CYCLONIC

Snap-Line 45®
Architectural Panels System

INSTALLATION GUIDE

CYCLONIC REGIONS

Snap-Line45®

ARCHITECTURAL PANEL SYSTEMS

no1aps.com.au

Version One

Snap-Line45®

Snap-Line 45® panel installation

Cyclonic Regions - VERSION ONE

How to read this manual (READ FIRST)

1) Check edition - use the latest (see Edition Control).
2) Choose the right section - wind region & BAL determine which details apply.
3) Confirm Substrate - Plywood vs Battens and panel lengths are feasible
4) Ventilation - follow NCC 2022 V2 Part 10.8 and this manual's ventilation section.
5) Follow icons - warnings & QA checkpoints appear on every detail.
6) Need help? Contact No.1 APS

ICON LEGEND

⚠️ WARNING – Critical to avoid damage/safety issues
✅ DO / ❌ DON'T – Required behaviour
🔎 CHECKPOINT – Sign-off items for supervisor/QA
🔥 BAL NOTE – Bushfire requirement (AS 3959 / NASH)
🌬️ VENT – NCC Part 10.8 ventilation requirement (CZ6–8)
🚫👣 NO-STEP – NEVER step on panels or directly over clips/ribs
☑️ TEST – Tested/engineered system required (project specific)

Edition Control & Scope Limitation

This is the **Version One** of the Cyclonic Snap-Line 45® installation guide, and it supersedes all previous versions. This manual applies solely to Snap-Line 45® installation in cyclonic wind regions. This Installation Manual applies exclusively to Snap-Line45® installations in cyclonic wind regions. It must not be used for non-cyclonic installations.
Always refer to the latest release of this manual. Please contact No.1 APS for assistance.

Important Note

Use this manual with the current National Construction Code (NCC) and referenced Australian Standards. The installer is responsible for interpreting this manual and adapting details to suit site conditions while maintaining compliance. No.1 APS is not responsible for work performed outside these recommendations and / or the NCC & Australian Standards.

System performance to be verified using AS 4040 test methods as applicable (e.g., AS 4040.3 for cyclonic regions). For assistance, please contact No.1 APS team.

Read in conjuction with (as applicable):

- NCC 2022, including Volume Two - Part 10.8 - Condensation Management
- AS 1562.1:2018 - Design & installation of metal roof and wall cladding (metal).
- SA HB39:2015 (Amendment 1:2021) - Installation code for metal roof and wall cladding.
- AS/NZS 2179.1:2014 – Specifications for rainwater goods, accessories and fasteners (metal).
- AS 3500.3 - Plumbing & drainage: stormwater.

Ventilation - where to find the rules

For recommended guidelines on roof and wall ventilation by Australian region, see NCC 2022 Volume Two Part 10.8 - condensation management; and this manual's Ventilation & Condensation Management Section.
(NCC 2022 Volume Two Part 10.8.2 & 10.8.3; State/Territory adoption dates may vary).

Bushfire-prone areas

Where the site is designated bushfire-prone, construction must comply with AS 3959:2018 or the NASH Bushfire Standard as adopted by the NCC. Select one compliance pathway per building envelope - DO NOT mix systems. For recommended guidelines on Snap-Line 45® roof and wall applications on bushfire-prone areas, please refer to BAL Construction - Roofing & Walls section.
IMPORTANT: An independent, suitably qualified fire consultant must be consulted prior to installation to confirm compliance and certification requirements for bushfire-prone areas.

Technical Specifications (Snap-Line 45®)

Rib height: 45mm
Cover Widths (Cyclonic): 305mm.
Minimum sheet lengh: project specific; recommended ≥ 800mm for handling and clip engagement.
Maximum sheet length: 15000mm for standard manufacture. Longer lengths may be possible via on-site rolling, subject to handling / transport limits, please confirm with No.1 APS team. For maximum recommended lengths, please refer to wall or roof section.
Fixing: Concealed fixed (clip-based).
Compliance: tested to AS1562.1, including AS 4040.3 for cyclonic regions.

General

A. Provide all components for a complete roof and wall assembly: trims, cappings, fascias, corners, Z-closures, flashings, sealants, gaskets, fillers and similar. Match material and finish to Snap-Line45® unless noted otherwise.
B. Do not field-cut panels using torch, plasma or abrasive saw blades.
C. Allow for thermal movement: mechanically fasten at the ridge end and allow eave end free movement (roof); follow detail sheets for walls.
D. Provide metal Z-closures where shown (high-side eaves, rakes, ridges and hips, parapets, etc.).
E. Substrate flatness matters: correct any uneven backing before panel install to avoid telegraphing or creasing.

Fasteners

- Clips: fix each clip with 2× Class 3 (minimum) 25 mm wafer head fasteners or project-engineered equivalent.
- Use compatible fasteners and sealants and separate dissimilar metals as per relevant standards. Please refer to roof and wall section for fasteners recommendations.

⚠ Access and No-Step rules - Read before handling panels

- ❌ Do not step on panels laid on the ground or resting on uneven supports — permanent creasing can occur.
- ❌ Do not step directly over clips or ribs on installed panels.
- ✅ If access is unavoidable, use boards or platforms to spread load across multiple ribs or supports and protect finished faces.

Field-assembled panel installation clip-fixed

A. Fix Snap-Line45® panels to the substrate with concealed clips in accordance with No.1 APS guidance or the project engineer.
B. Clip spacing: use the spacing shown in the Fixing Specification page for the panel, material and application (end versus internal spans).
C. Place the new panel and snap the female side over the clip and male side to interlock — do not force; correct substrate issues first.

Installation on plywood roof and wall

- Provide a continuous air gap — 40 mm roof 20 mm wall — beneath plywood for ventilation.
- Fix a breathable waterproofing membrane to the outer side of the plywood.
- Minimum plywood thickness: 19mm for roof | 15 mm for wall.
- Concealed clips or fasteners fix directly into plywood; push and click seams to achieve a tight snap.

Substrate advisory: plywood vs battens

- ✅ Continuous plywood generally delivers the best appearance, supports safer access with boards, provides a secondary water layer, and supports passive ventilation detailing. The substrate and its fixings must resist internal pressure; the metal cladding resists external suction only.
- Battens are permissible but increase the risk of visible creasing or oil-canning if alignment is off or panels are walked on.

Positive restraint at the upper panel end

Clip-fixed panels are free to expand and contract; provide positive restraint at the upper section to prevent down-slope creep.
For Snap-Line45® use a Z-Closure at the top termination and a pan stop-end beneath the cap, ridge or parapet. See Z-Closure detail in the flashing section.

Ventilation and BAL cross-references

- Ventilation: follow this manual's Ventilation and Condensation Management section; do not block required free-area; exhausts must discharge to outdoor air.
- Compliance pathways (bushfire-prone areas): For Class 1/10a work, the NCC permits AS 3959 or the NASH Bushfire Standard as DtS solutions. Select one pathway per building envelope; do not mix. Check State/Territory variations and consent conditions (e.g., NSW BAL-FZ).

BAL screening and openings: Seal gaps > 3 mm. Use non-combustible metal mesh with maximum 2 mm openings at vents and cavities. For BAL-FZ, mesh alone is not sufficient—vents/openings must be part of a Section 9 (BAL-FZ) solution or an AS 1530.8.2 tested/assessed system and must comply with any consent conditions.

Table of Contents

CYCLONIC INSTALLATION MANUAL

Snap-Line45®

Delivery, unloading and inspection

- Count and check on delivery. Report damage or shortages before install.
- Lift bundles with a spreader bar or protected slings; never lift by strapping.
- Do not drag panels from the pack; lift each panel clear to avoid scratching edges and coating.
- Protect edges and finished faces during handling. Use clean gloves; avoid sunscreen and oily residues on surfaces.

