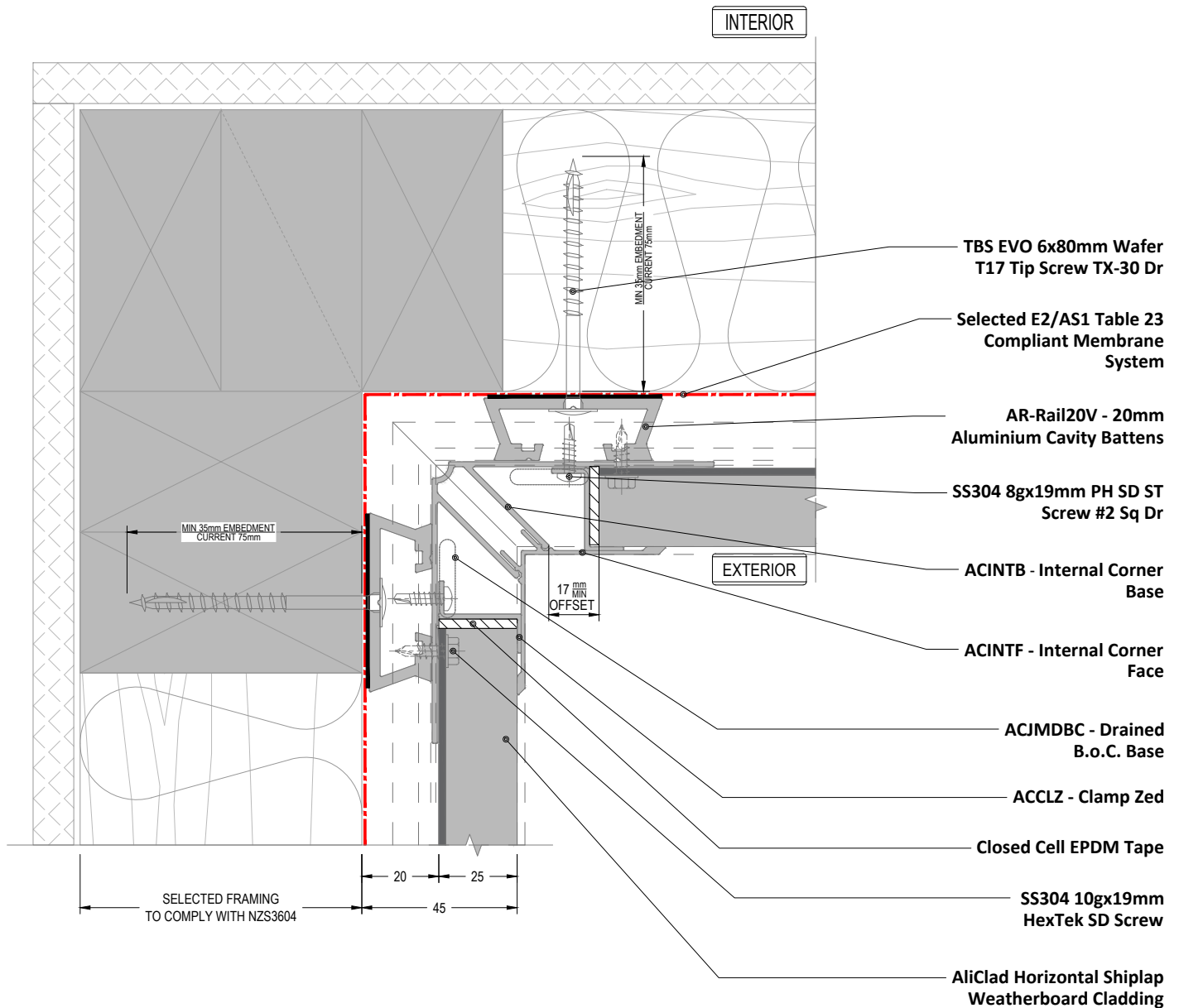
External Corner

Detail Number

AC-H-AR-1.1

Version

JUNE 2023 [v1.4]



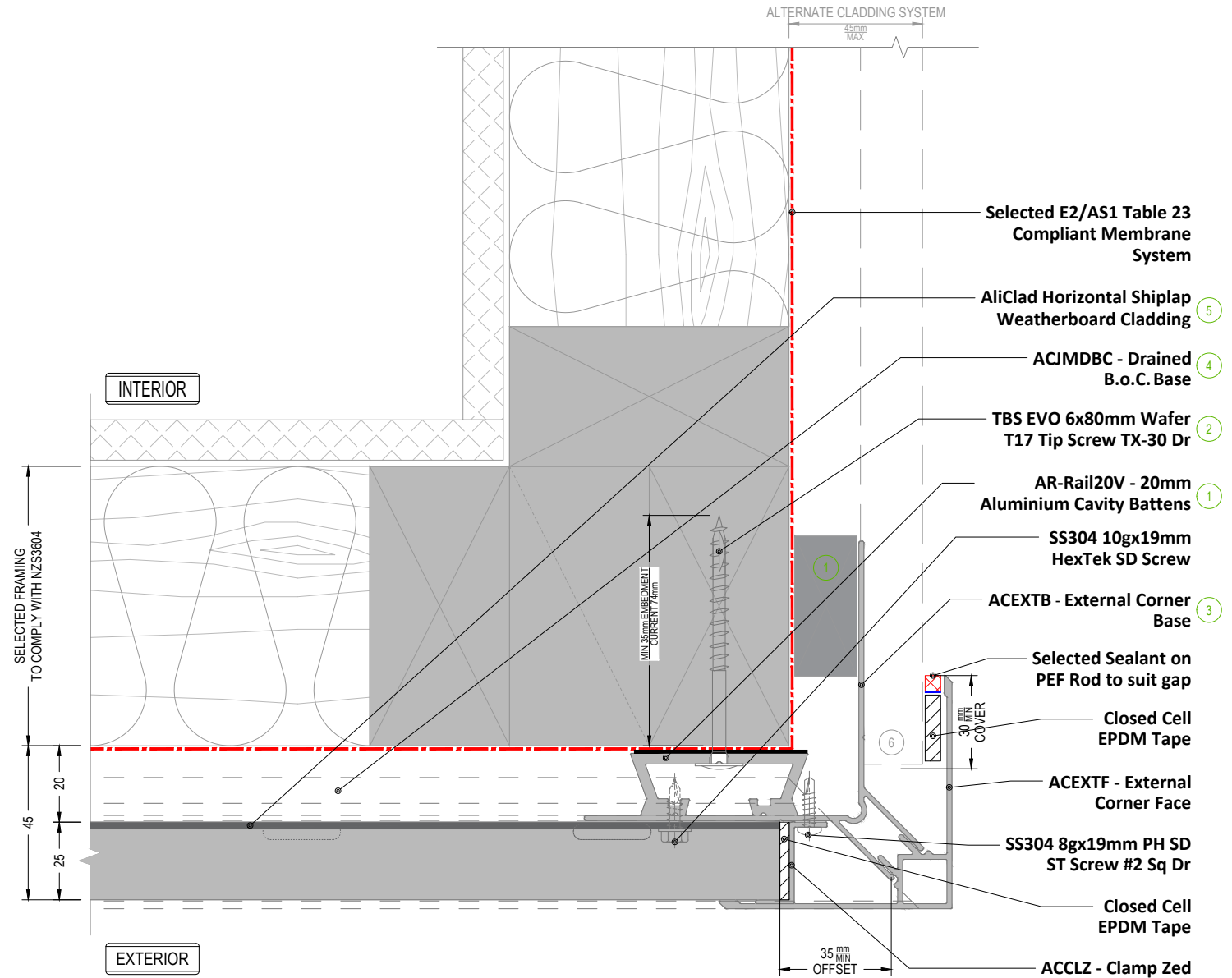
Internal Corner

Detail Number

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Version

JUNE 2023 [v1.4]



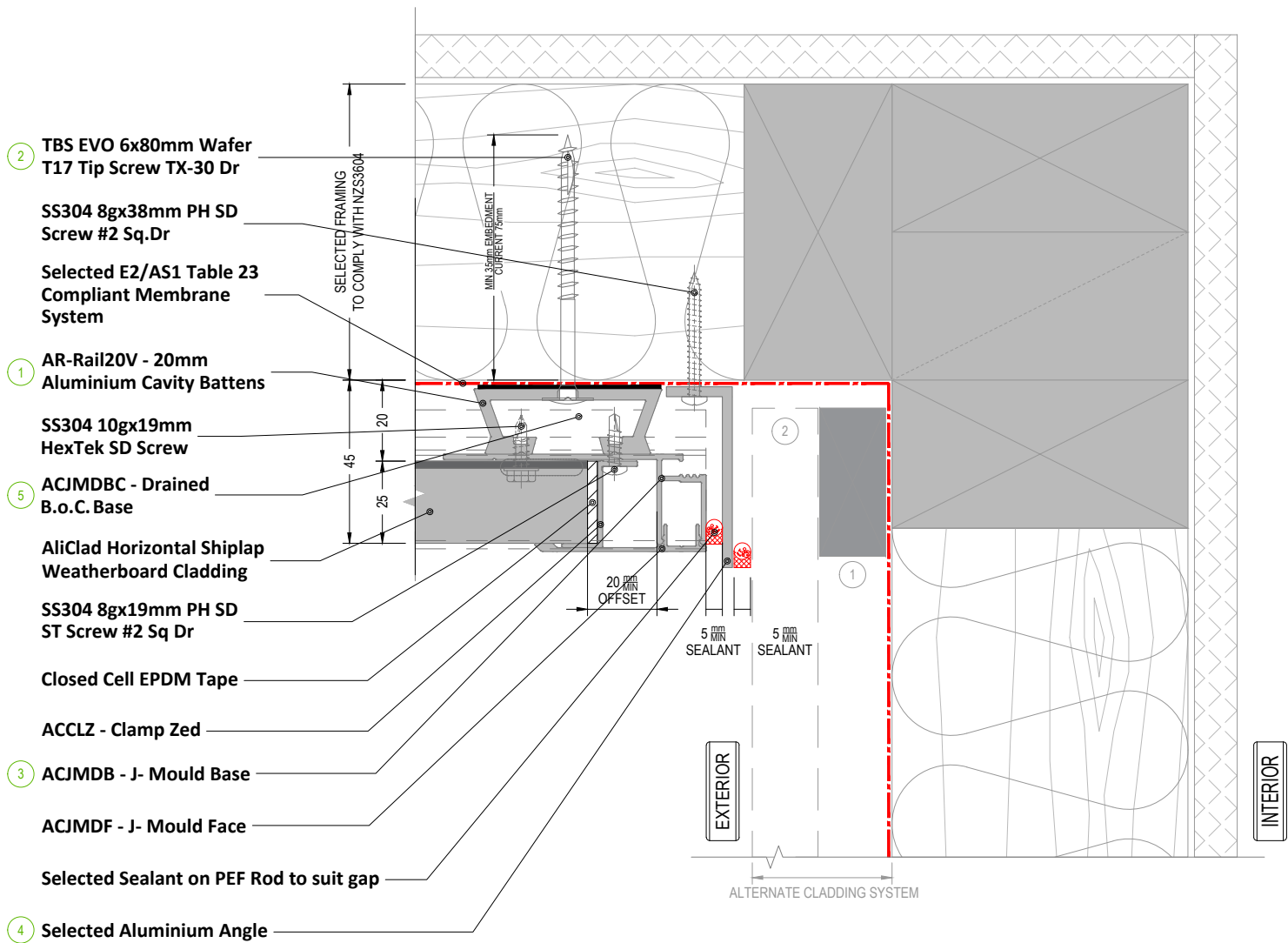
Ext Cnr_SML Cladding Type

Detail Number

AC-H-AR-1.3

Version

JUNE 2023 [v1.4]