Storage

- Store under cover, dry and ventilated; keep packs raised on dunnage with fall for drainage.
- Allow air circulation around and between packs; do not seal tarps tight.
- Keep dissimilar metals separated; use slip sheets / separators.
- Remove wet wrapping and dry panels if moisture is present.

Handling on site

- Carry long panels with two or more people; use carriers or boards where practical.
- Do not bend, kink or twist panels to 'make them fit'; move obstacles instead.
- Pad scaffold / edges / cables where contact is possible.

Access and No-Step rules

- Do not step on panels on the ground or on eneven supports.
- Do not step directly over clips or ribs on installed panels.
- If access is unavoidable, lay boards / platforms across multiple ribs / supports and protect panel faces.

Cleaning and protection

- Remove swarf and offcuts immediately; metal filings stain and may rust.
- Clean with soft cloths, pH-neutral detergent and fresh water; rinse and dry.
- Do not use abrasives, strong solvents or alkali/acid cleaners.
- Shield from wet trades and contaminated runoff; mask adjacent surfaces as needed.
- Remove temporary films promptly after install and before prolonged sun exposure.

Safety on site

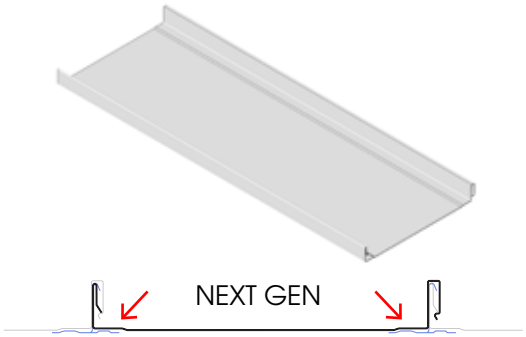
- Use PPE: cut-resistant gloves, long sleeves, eye protection; fall-arrest where required.
- Manage wind: postpone handling large panels in strong winds.
- Cutting: do not use torch, plasma or abrasive saws. Use nibblers/shears off finished surfaces; remove swarf.

Oil Canning - Understanding and mitigation

- Oil canning is a normal visual phenomenon of flat metal surfaces caused by thermal movement, substrate irregularities and handling. It is not a structural defect and is not a cause for panel rejection.
- To reduce its appearance:
    - – Specify substrate flatness and use continuous plywood where appearance is critical.
    - – Consider Snap-Line45® NEXT GEN or NEXT GEN PLUS options (beads or striations) to stiffen the pan.
    - Allowing for thermal movement; careful handling to avoid dents/twists/edge damage.

Snap-Line 45® Profile Options

Snap-Line45® offers three pan options in cyclone regions. Choosing the right one is critical to minimising oil canning, clip telegraphing and visual distortion—particularly on long panel runs, dark colours, higher pitched roofs, high-gloss finishes or softer metals. Each profile provides a different balance of stiffness and aesthetic impact.

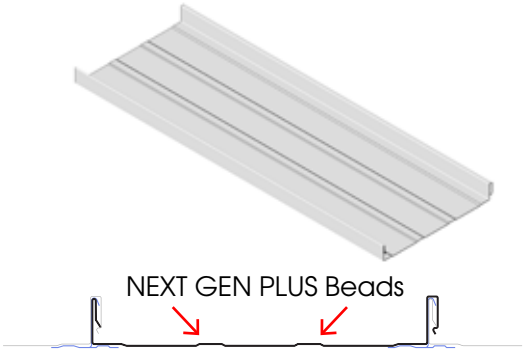


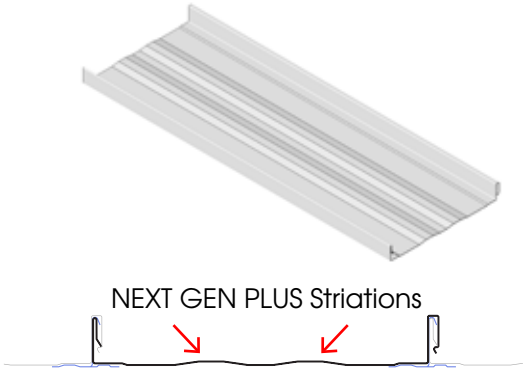
NEXT GEN

NEXT GEN introduces a shallow recessed channel at the clip interface, relieving concentrated pressure where the pan engages the clip. This profile option significantly reduces the likelihood of clip telegraphing while preserving the smooth, flat aesthetic elsewhere. It also helps panels move more evenly, improving behaviour under thermal expansion and contraction. NEXT GEN is a strong all-round choice with improved resistance to clip-related deformations, making it the recommended option for most roofing and for long runs in softer metals.

NEXT GEN PLUS Beads

Beads are wide, uniformly swaged stiffeners added along the pan, offering a high level of rigidity among all pan options. The intensified stiffness markedly reduces oil canning, improves flatness over variable substrates, and helps control localised ripple at clip lines. While beads introduce a subtle linear character, they deliver structural stability in visually demanding applications. Specify when long spans, softer metals or critical appearance control outweigh the desire for a completely smooth surface.





NEXT GEN PLUS Striations

Striations are fine, shallow linear corrugations rolled along the pan and help provide effective visual masking of oil canning. They deliver high pan stability and the best ripple control on long panels, in darker colours and in softer metals. Striations retain a refined surface character while offering strong mitigation against movement-related distortion. Specify where consistent visual texture and ripple control are the primary objectives.

IMPORTANT: Snap-Line 45® Classic profile is not supported for Cyclonic Regions.

Snap-Line 45® Profile Selection & Aesthetic Performance

Snap-Line 45® roof aesthetics are influenced by multiple factors including roof pitch, finish selection, panel length, and the condition of the supporting structure. The following guidance outlines how these factors affect visual performance and where each Snap-Line45® profile is best applied.

Why profile selection matters visually

The perceived flatness and visual quality of standing seam roofs such as Snap-Line 45® is influenced by a combination of factors such as roof pitch, sun angle, finish reflectivity, panel length and the accuracy of the supporting structure. As roof pitch increases, the likelihood of direct sun reflection (glare) from common observer viewpoints also increases. When glare is present, even very minor surface irregularities can become visually amplified, including oil canning, clip telegraphing, batten variation and subtle crease marks.

Gloss and higher sheen finishes further intensify this effect by increasing reflectivity. Dark colours can also exaggerate perceived flatness variation due to higher contrast between light and shadow.
In re-roofing and refurbishment projects, existing structures may have sagged or moved over time. Even when within acceptable tolerances, this variation can compromise the visual outcome of flat pan profiles.

Why NEXT GEN & NEXT GEN PLUS can help

NEXT GEN and NEXT GEN PLUS profiles are specifically engineered to improve panel aesthetics by reducing localised stress, managing thermal movement and controlling how light reflects across the pan.

Metal panels naturally expand and contract with temperature changes. When a pan is completely flat, this movement has limited capacity to be absorbed within the profile, and internal stresses can express themselves visually as oil canning, distortion, or uneven reflections.

Introducing longitudinal swages into the pan—such as beads or fine striations—provides additional geometry to take up this movement. As the panel expands and contracts, excess material is accommodated within the swaged profile rather than being forced to deform across a flat surface. In addition, swages increase stiffness and subtly break up light reflection along the length of the pan. The combined effect is a panel that appears flatter, calmer, and more visually consistent, particularly on long runs, high-pitch roofs, glossy finishes, and in conditions where glare makes surface variation more noticeable.

WHEN TO USE EACH PROFILE

NEXT GEN: Medium to high pitch roofs, direct batten fixing installations, gloss or higher-sheen finishes and longer panel runs where improved flatness is required without altering the clean, flat pan aesthetic.

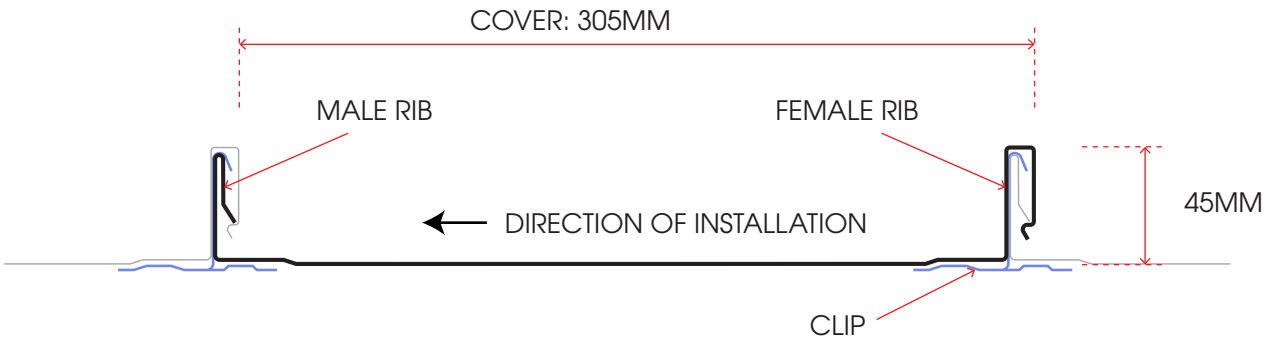
NEXT GEN PLUS – BEADS OR STRIATIONS: High pitch roofs, glossy or metallic finishes, long panel lengths, re-roofing or refurbishment projects and architecturally prominent roof planes where maximum control of glare and oil canning is required.

QUICK REFERENCE GUIDE:

Condition	**Recommended Profile**
Medium, pitch or longer runs, batten fixing	NEXT GEN
High pitch or glossy finish	NEXT GEN PLUS
Re-Roofing / uneven substrate	NEXT GEN PLUS
High visual exposure	NEXT GEN PLUS - Striations

Snap-Line 45® Cyclonic Module

Snap-Line 45®, when required for a cyclonic region, must be made in the 305mm module. The 305mm cover is the one with highest strength and wind load resistance, being the safer and only recommended module.



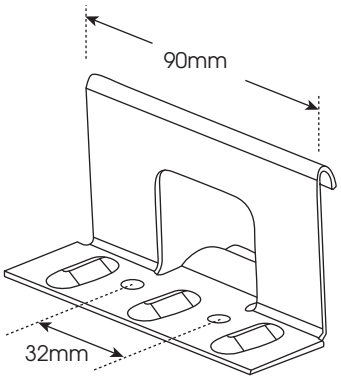
IMPORTANT: 345mm and 445mm modules are not supported for Cyclone Regions.

Snap-Line 45® - a clip fixed system

Snap-Line45® uses a concealed clip system that secures each panel without penetrating the panel surface. Clips are fixed to the substrate first, and the female rib of the next panel snaps over the clip to create a clean, continuous seam. This concealed-fix method allows the panels to move freely under thermal expansion and contraction, consistent with the requirements of AS1562.1 for accommodating thermal movement in metal cladding systems.

In cyclonic regions, one should use UL 90 clip – higher-capacity clip for increased wind pressures; due to its taller seat height, it must be used only with NEXT GEN or NEXT GEN PLUS pans to avoid visible clip telegraphing through the panel pan.

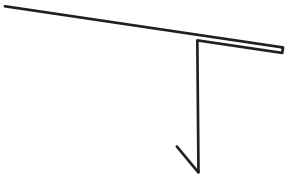
All clips must be fixed with two Class 3 (minimum) fasteners to the appropriate substrate.
Because Snap-Line45® panels slide under the clips, every installation must incorporate positive restraint at the upper end—typically via a Z-Closure—to prevent panels creeping downslope over time.



UL 90 CLIP
Roof & Wall cyclonic

Starting the Installation — Snap-Line45®

1. Prerequisites: First flashings on substrate



Fascia Starter Flashing (for Roofs)

Fascia Starter Flashing (ROOF)

Orientation: Perpendicular to the panel direction at the eaves.
Function:
- Covers the gap between panel and fascia.
- Directs roof runoff into the gutter.
- Provides the lower hook-in point for panels (see Panel Preparation – LOWER END (bottom hook).

Timing: The very first roof flashing installed.

Toe Mould Flashing (for Walls)

Toe Mould Flashing (WALL CLADDING)

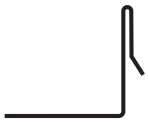
Orientation: Perpendicular to panel direction at the base of wall.
Function: Directs wall runoff to the exterior face and protects the base termination.
Timing: The very first wall flashing installed.

2. Starting Method A - **Starter Flashing** (Roof or Wall)

A starter flashing is a linear custom folded flashing that runs parallel to the Snap-Line45® panel direction. It is installed second—after the fascia starter and valley gutters on roofs; or the toe mould on walls—and establishes a controlled, straight start edge for the first panel to engage.

Using a starter flashing sets the installation direction so you proceed one way only—either left-to-right or right-to-left. It also lets the first Snap-Line45® panel sit on clips and engage the starter while still expanding and contracting, rather than being locked by direct fixings. This reduces induced stress and helps prevent oil canning and crease marks.

Choose a starter flashing for small to mid-size crews, for simple roofs or walls where one-direction build-out is sufficient, and wherever the flattest possible first panel is a priority. It's especially useful when visual alignment to eaves, ridges, corners, or other datums is critical.



Starter Flashing (Roofs & Walls)

3. Starting Method B - **Double-Male** Snap-Line 45® Panel (Roof or Wall)

A double-male Snap-Line45® is a custom panel with two male (under) ribs instead of the standard male + female. Placed in a central or other strategic position, it becomes the starting piece for the installation.

Use it when you want two-way build-out: once the double-male is set, panels can run left and right simultaneously. This boosts crew efficiency—two teams can work from the centre out—and supports precise alignment where ribs must meet ridge lines, hip–ridge junctions, or other feature axes. On walls, it enables a clean start from a corner or defined control line. Double-male panels are only available in Snap-Line 45® Classic profile.

Starting the Installation — Snap-Line45® (cont.)

4. Closing the Installation - **Double-Female** Snap-Line 45® Panel

A double-female Snap-Line 45® panel is a custom folded panel with two female (over) ribs used to finish an installation where the remaining gap is bounded by male (under) ribs on both sides. Works for both roofs and walls.

Notes:

- Double-female panels are folded, not rollformed, and therefore ribs may differ slighly from standard roll-formed Snap-Line 45® ribs.
- Where aesthetics are critical, plan to locate double-female closures away from the most prominent sightlines, or detail a discrete termination to blend the transition.
- Double-female panels are only available in Snap-Line 45® Classic profile.

5. Always Follow This Sequence

Before you set out, confirm the first flashing is installed: the fascia starter at the eaves (and valley gutters if applicable) for roofs or the toe mould at the base for walls. These run perpendicular to the panel direction and create the drainage path and hook-in/termination required before any Snap-Line45® panels go on.

Next, choose how you'll start. Use a starter flashing when you want a single, controlled direction of travel and the flattest possible first panel; the first Snap-Line45® panel engages the starter and sits on clips, free to expand and contract, rather than being locked by direct fixings. Opt for a double-male panel when two-way progress or precise centre-out alignment is advantageous—ideal for larger crews, tight programs, ridge/hip lineups on roofs, or clean corner starts on walls.