NOTE

"4.2" Shown in dashed lines

SEQUENCE OF INSTALLATION

- | | | | |
|---|--|---|-----------------------------|
| 1 | AR-Rail20V - 20mm Aluminium Cavity Battens | 1 | Alternate Support Structure |
| 2 | TBS EVO 6x80mm Wafer T17 | 2 | Alternate Cladding Exterior |
| 3 | ACJMDB - J-Mould Base | 4 | Selected Aluminium Angle |
| 5 | Drained B.O.C Base | | |

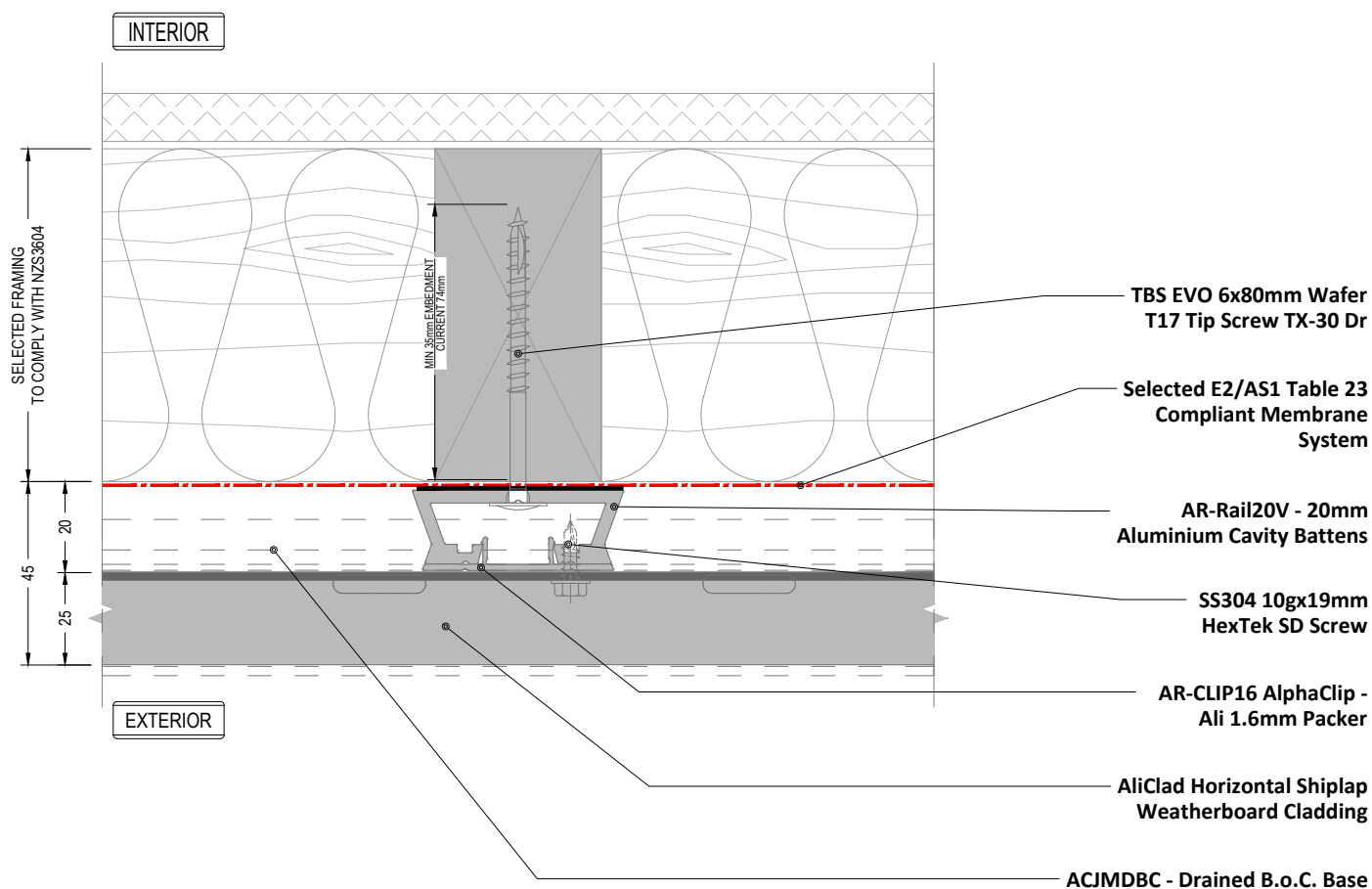
Int Cnr_SML Cladding Type

Detail Number

AC-H-AR-1.4

Version

JUNE 2023 [v1.4]



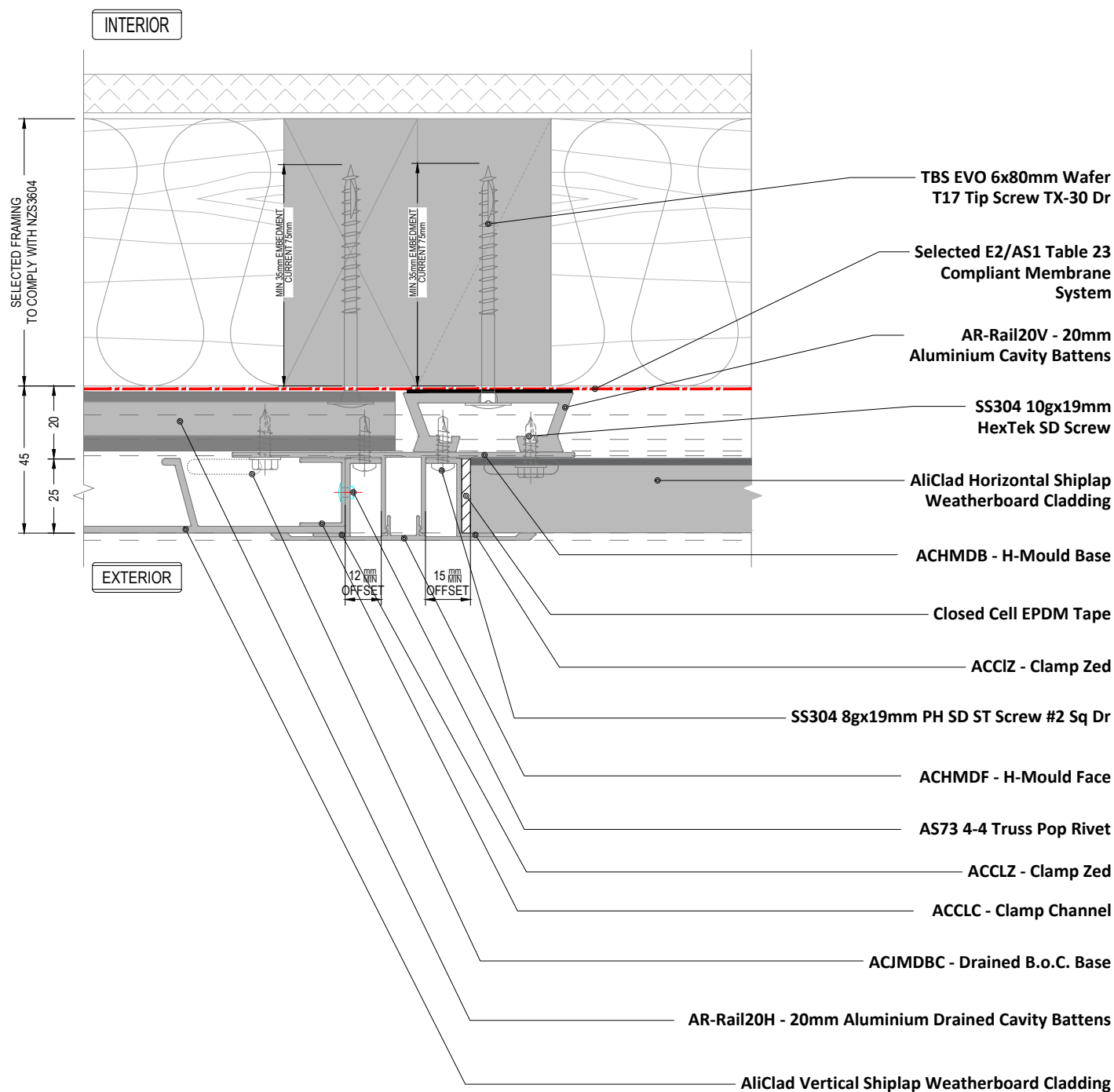
Vertical Joint - Typical

Detail Number

AC-H-AR-2.1

Version

JUNE 2023 [v1.4]



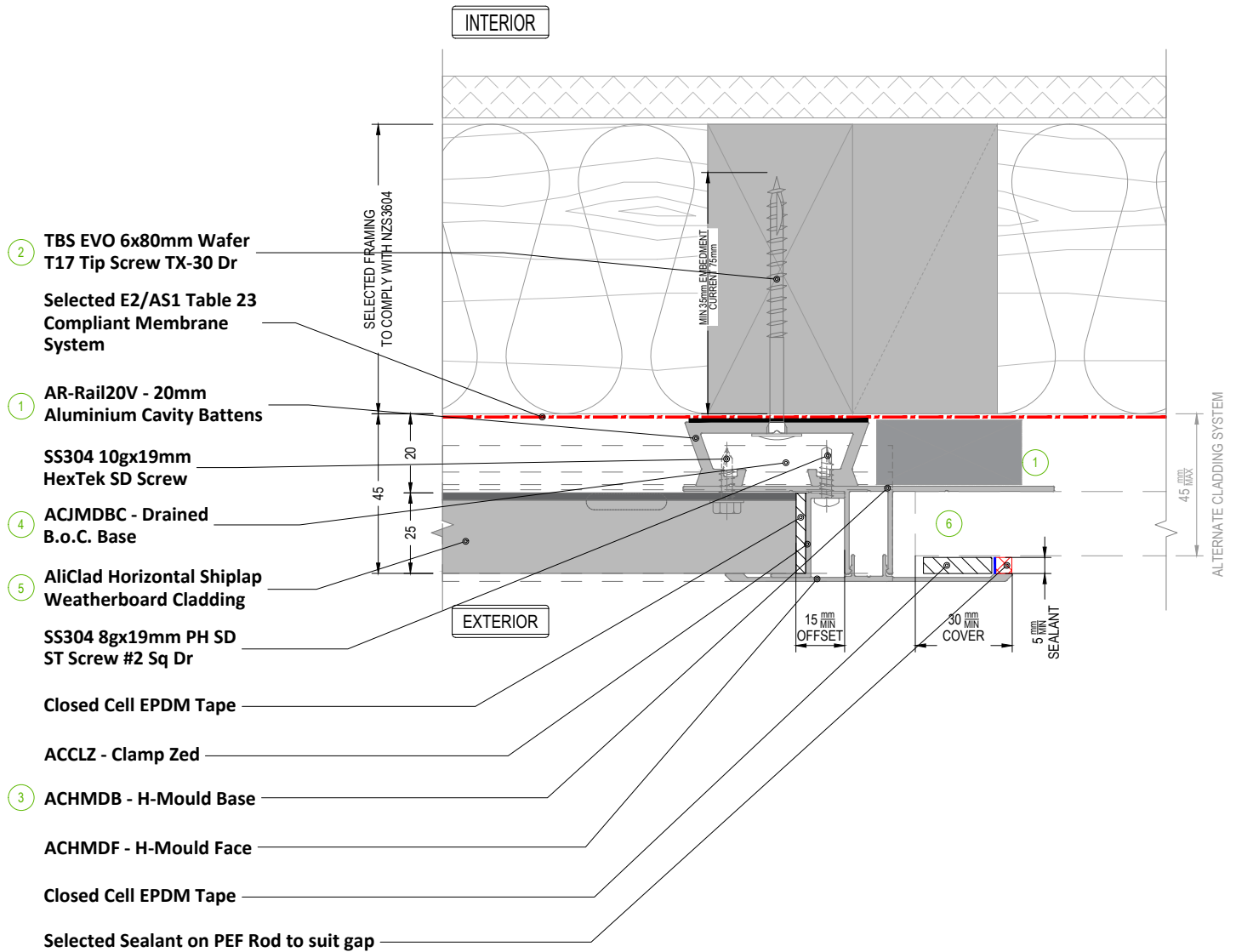
Vert. Joint_Orientation Change

Detail Number

AC-H-AR-2.2

Version

JUNE 2023 [v1.4]