Throughout, allow thermal movement by ensuring the first field panel floats on clips and is not directly fixed. Pre-mark control lines—eaves, ridge, hips, corners, and any feature axes—to keep set-out true as you build out. Finally, plan your closure: if the last opening is bounded by male ribs on both sides, specify a double-female panel in advance. As it's folded (not roll-formed) and may vary slightly in rib appearance, place this closing condition where it is least visually prominent or detail the transition accordingly.

6. Need extra guidance? Try watching our installation video animations - SCAN TO WATCH

ROOFING ON PLYWOOD

WALLING ON PLYWOOD
INCLUDES MANSARD DETAIL

RIDGE INSTALLATION

VALLEY INSTALLATION

ROOFING ON BATTENS

WALLING ON BATTENS
INCLUDES MANSARD DETAIL

HIP CAP INSTALLATION

FULL INSTALLATION
(ALL VIDEOS TOGETHER)

Snap-Line45®

Fixing Specification (Cyclonic Regions)

Snap-Line 45® Span Chart

Material	Thickness (mm)	End Span	Internal Span
Steel G300*	0.55 BMT	450mm	450mm
Aluminium 5005 H34	0.8 BMT	450mm	450mm

Spans are derived from the certified design pressures (serviceability and strength) published in Parametric Developments Cyclonic Certification (27 June 2019) and JCU Cyclone Testing Station Report TS1107 - for Snap-Line 45®: 0.55 mm G300 steel. Where a range of batten/stud options exists, select spans using the applicable design pressure from the relevant certificate. See Appendix A: Certified Design Pressures - Cyclonic Regions.
*Comprises Colorbond, Unicote Lux, and weathering steel (Corten, RedCor®)
☑ For span guidance and project-specific recommendations, please contact the No.1 APS team.

Snap-Line 45® Substrate Requirements & Options

Snap-Line 45® panels can be installed over:

- **Plywood substrate* (recommended): Minimum 19mm for roofs, minimum 15mm for walls**
- **70 x 35mm treated pine timber batten OR LVL****
- **G550 Steel Batten: minimum 0.75mm BMT****

However, a continuous substrate is strongly recommended for optimal system performance. Key benefits of using plywood include:

- **Improved insulation:** Enhances both thermal and acoustic performance.
- **Better aesthetics:** Consistent support provides even backing along the full panel length, which helps minimise oil canning and crease marks.
- **Trafficability:** Allows safe access for maintenance without damaging the Snap-Line 45® panels.
- **Increased waterproofing:** Acts as a secondary layer of weather protection beneath the Snap-Line 45® panels.
- **Passive ventilation:** When ventilated at the underside, plywood supports passive ventilation principles, helping to reduce building heat gain and improve drainage in roof and wall systems. Proper ventilation also mitigates condensation-related issues.

Installation over battens is possible, but may not be suitable in the following scenarios:

- **Flatness is critical:** Battens will have a perpendicular direction to the Snap-Line 45® panels, so they will expand and contract in different directions, which increases chances of batten and clip telegraphing, and oil canning.
- **Roof access is required:** While it is technically possible to walk on Snap-Line 45® panels installed over battens, doing so may result in permanent damage such as crease marks. If access is unavoidable, temporary platforms must be used to distribute weight and prevent direct pressure on the panels.
- **Batten alignment is inconsistent:** Misaligned battens can exert uneven upward pressure on the Snap-Line 45® panels, leading to aesthetic issues such as oil canning or creasing.

*Where plywood is used in cyclonic regions, the plywood substrate and its fixing to the supporting framing form part of the primary load-resisting system for wind actions. In such applications, wind loads are transferred through the Snap-Line45 panels into the plywood substrate; accordingly, the plywood system is the element required to resist the applicable design wind pressures.
The plywood grade, thickness, span, fixing method, fastener type and fixing spacing must be designed and installed to withstand cyclonic wind actions in accordance with the NCC, AS/NZS 1170.2, AS 4055, AS/NZS 2269, and the AS 1684 series, or as otherwise determined by project-specific engineering design.
Where non-structural plywood is specified, it is only acceptable where the plywood and its fixings have been verified as adequate for the nominated cyclonic wind classification. Verification of the suitability of the plywood substrate for cyclonic conditions remains the responsibility of the project engineer, building designer or certifier.
**In cyclonic regions, battens, counter-battens and packers must be designed and fixed as structural elements capable of transmitting cyclonic wind loads to the primary structure, not solely as cladding supports.

IMPORTANT: No.1 Roofing & Building Supplies will not be held liable for any aesthetic imperfections, including clip telegraphing, oil canning, or crease marks, resulting from installation over battens, or over uneven substrates.

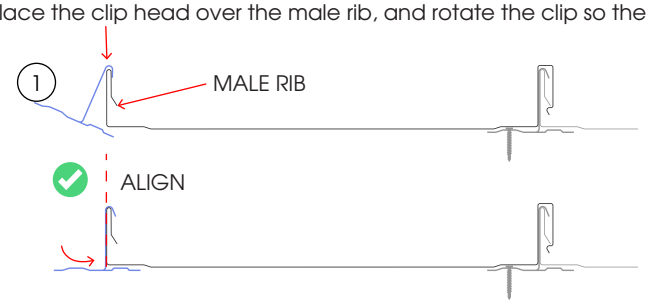
Snap-Line 45® Recommended Fasteners

Snap-Line 45® clips require a **minimum of 2 fasteners per clip** as per chart below:

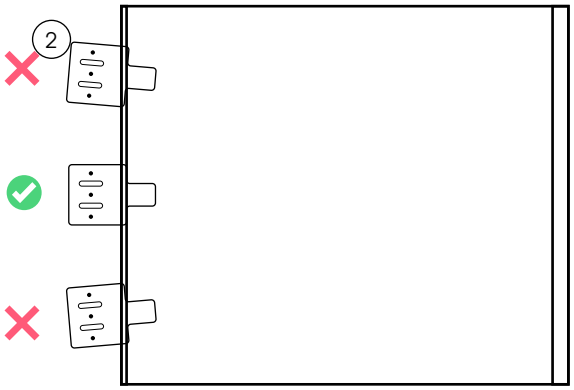
Substrate	Fasteners
Plywood	10g x 25 bugle screws OR M5.4 - 13 x 28mm Ultra Low APS
Timber Batten	10g x 25 bugle screws OR M5.4 - 13 x 28mm Ultra Low APS
Steel Batten	10g-16 x 16 wafer screws OR M5.4 - 13 x 28mm Ultra Low APS

Clip Engagement

To engage the Snap-Line 45® UL 90 clip:
1) Place the clip head over the male rib, and rotate the clip so the clip base is correctly sitting under the Snap-Line 45®



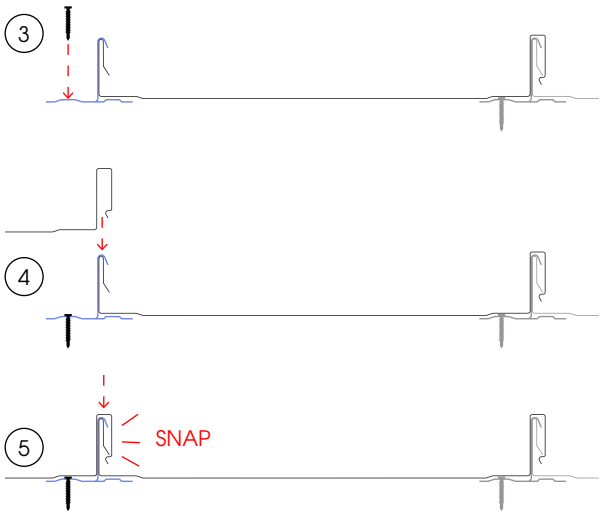
2) Ensure clip is aligned with Snap-Line 45® male rib edge. Important: misaligned clips will likely create telegraphing marks to the face of Snap-Line 45® panel.