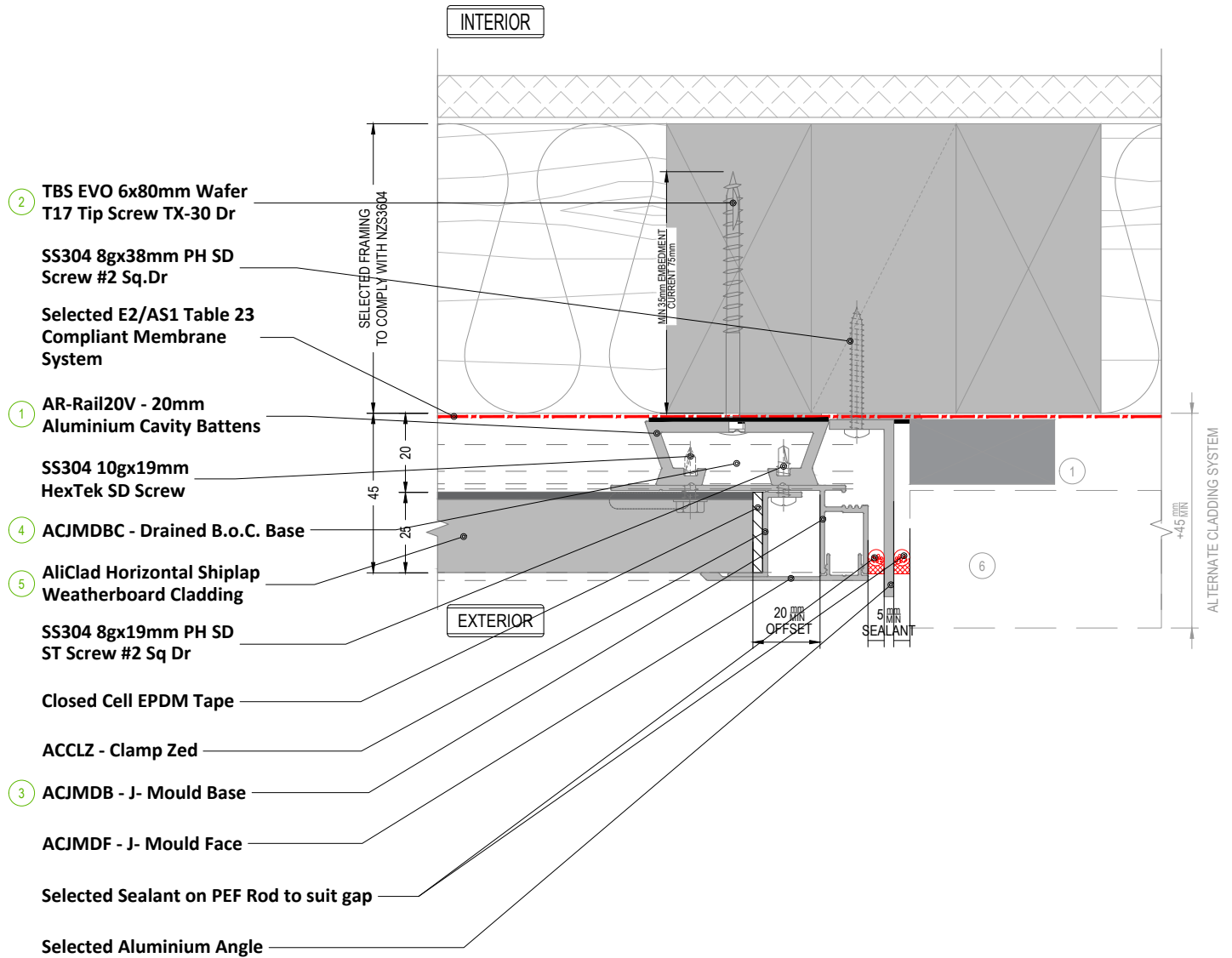
Vert. Joint_SML Cladding Type

Detail Number

AC-H-AR-2.3

Version

JUNE 2023 [v1.4]



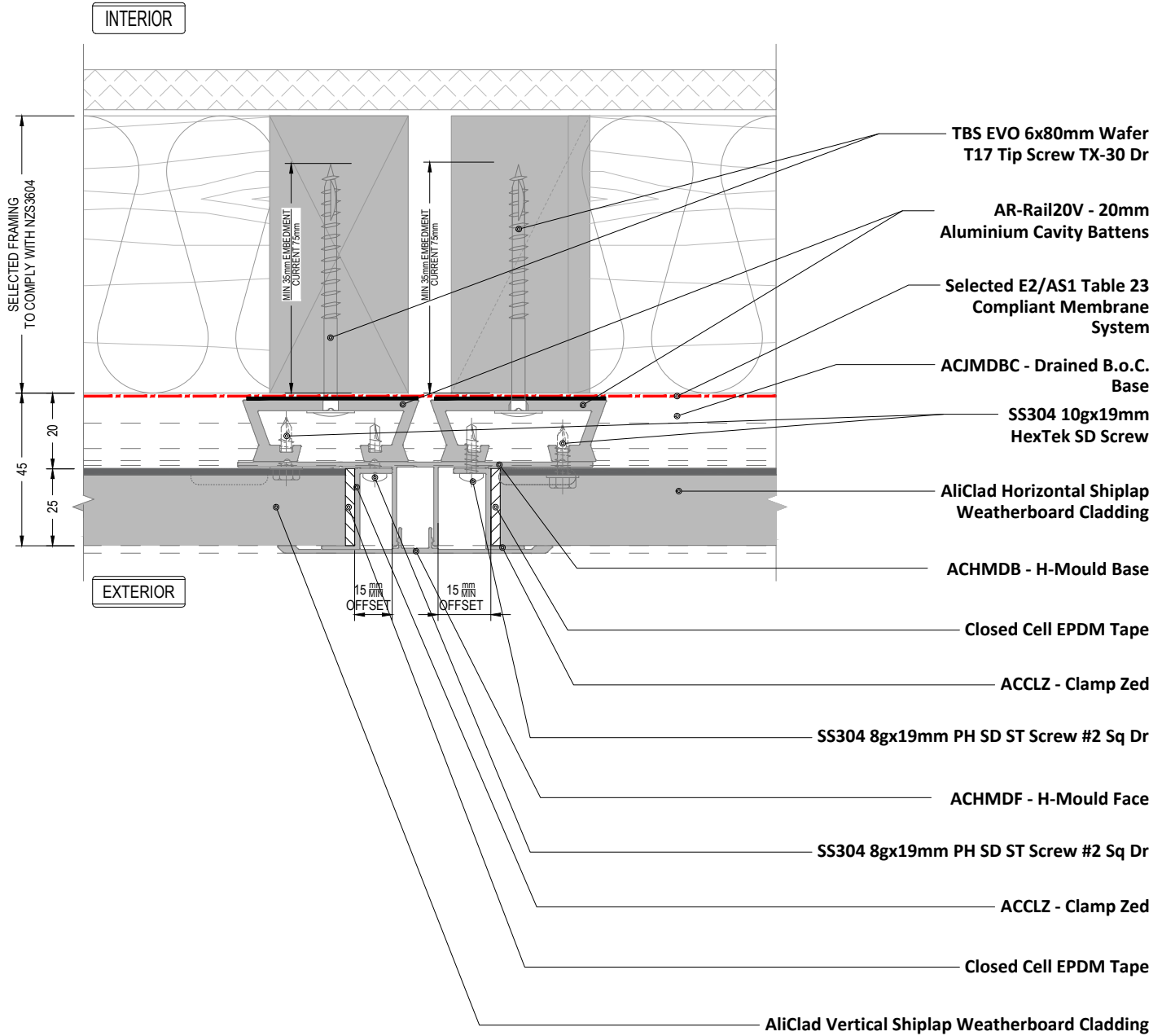
Vert. Joint_LRG Cladding Type

Detail Number

AC-H-AR-2.4

Version

JUNE 2023 [v1.4]



NOTE 1

"4.2" Shown in dashed lines

NOTE 2

Jack stud is required at junction of
cladding types to ensure adequate fixing

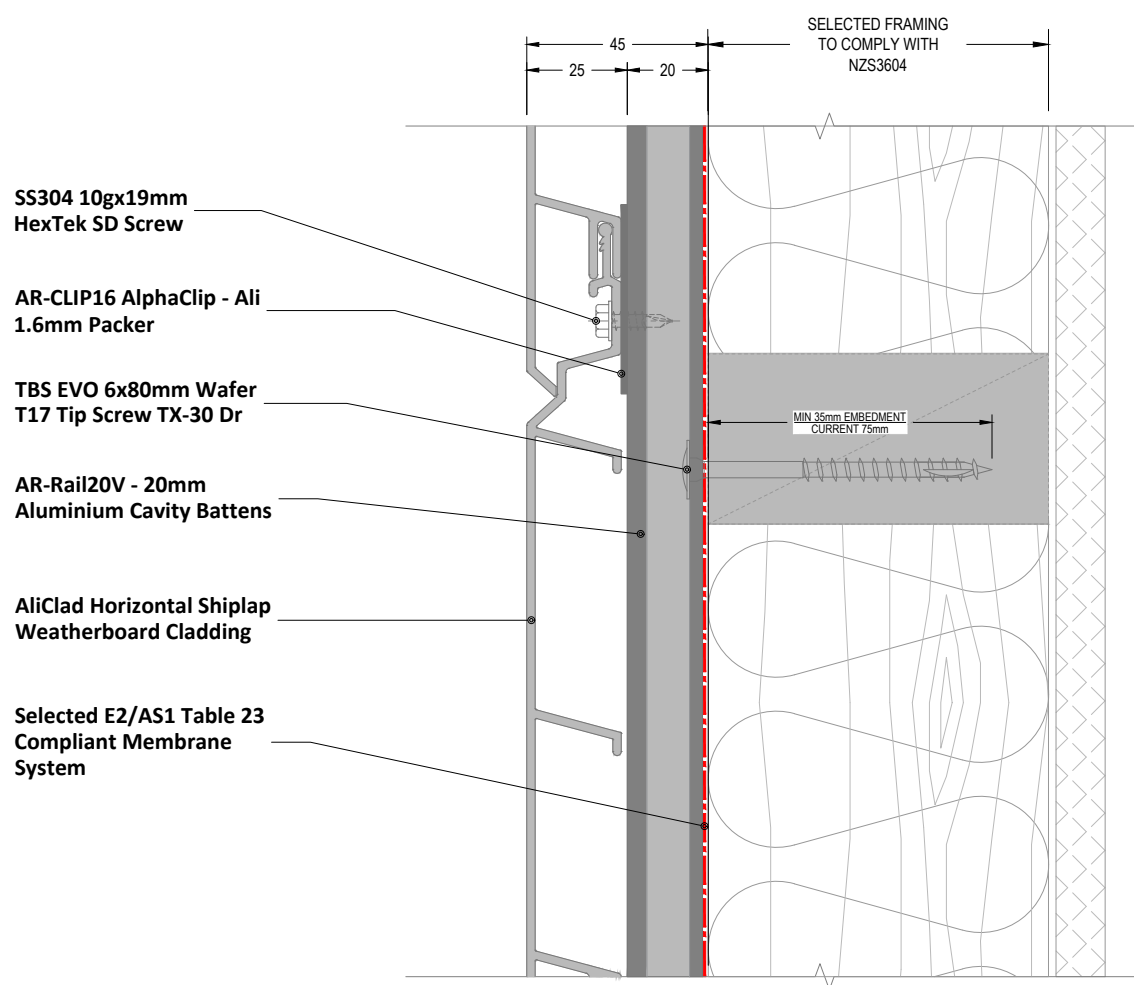
Vertical Joint - Typical

Detail Number

AC-H-AR-2.1

Version

JUNE 2023 [v1.4]



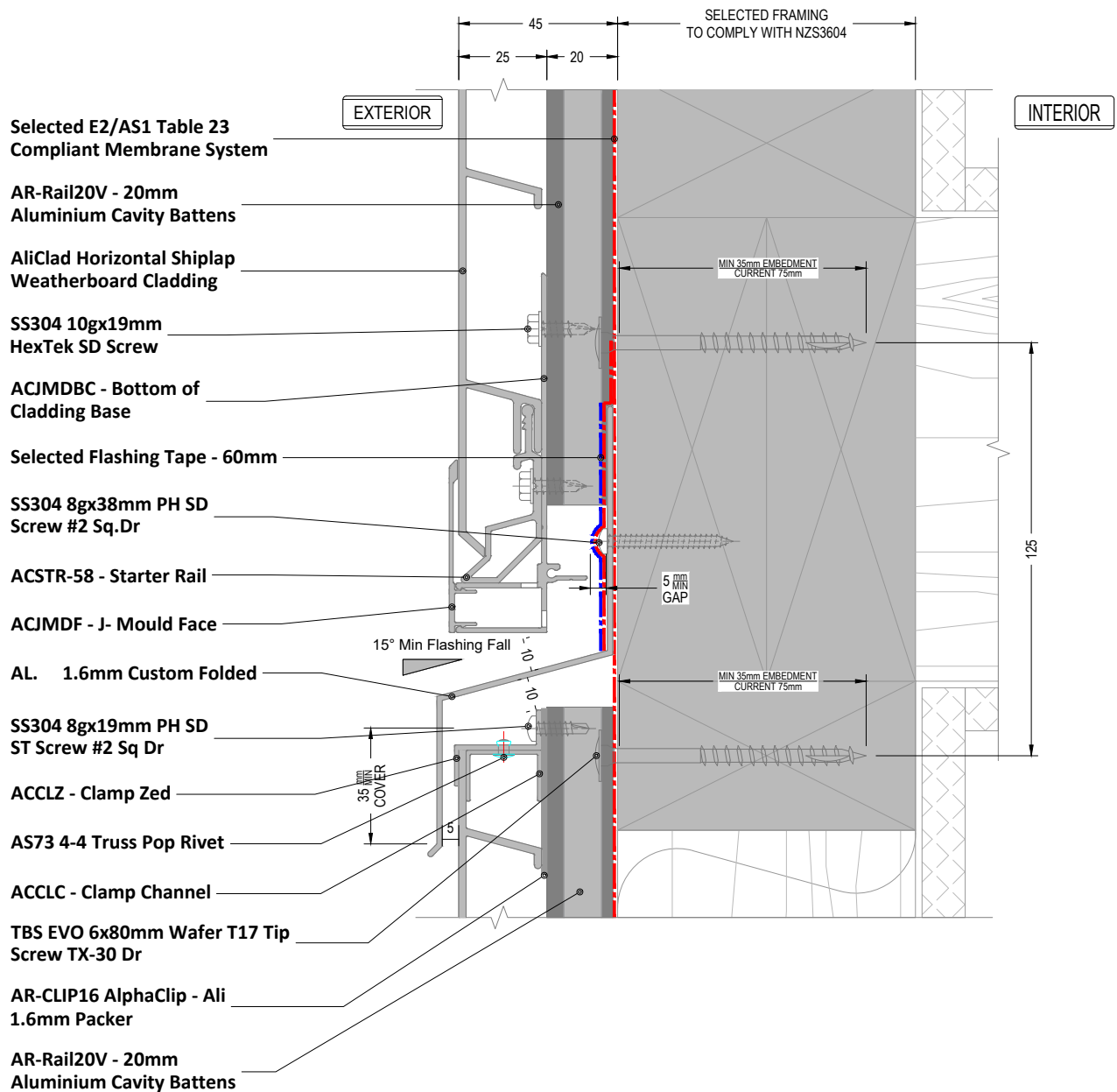
Hori. Joint_Typical

Detail Number

AC-H-AR-3.1

Version

JUNE 2023 [v1.4]



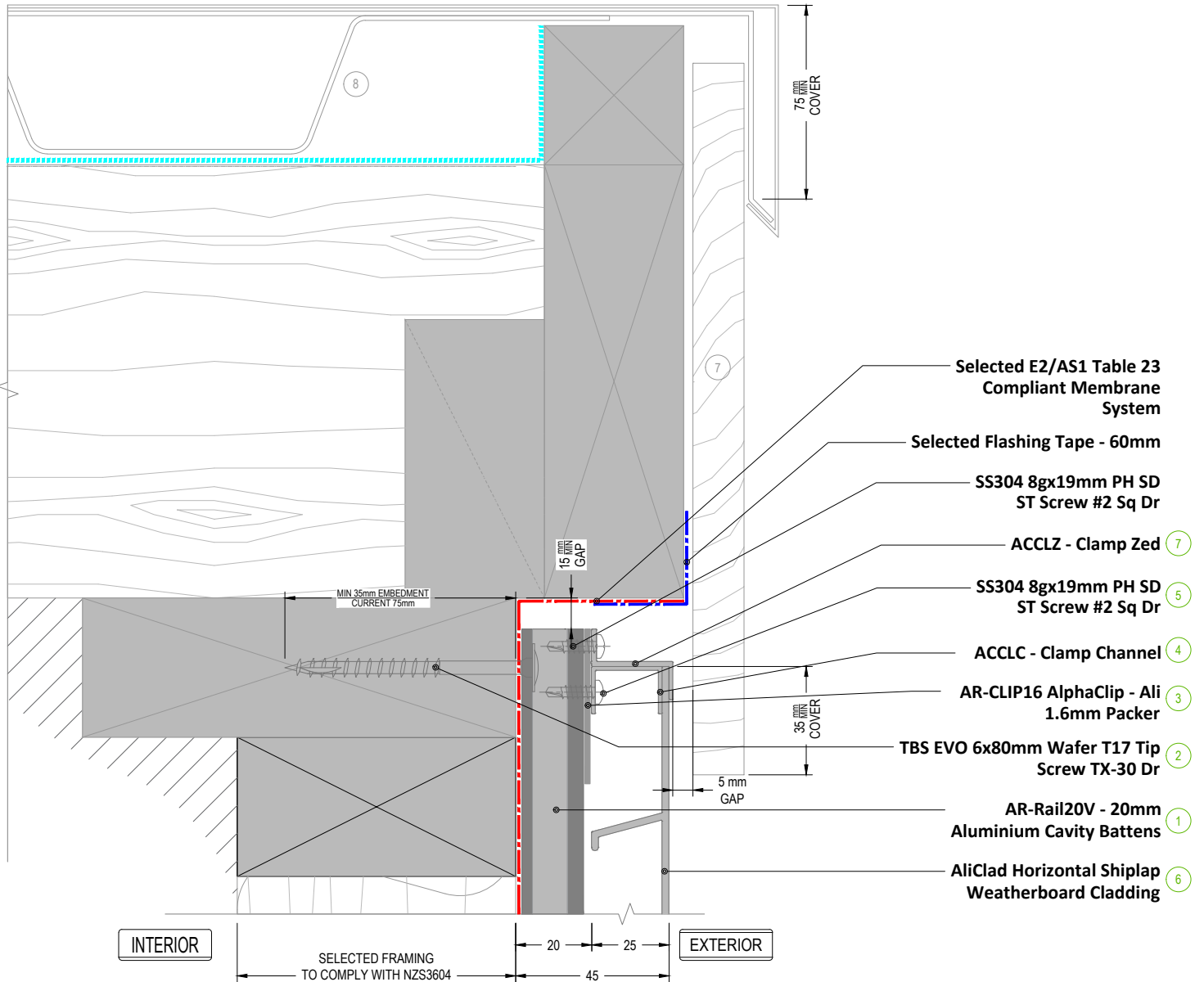
Interstorey Joint

Detail Number

AC-H-AR-3.2

Version

JUNE 2023 [v1.4]



NOTE 1

"4.2" Shown in dashed lines

NOTE 2

Jack stud is required at junction of cladding types to ensure adequate fixing

SEQUENCE OF INSTALLATION

- 1 AR-Rail20V - 20mm Aluminium Cavity Battens
- 2 TBS EVO 6x80mm Wafer T17
- 3 AlphaClip - Ali 1.6mm Packer
- 4 ACCLC - Clamp Channel
- 5 SS304 8gx19mm PH SD ST Screw
- 6 AliClad Horizontal Shiplap Weatherboard Cladding
- 7 ACCLZ - Clamp Zed
- 7 Barge Board
- 8 Roof System