3) Fix clip to the substrate using minimum 2 screws Repeat steps 1, 2 and 3 to ensure the whole length of the panel is secured using clips spaced as per recommended spans.

4) Align the next panel to be installed so the female rib is positioned correctly over the male rib of panel already installed.

5) Use consistent pressure along the female rib to drive it fully over the clip. A progressive "SNAP" will be felt as the rib seats correctly onto the clip.
6) Continue this process along the length of the sheet, ensuring that each clip is properly engaged before moving to the next panel.

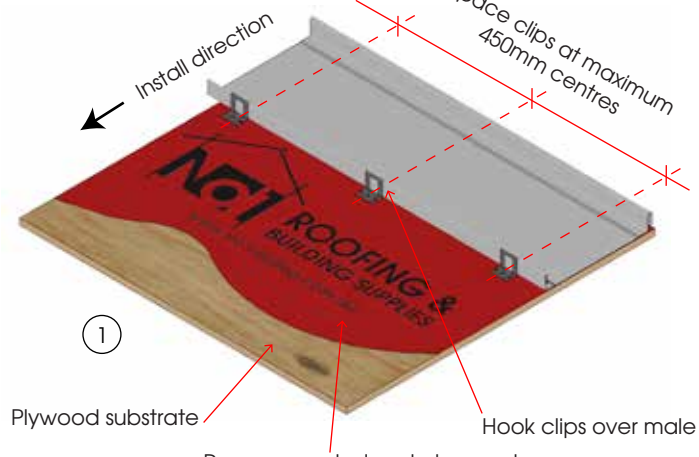


IMPORTANT:
- ✕ DO NOT use rubber mallets or hammers to engage panels;
- It is acceptable to use your feet to help snap panels into place, but avoid walking on installed panels whenever possible. If access is unavoidable, never step directly over clips or ribs, as this can cause bruising or surface damage.

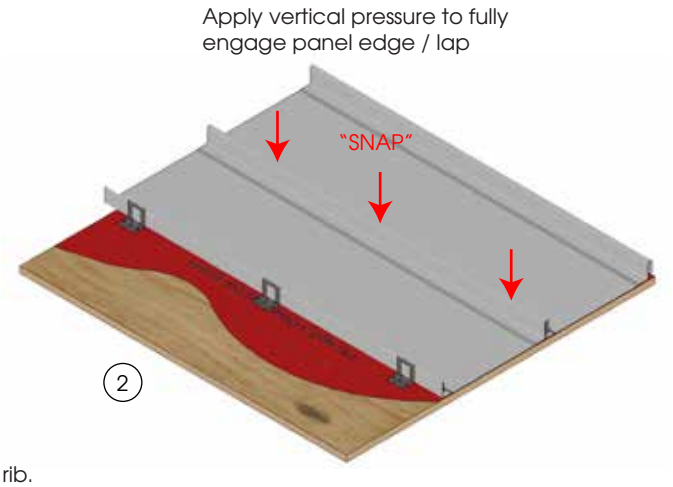
Snap-Line45®

Panel Fixing Diagrams

Snap-Line 45® Cyclonic Regions Plywood Fixing

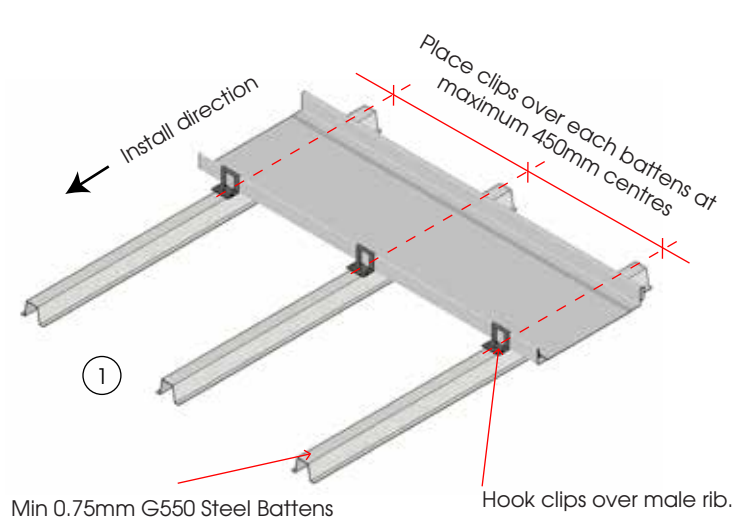


Fix clip down on plywood using minimum 2 fasteners per clip, screwed through clip holes.

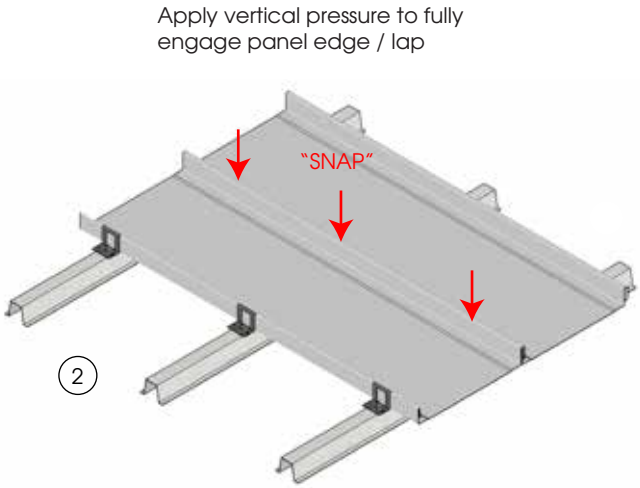


Repeat steps as required.

Snap-Line 45® Cyclonic Regions Batten Fixing



Fix clip down on battens using minimum 2 fasteners per clip, screwed through clip holes.



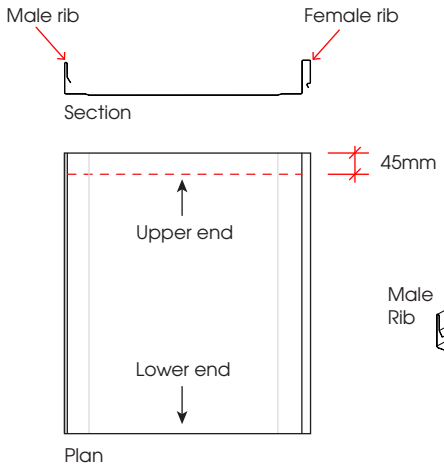
Repeat steps as required.