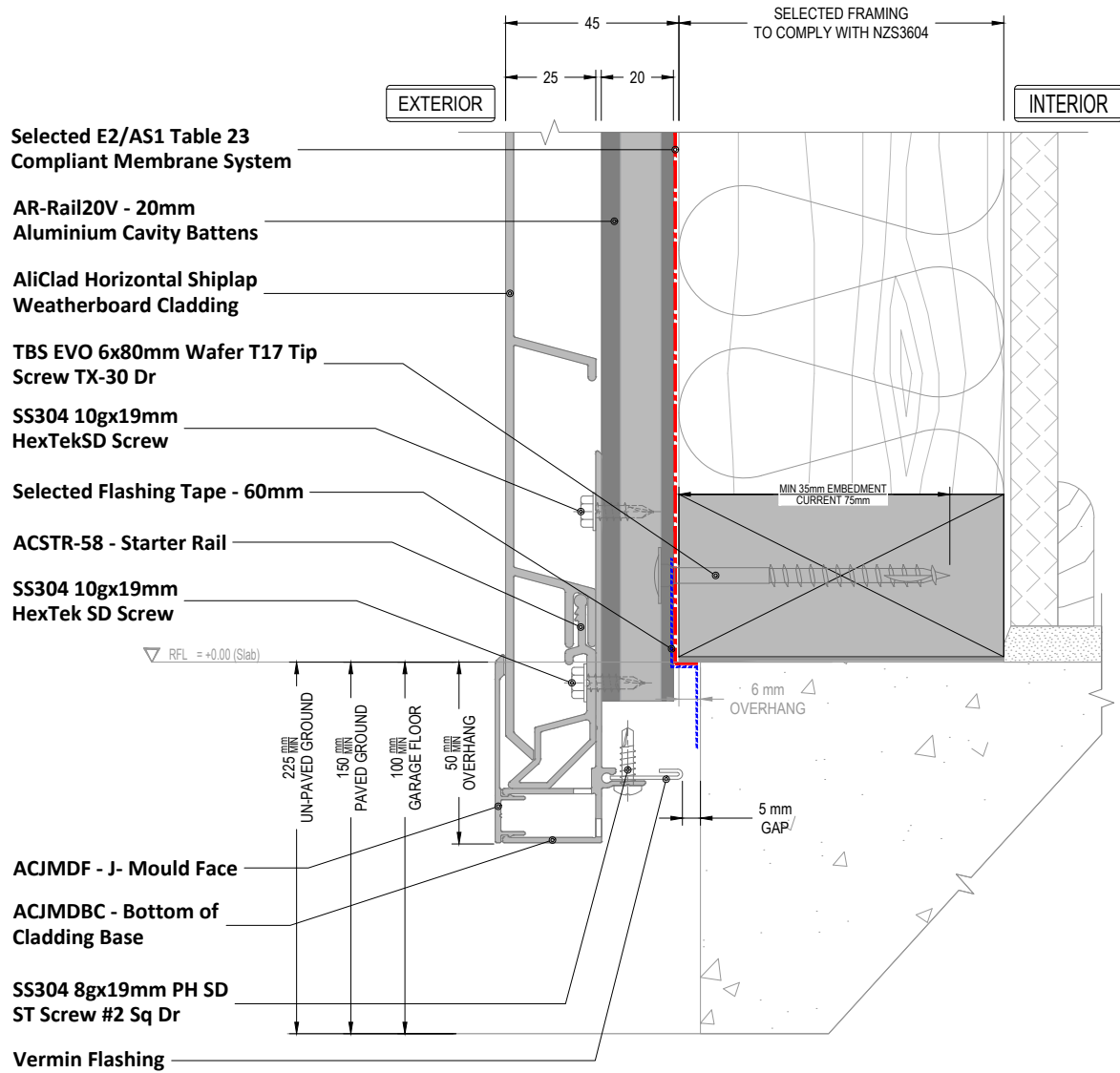
TOP Cladding_Parapet

Detail Number

AC-H-AR-4.1

Version

JUNE 2023 [v1.4]



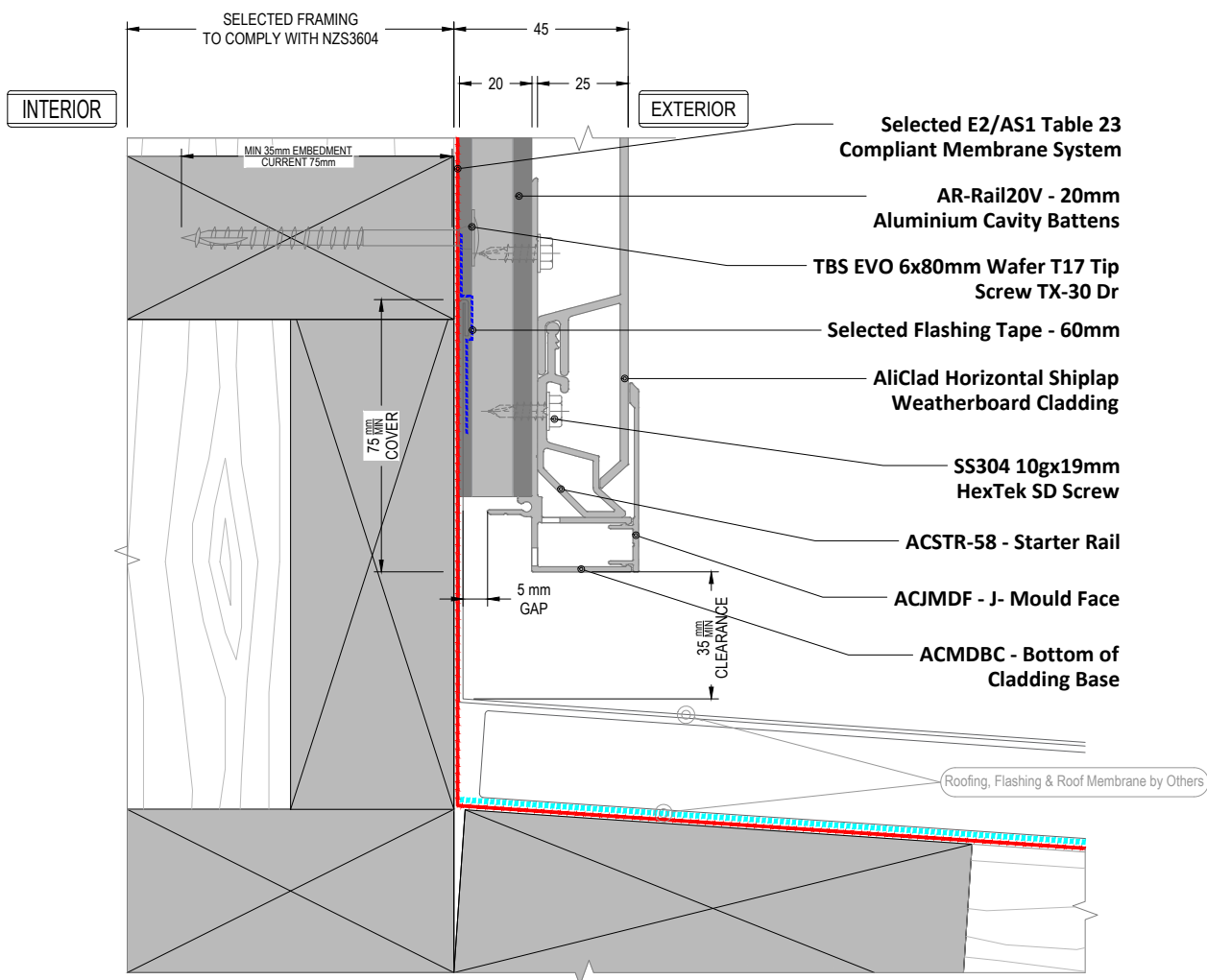
BTM Cladding_G.L

Detail Number

AC-H-AR-4.2

Version

JUNE 2023 [v1.4]



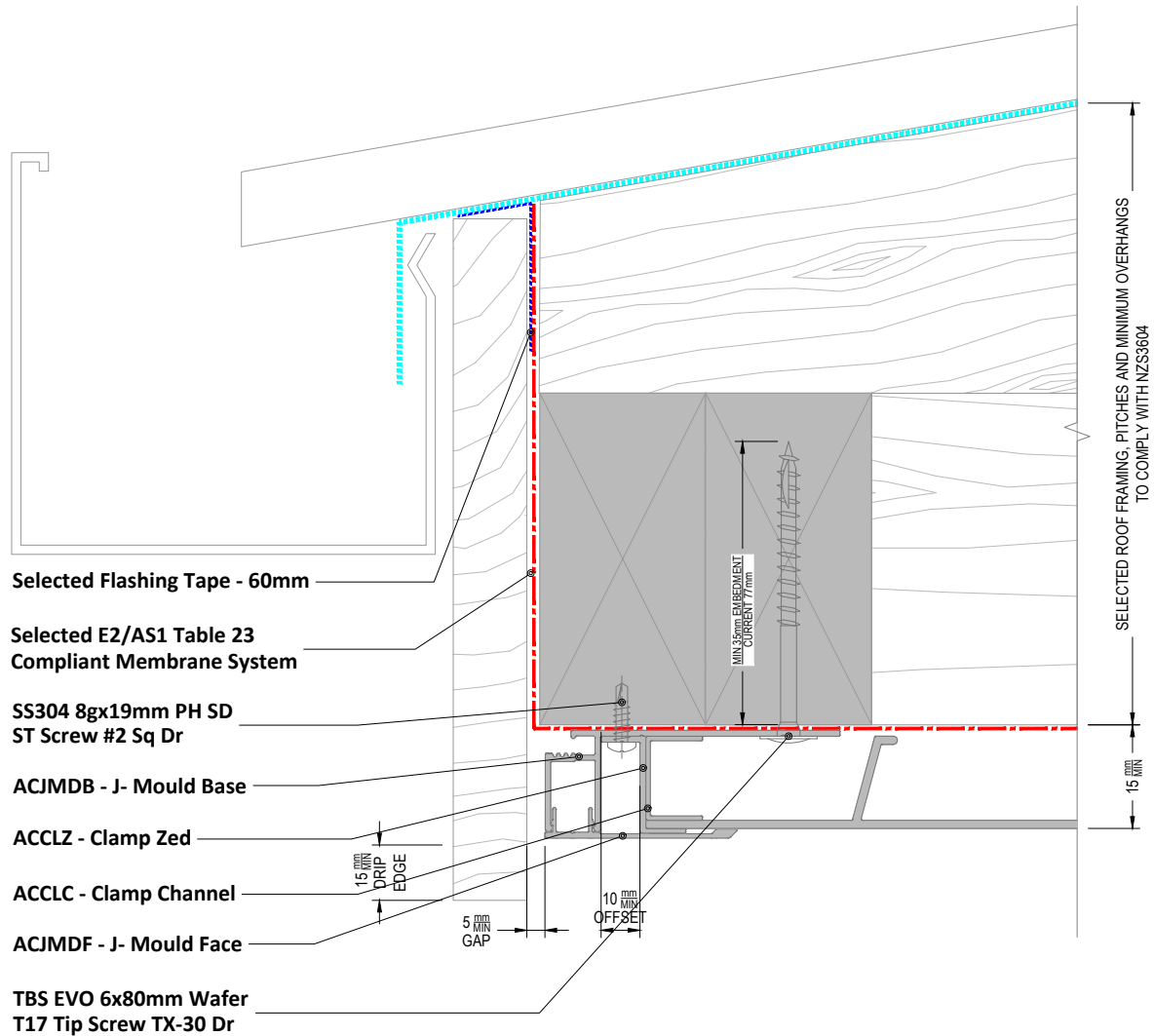
BTM Cladding_ Apron Roof

Detail Number

AC-H-AR-4.4

Version

JUNE 2023 [v1.4]



NOTE

Weathering membrane under soffit is not required, but is recommendable for air barrier performance when a rigid wind barrier is not in use.
-By Others

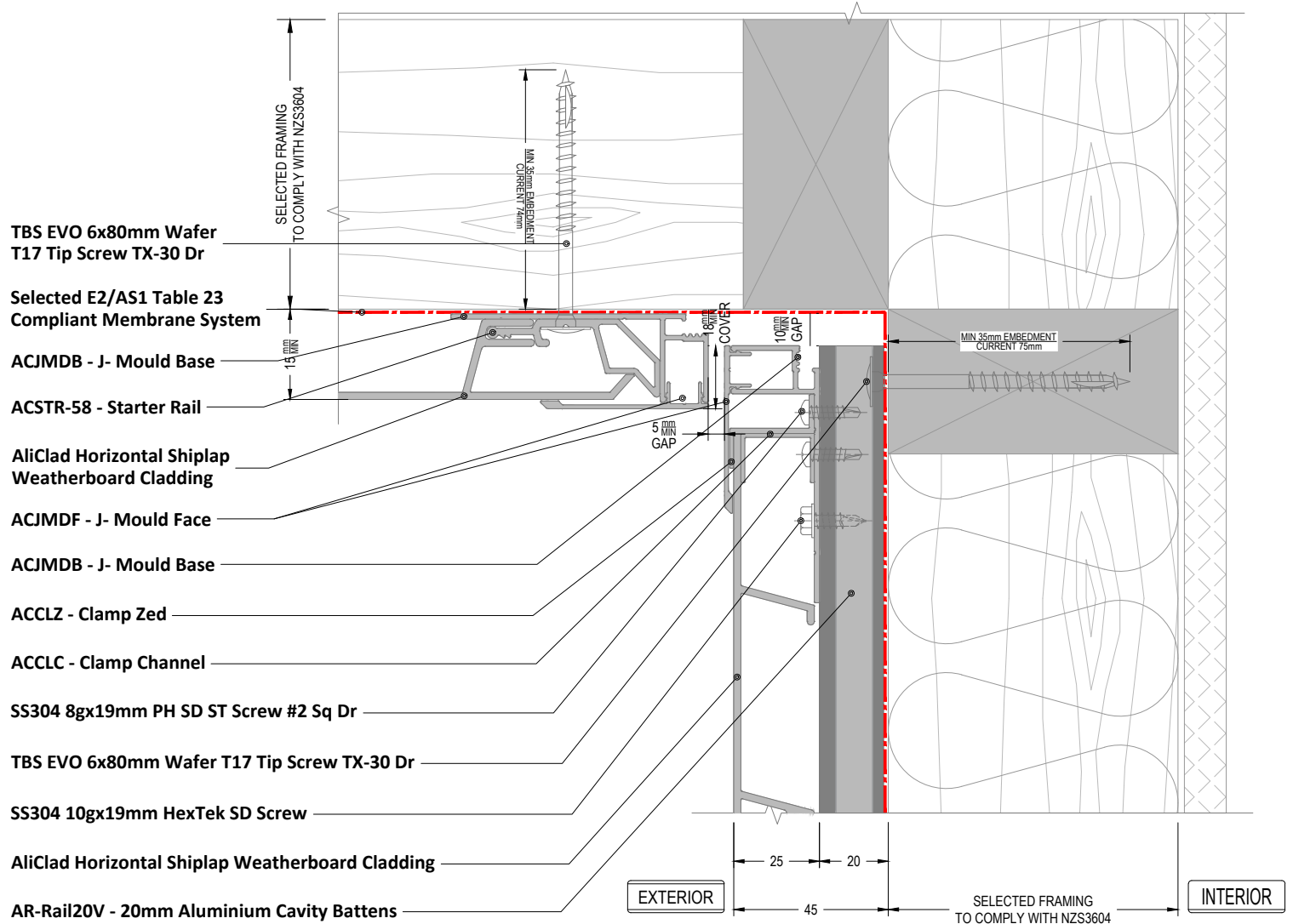
Top Cladding_Barge/Fascia Board

Detail Number

AC-H-AR-4.8

Version

JUNE 2023 [v1.4]



NOTE

Weathering membrane under soffit is not required, but is recommendable for air barrier performance when a rigid wind barrier is not in use.
-By Others

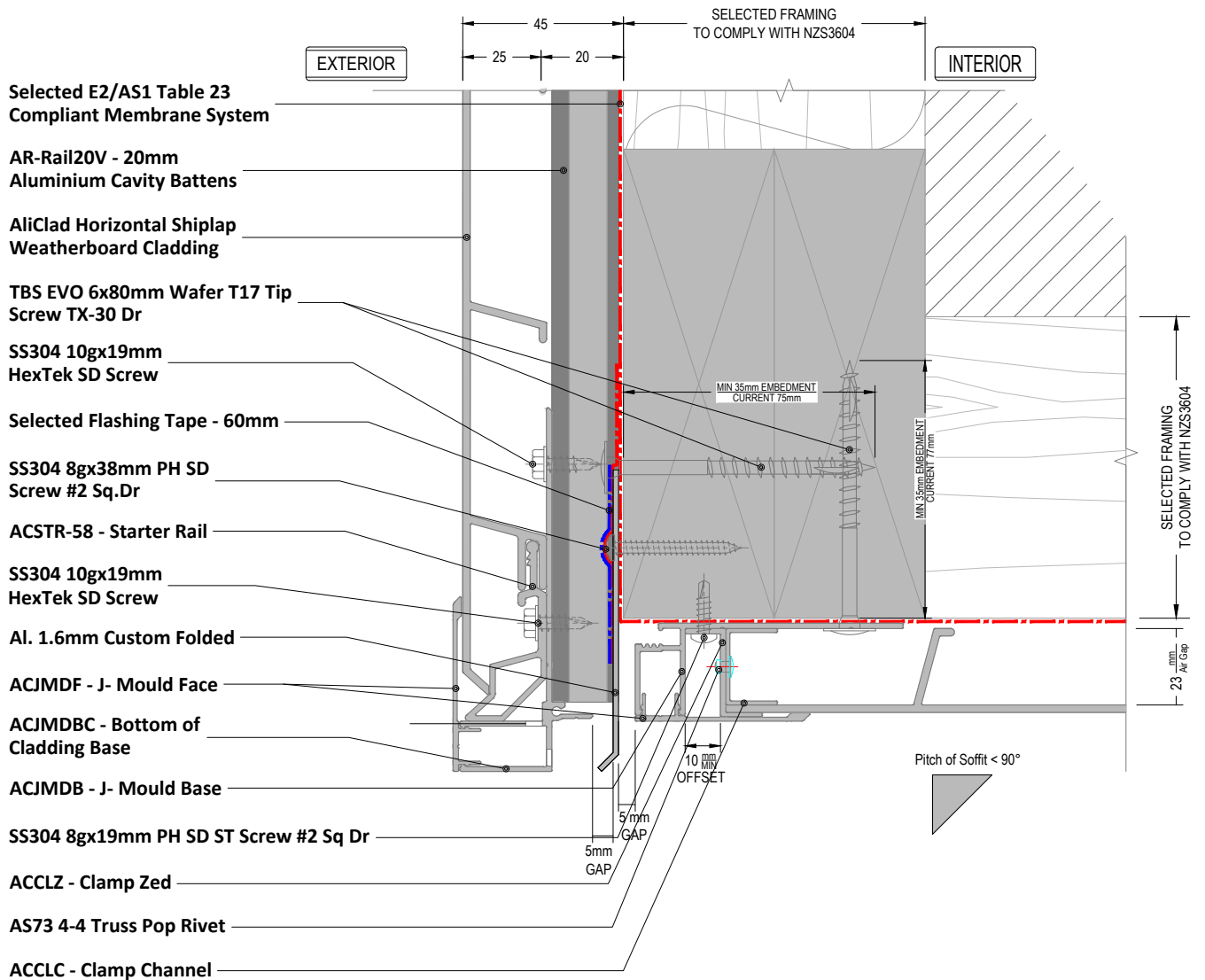
Wall BLW_Soffit <90°

Detail Number

AC-H-AR-5.1

Version

JUNE 2023 [v1.4]



NOTE

Weathering membrane under soffit is not required, but is recommendable for air barrier performance when a rigid wind barrier is not in use.
-By Others

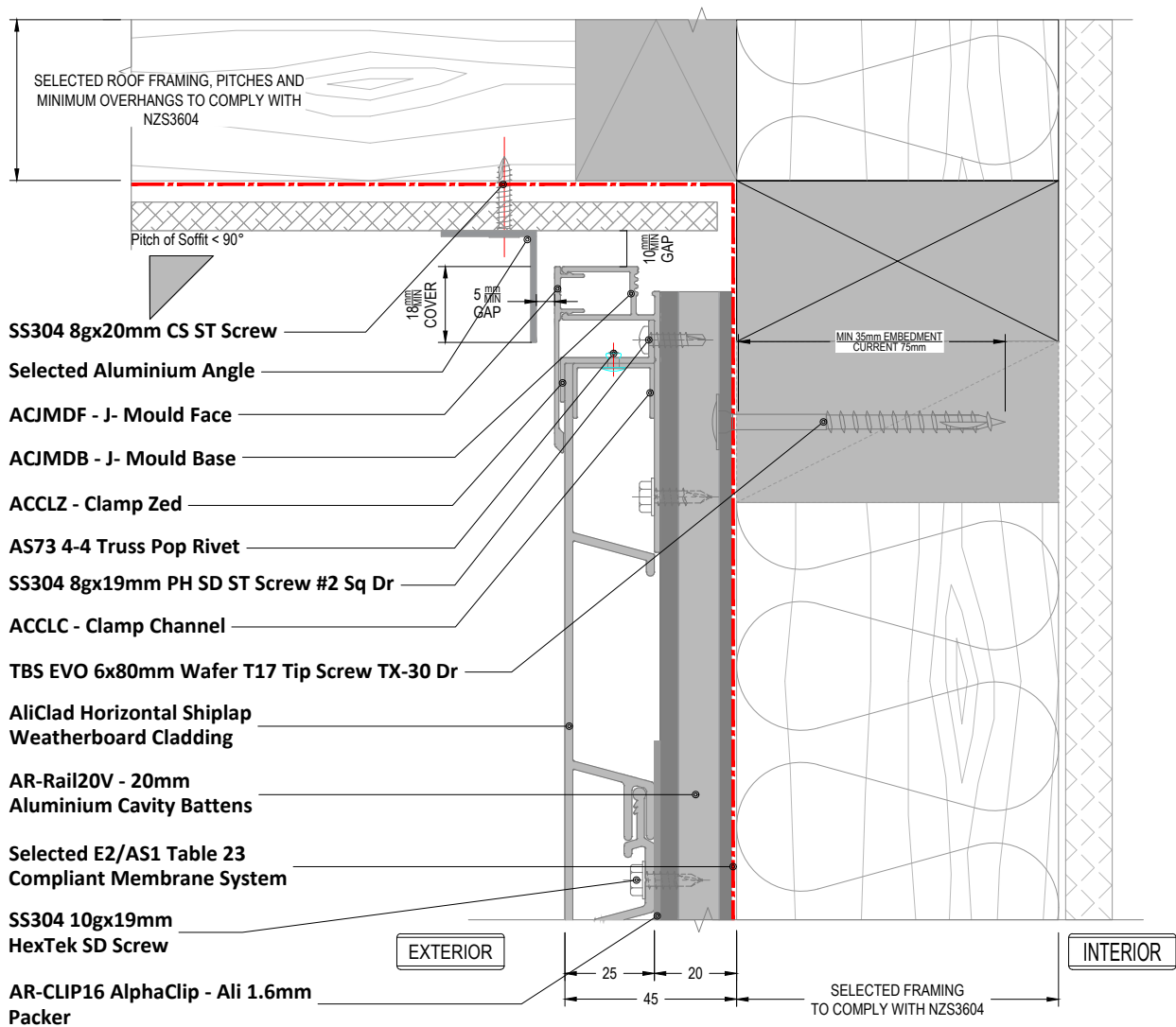
Wall ABV_Soffit <90°

Detail Number

AC-H-AR-5.2

Version

JUNE 2023 [v1.4]



NOTE

Weathering membrane under soffit is not required, but is recommendable for air barrier performance when a rigid wind barrier is not in use.
-By Others