Snap-Line 45® Panel Terminations

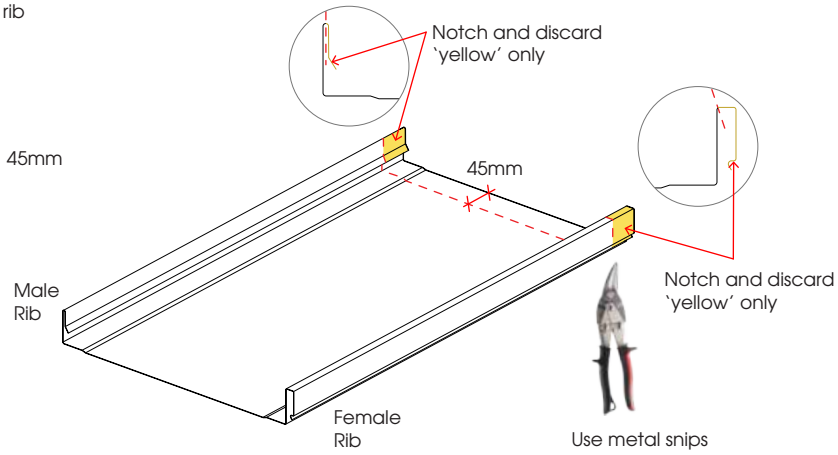
UPPER END - turn up stop end

The upper end of a Snap-Line 45® panel will be hidden under a ridge (on a roof) or a top wall capping (on a wall). To increase waterproofing at the upper end, one could use a Z-Closure flashing, prepare the panel to incorporate a stop end, or both. To prepare the stop end, one must:

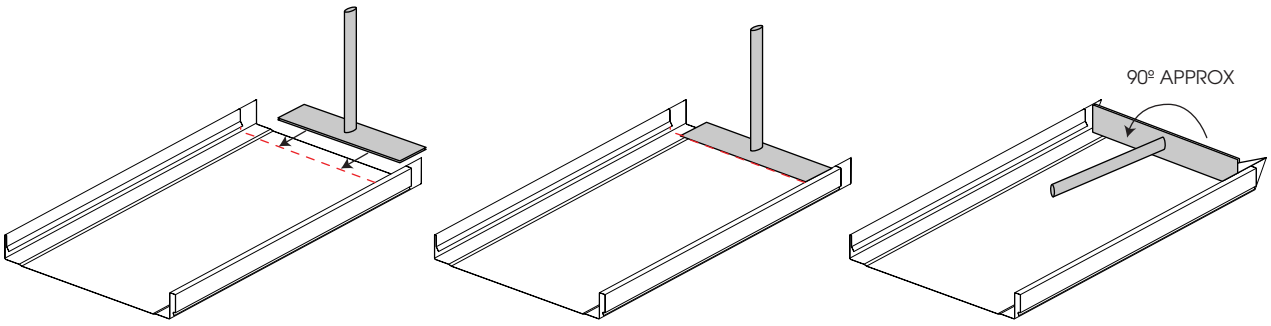
1) Mark a line parallel to the upper end 45mm from the edge



2) notch and discard the rib excess on both male and female ribs as shown in yellow below:



3) Insert a folding tool or flat head hand seamer / pliers on the upper end of the panel ensuring alignment with marked line. Fold upper end up as close to 90º as possible, being careful not to pierce the face of Snap-Line 45® panels.



4) Use a rubber mallet to straighten stop ends if required (folded end).

Longitudinal section

🔎 Ensure no face pierce on panels stop end for appropriate waterproofing

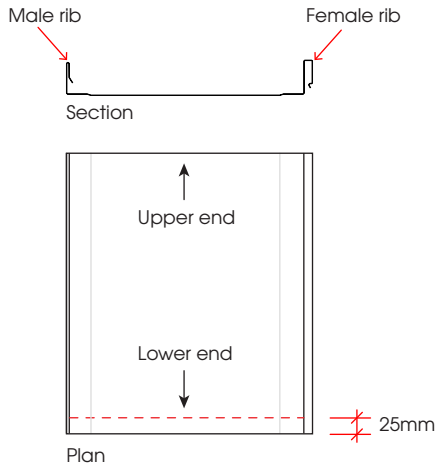
Note: Additional tools might be required for better preparation of Snap-Line 45® panels.
Please consult with No.1 APS

Snap-Line 45® Panel Terminations

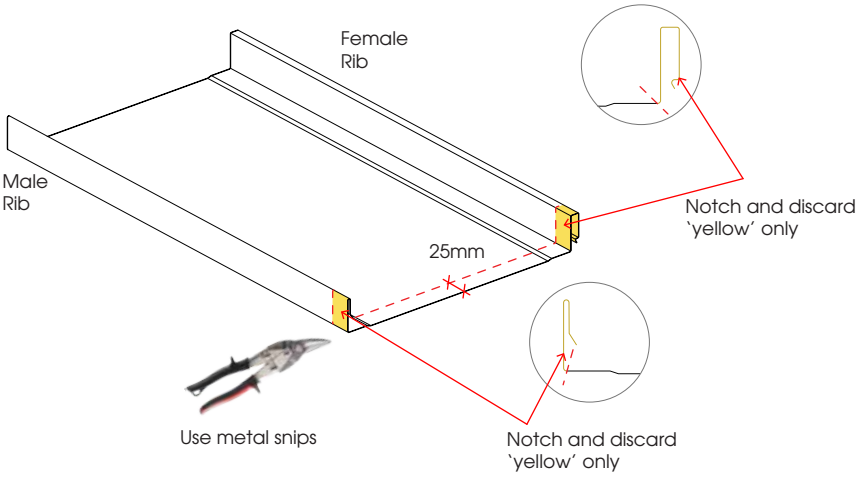
LOWER END - bottom hook

To ensure optimal appearance and performance of Snap-Line45® panels, adequate allowance for thermal expansion and contraction must be provided. In many installations, this is achieved by forming a bottom hook— also referred to as a bottom fold or hem hook — at the lower end of each panel so it can positively engage with the fascia starter flashing. While this step is not mandatory, it improves panel flatness, enhances resistance to water ingress at the lower roof edge by sealing the gap between the panel and substrate, and provides an effective barrier against vermin.

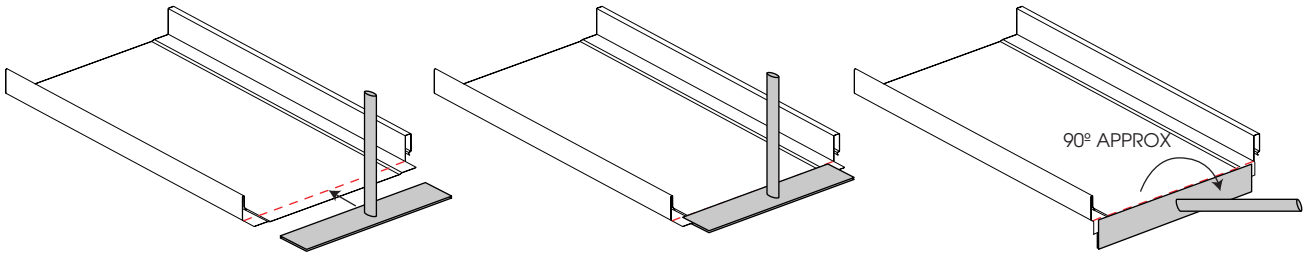
1) Mark a line parallel to the lower end 25mm from the edge



2) notch and discard the rib excess on both male and female ribs as shown in yellow below:

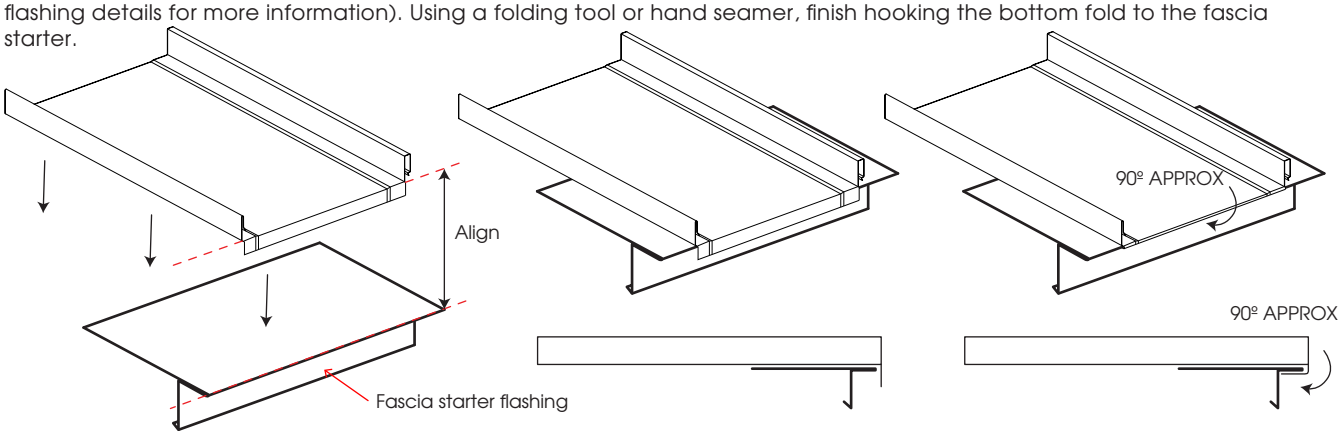


3) Insert a folding tool or flat head hand seamer / pliers on the lower end of the panel ensuring alignment with market line. Fold downend up as close to 90º as possible, being careful not to pierce the face of Snap-Line 45® panels.