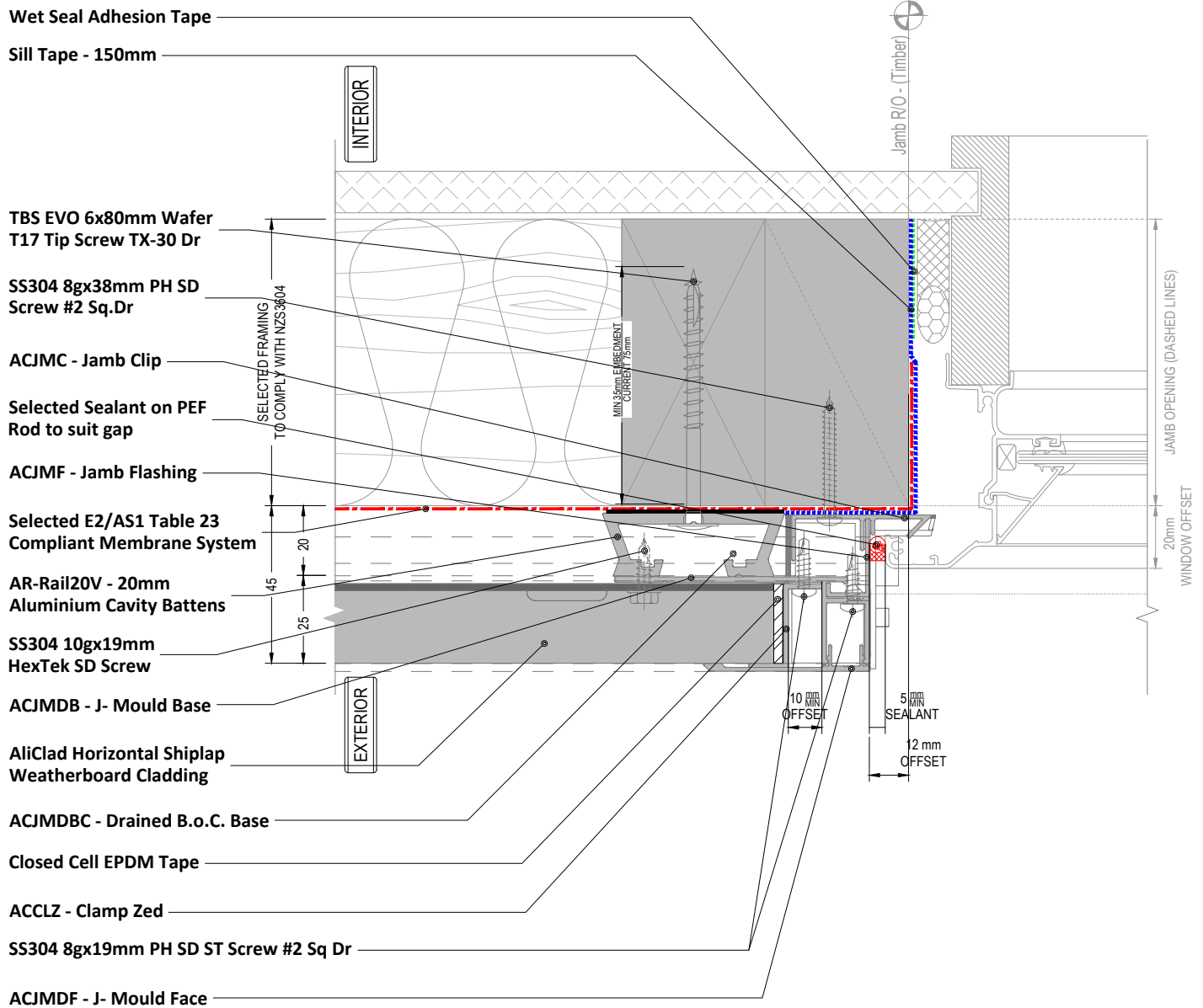
Wall BLW_Flat Sheet Soffit <90°

Detail Number

AC-H-AR-5.6

Version

JUNE 2023 [v1.4]



Window Jamb_Recessed

Detail Number

AC-H-AR-7.1

Version

JUNE 2023 [v1.4]

Selected E2/AS1 Table 23
Compliant Membrane system

AR-Rail20V - 20mm
Aluminium Cavity Battens

AliClad Horizontal Shiplap
Weatherboard Cladding

SS304 10gx19mm
HexTekSD Screw

TBS EVO 6x80mm Wafer T17 Tip
Screw TX-30 Dr

Selected Flashing Tape - 60mm

ACSTR-58 - Starter Rail

SS304 10gx19mm
HexTek SD Screw

SS304 8gx38mm PH SD
Screw #2 Sq.Dr

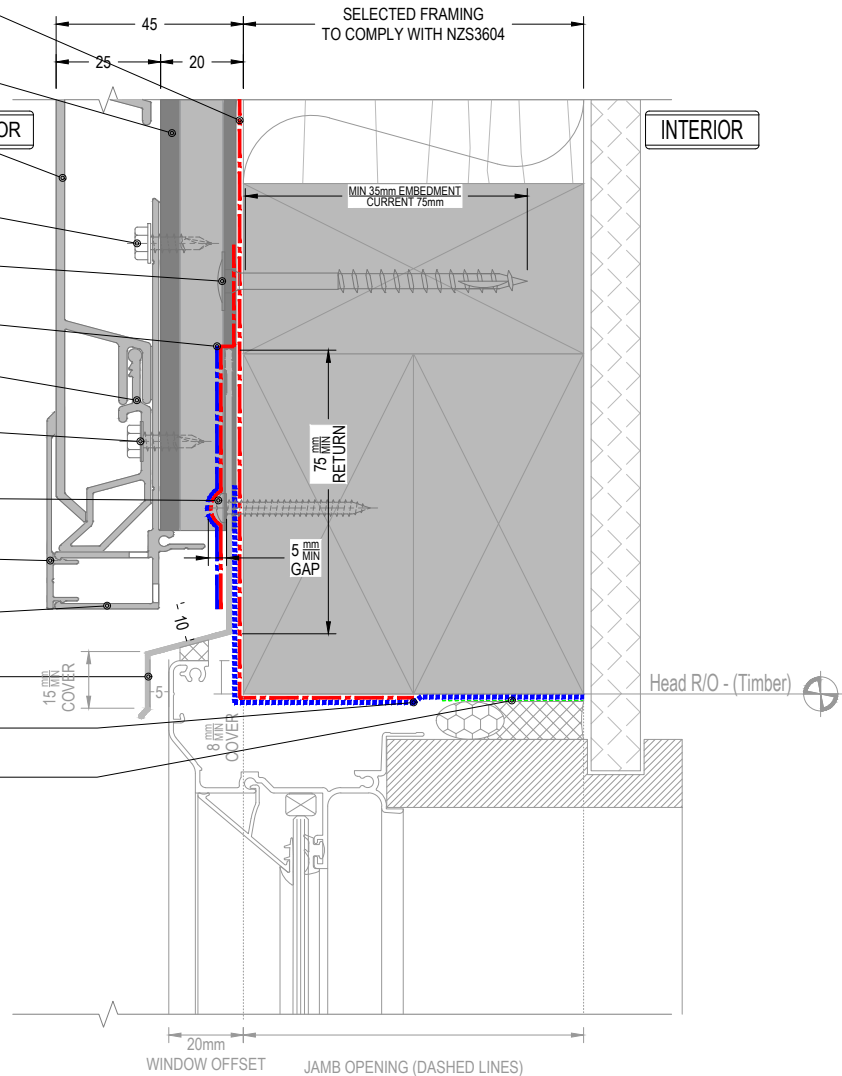
ACJMDF - J- Mould Face

ACJMDBC - Bottom of
Cladding Base

Al. 1.6mm Custom Folded

Sill Tape - 150mm

Wet Seal Adhesion Tape



NOTE

Refer to drawing "7.1" for Sill/Jamb Junction

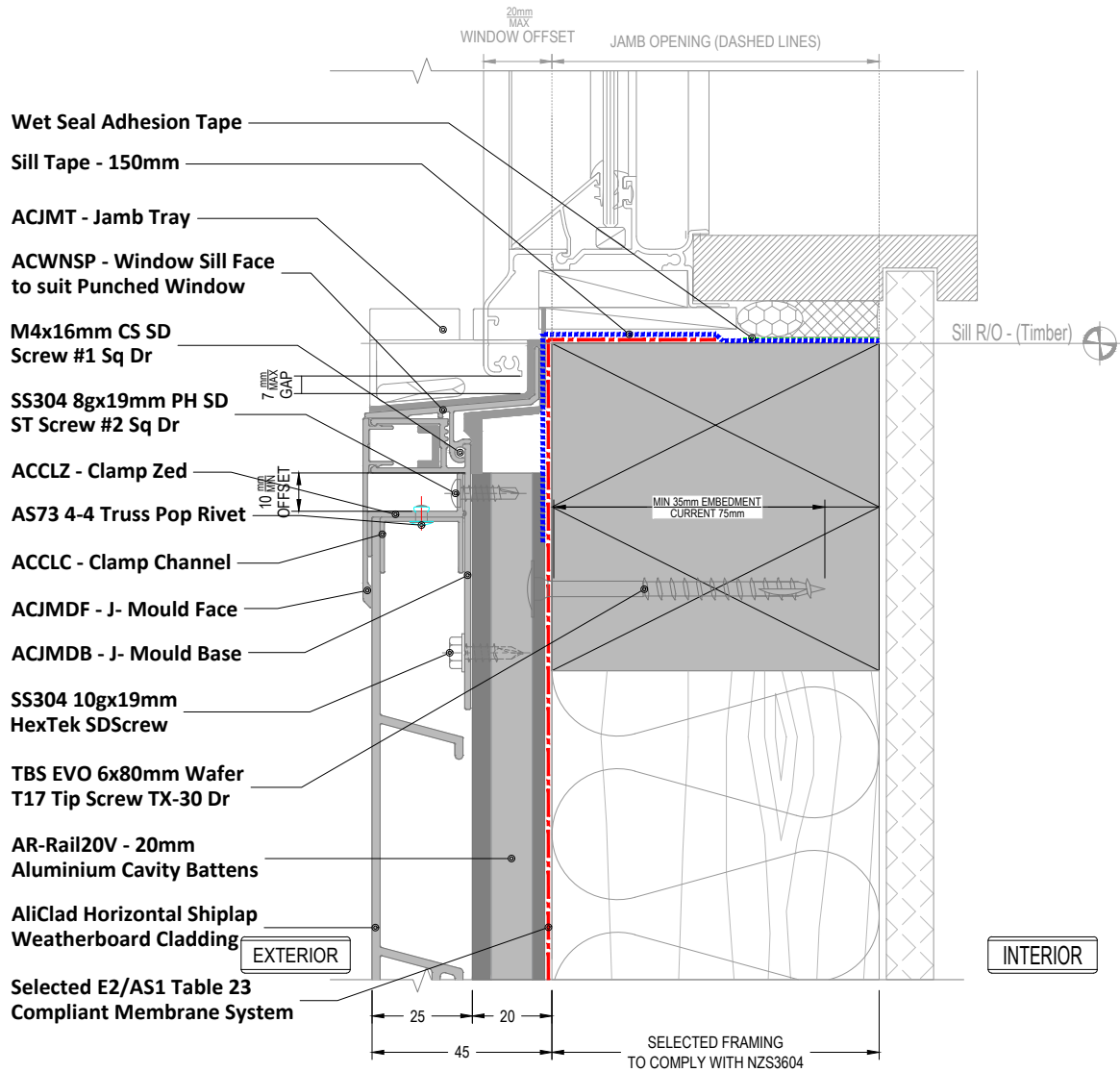
Window Head_Recessed

Detail Number

AC-H-AR-7.2

Version

JUNE 2023 [v1.4]



NOTE

Refer to drawing "7.1" for Sill/Jamb Junction

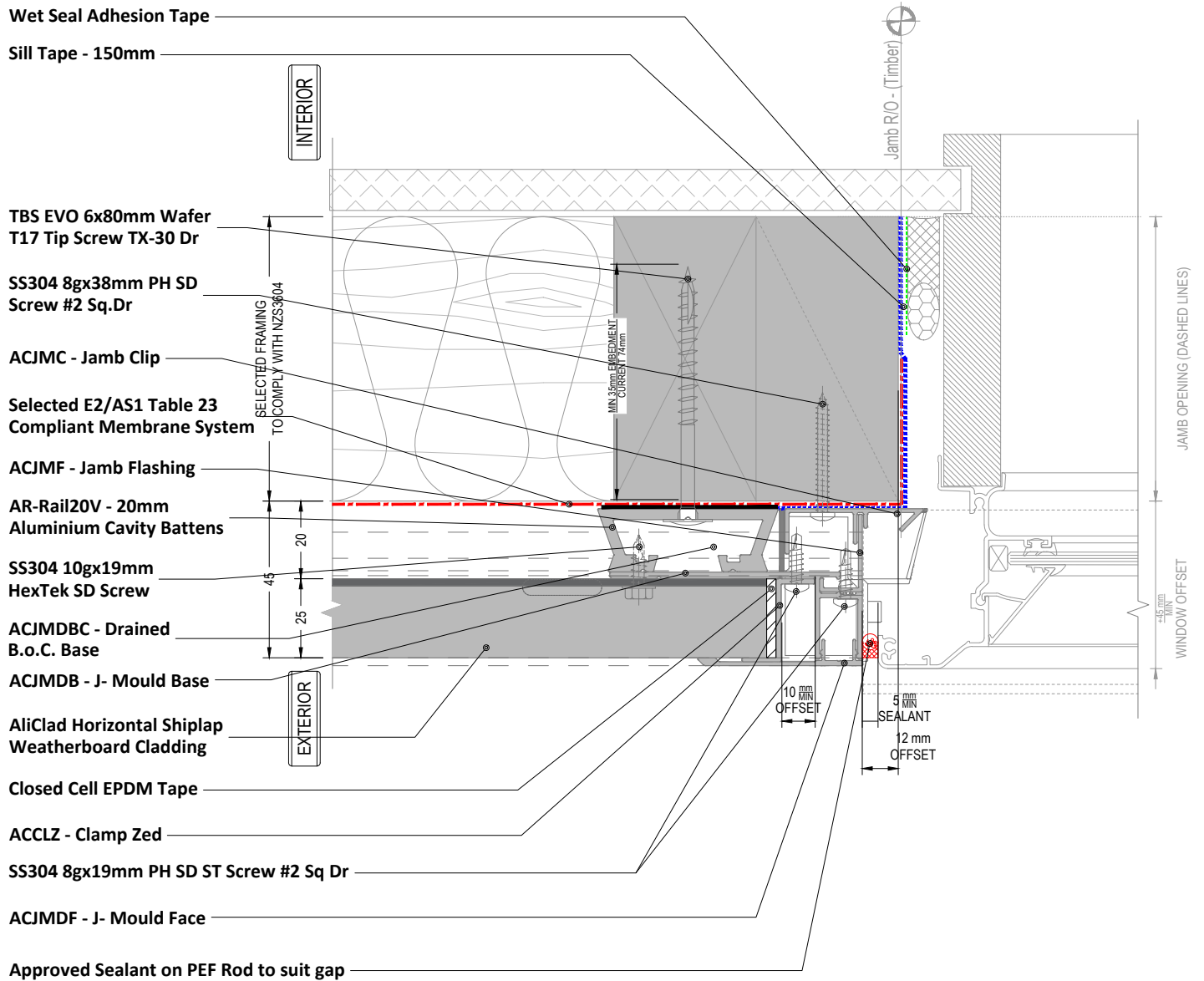
Window Sill_Recessed

Detail Number

AC-H-AR-7.3

Version

JUNE 2023 [v1.4]



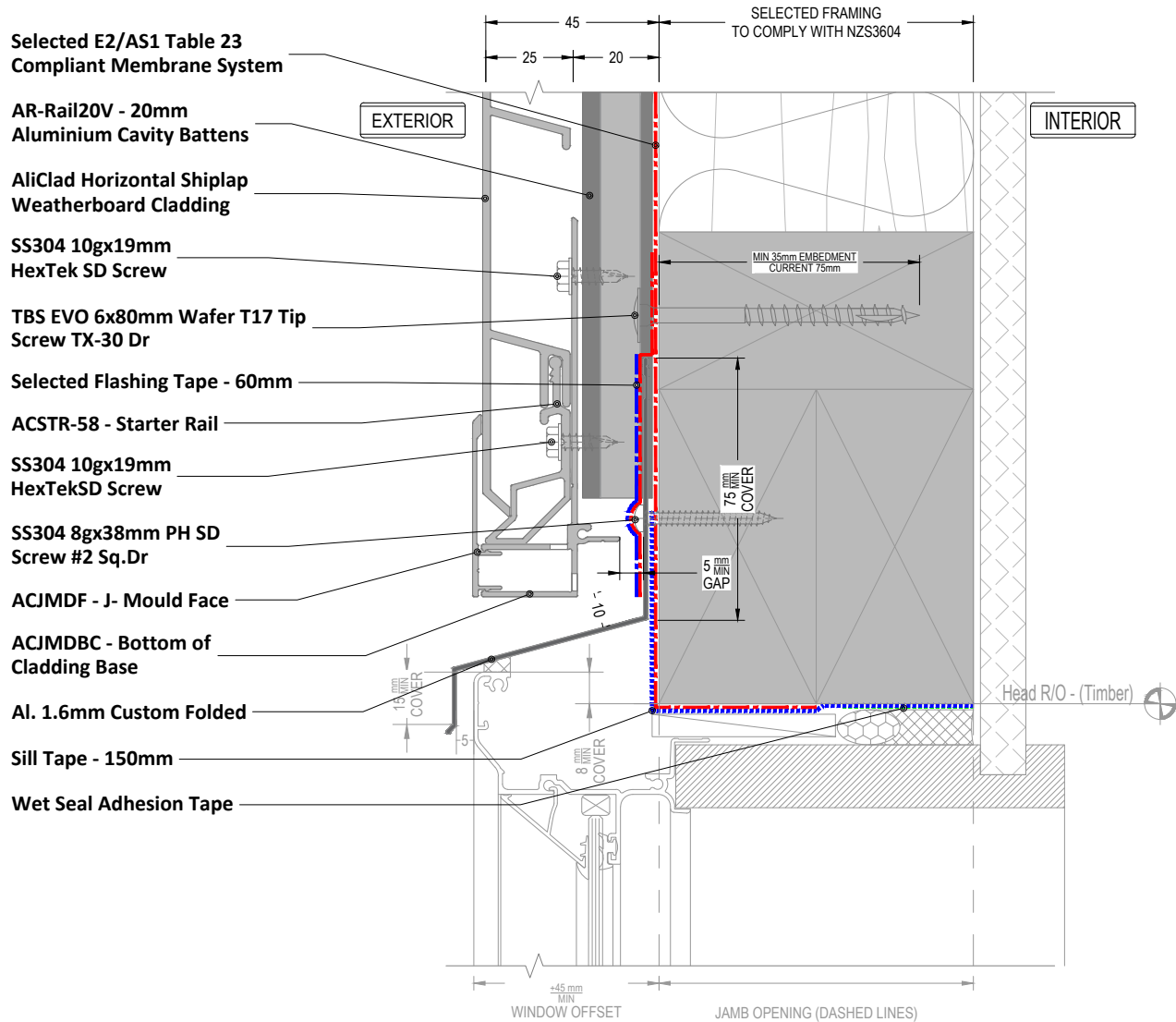
Window Jamb_WANZ/Supported

Detail Number

AC-H-AR-7.4

Version

JUNE 2023 [v1.5]



NOTE

Refer to drawing "7.4" for Sill/Jamb Junction

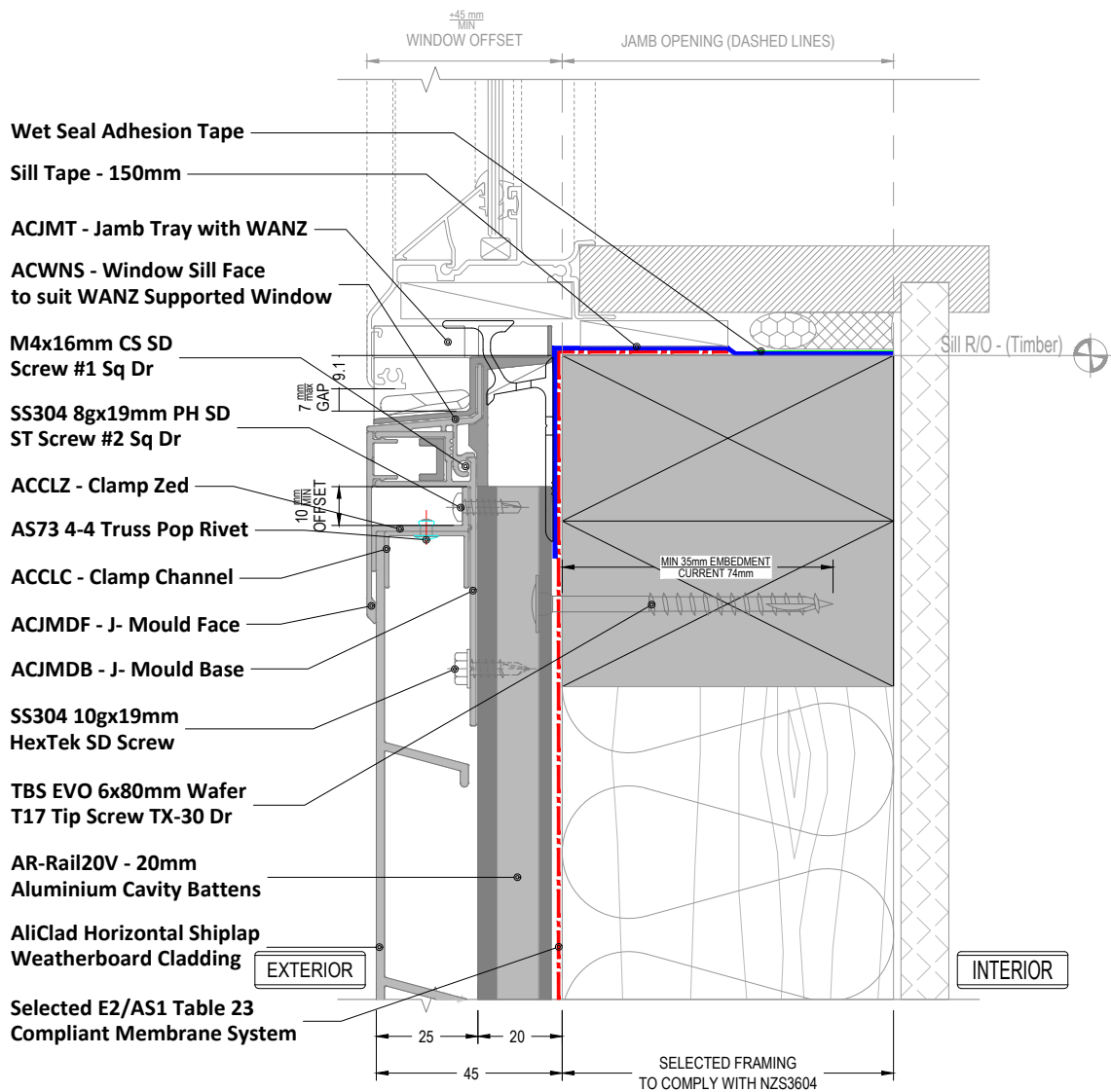
Window Head_WANZ/Supported

Detail Number

AC-H-AR-7.5

Version

JUNE 2023 [v1.4]



NOTE

Refer to drawing "7.4" for Sill/Jamb Junction

Window Sill_WANZ/Supported

Detail Number

AC-H-AR-7.6

Version

JUNE 2023 [v1.4]