✕ DON'T damage the panel surface while folding. Doing so might void panel warranty.

4) Once panels are prepared, install them ensuring the bottom fold is aligned with the fascia starter flashing (Refer to flashing details for more information). Using a folding tool or hand seamer, finish hooking the bottom fold to the fascia starter.



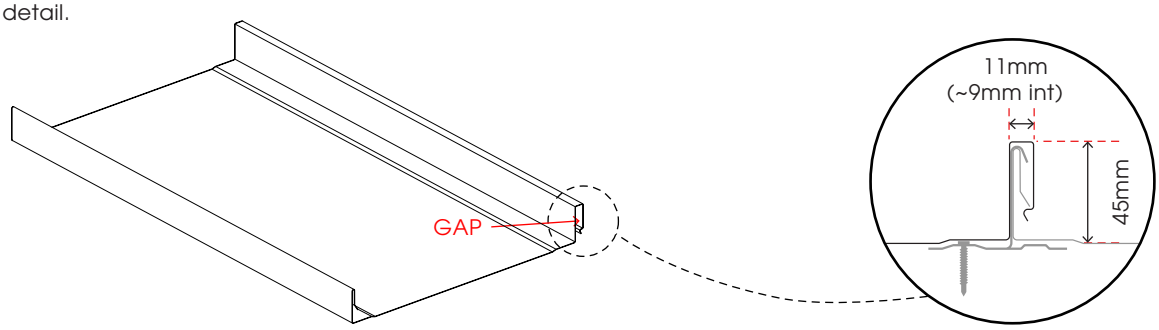
Note: When ordering sheets that will require bottom hooks, add 25mm to the overall sheet length. Additional tools might be required for better preparation of Snap-Line 45® panels. Please consult with No.1 APS.

Snap-Line45®

Snap-Line 45® Panel Terminations

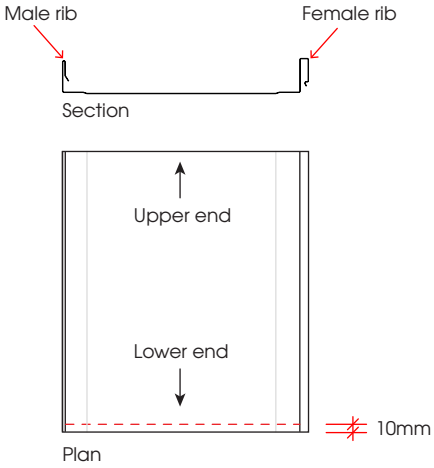
LOWER END - closing ribs

Snap-Line 45® panels feature a 45 mm slim rib profile, with an internal cavity of approximately 9 mm. In certain situations, it is advisable to close the rib ends to prevent salt, vermin and ember ingress—particularly in BAL-rated areas—or simply to achieve a cleaner visual finish. Closing the ribs on Snap-Line 45® can be done by itself or in conjuction with the bottom hook detail.

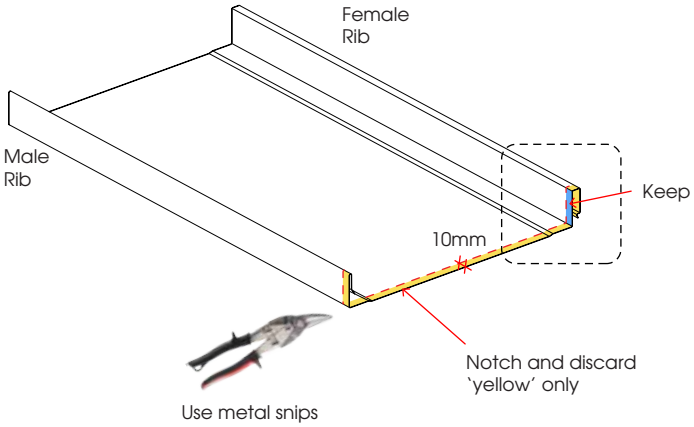


A) If only closing the rib

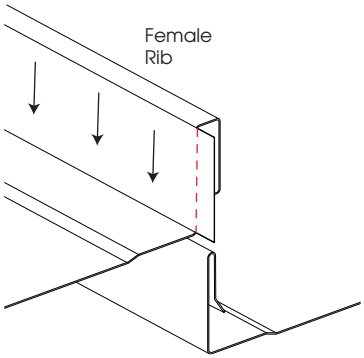
1) Mark a line parallel to the lower end 10mm from the edge



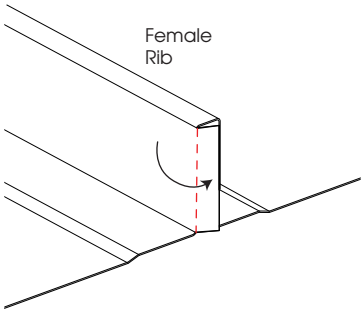
2) notch and discard the rib excess on pan and ribs as shown in yellow below, leaving a 10mm "tab" on female rib shown in blue:



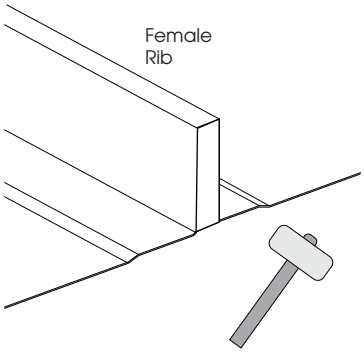
3) After notching, there should be a 10mm tab left on female rib. Install panels on the roof.



4) Once panels are engaged, use a hand seamer and fold the tab gently 90 degrees so it covers the gap*.



5) Use a soft faced hammer to straighten the rib end.



B) **If closing the rib and doing the bottom hook**, combine the steps for both details during notching and folding.

*For BAL areas, it is strongly recommended that a fire retardant sealant is used inside the rib prior to closing it, for extra protection against ember.
Note: Additional tools might be required for better preparation of Snap-Line 45® panels. Please consult with No.1 APS.

Spacer mats and backing rods

On Snap-Line 45® projects where the risk of oil canning is elevated, including steep roof pitches, reflective or glossy coatings, Classic profile, and wider pan modules, installers may choose to use spacer mats or backing rods to improve flatness and reduce surface distortion. They work by creating an even upward pressure to the pan of the panel, which as a result reduce the chances of the panel distorting or warping lengthwise.

Backing Rods

Backing rods are round or flat foam strips that can be used with Snap-Line 45® panels. They are recommended where enhanced aesthetics, increased panel stability, or improved system performance is desired. They do not affect compliance or warranty when installed correctly.

To correct install backing rods behind Snap-Line45® one should tape them centred to the back of the panel to the length of most of the panel (leaving ends free so panels can be stop ended or bottom hooked).

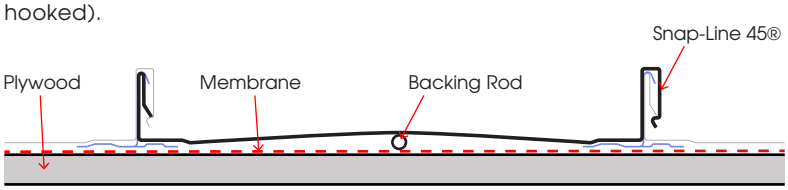
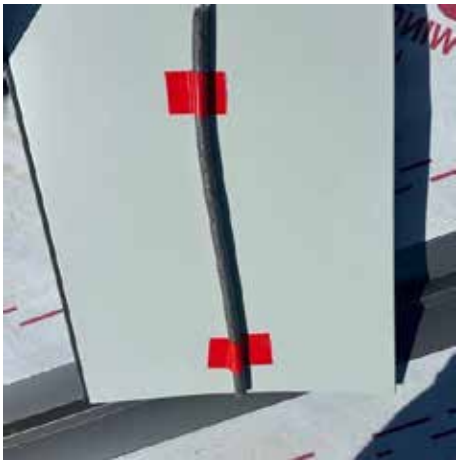


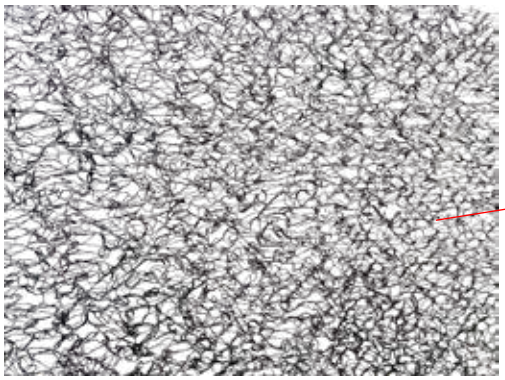
Diagram above shows the correct positioning of the backing rod application

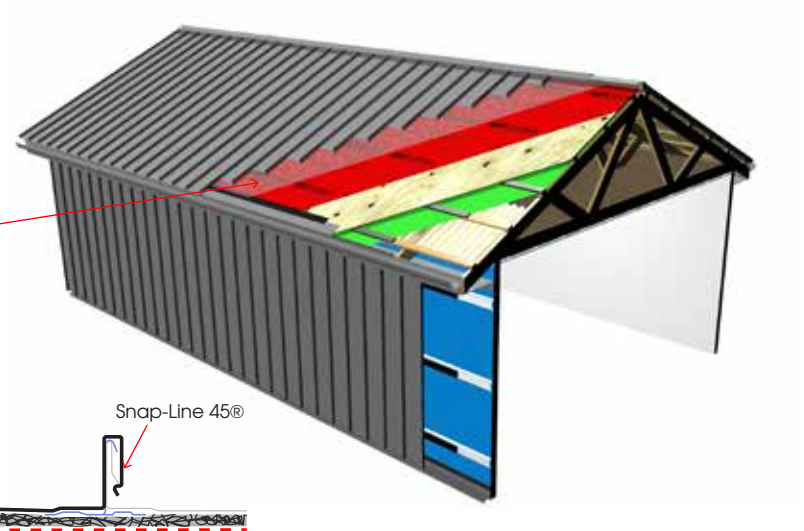


Spacer Mats

Spacer mats, like backing rods, can be used with Snap-Line45® to enhance the overall visual finish.

They may be installed either as full sheets or as a centred strip on the back of the panel. When installed as full sheets, spacer mats provide multiple performance benefits in addition to improving aesthetics. These include enhanced thermal and acoustic insulation, improved drainage, and reduced risk of condensation forming on the underside of the substrate. By creating an air cavity behind the Snap-Line45® panels, spacer mats allow ventilation and promote effective condensation management.





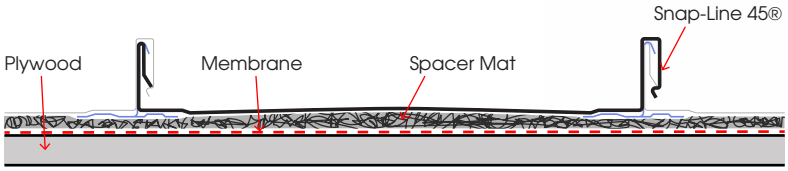


Diagram above shows the the spacer mat application when using full sheets

For better understanding of ventilation requirements and available solutions, please contact No.1 APS team.

Snap-Line45®

Ventilation and Condensation Management

1. Purpose and scope

This section sets out detailing rules and QA checks for roof and wall assemblies using Snap-Line45® so that moisture is safely managed under Australian conditions. It aligns with NCC 2022 Housing Provisions Part 10.8, AS 1562.1 (metal cladding design & installation), SA HB 39 (installation code guidance) and AS 3959 (BAL construction), and addresses the state and territory adoption settings relevant to NSW, ACT and QLD. For Class 1/10a in Climate Zones 6–8, roof-space ventilation per NCC 2022 V2 Part 10.8.3 is mandatory; confirm local adoption.

Key points:
- Keep wet indoor air out of the roof and wall cavities.
- Allow incidental moisture that does get in to drain and dry.
- Use ventilation openings that are continuous, evenly distributed, and compatible with BAL where required.
- Choose membranes with appropriate vapour permeance and put them in the right place in the build-up.
- Never vent bathrooms/kitchens/laundries into the roof space.

2. Climate zones and when roof-space ventilation is mandatory

Roof-space ventilation is mandatory in Climate Zones 6, 7 and 8 (cool temperate and alpine). Zones 6–8 capture the ACT and many NSW inland/alpine locations; most of coastal QLD is in Zones 1–5 (roof-space ventilation typically not mandated, but still recommended on complex roofs or where moisture loads are high).
Always confirm the site's NCC climate zone and state/territory variations before finalising details.

3. Roof ventilation performance targets (NCC Part 10.8)

Where ventilation is required (CZ6–8) provide the minimum net free ventilating area (NFVA) as follows, measured per metre of the longest horizontal roof dimension:

Roof pitch range	Ventilation requirement
Roof pitch < 10º	Provide 25,000 mm2/m at each of two opposite ends (e.g. low-level vents at both short sides.
Roof pitch ≥ 10º and < 15º	Provide 25,000 mm2/m at the eaves and 5,000 mm2/m at high level (ridge or within 900 mm vertically of the highest point).
Roof pitch ≥ 15º and < 75º	Provide 7,000 mm2/m at the eaves and 5,000 mm2/m at high level.
Cathedral Roof (no attic)	Add an extra 18,000 mm2/m at the eaves, in addition to the above requirements.

Design notes:
- "High level" means the ridge or ≤ 900 mm below it, measured vertically.
- Where ember-resisting mesh is used (see §8), apply the product's free-area factor to ensure the required NFVA is still achieved.
- Vent devices must be distributed to deliver cross-flow and avoid dead zones, with a clear air path (minimum 20 mm roof space where required).

4. How Snap-Line45® supports ventilated roof design

Eave intake (low-level ventilation): Use fascia/eave vent strips or vented soffit systems positioned to deliver the required NFVA, with an internal cavity closer to keep weather and pests out. Maintain the drainage plane above the eave vent so any water bypassing the cladding is shed to the gutter.

Ridge/outlet (high-level ventilation): Use a vented ridge detail. Provide a Z-Closure with stand-off baffle or spacer so air can escape beneath the ridge capping while preventing wind-driven rain entry.

Cathedral/skillion roofs: Maintain an uninterrupted 20 mm ventilated roof space from intake to outlet. Avoid blocking the pathway with insulation at the perimeter—use perimeter batts or spacers to preserve the 20 mm gap.

5. Membranes, insulation and cavity configuration

External walls: Where a wall membrane is used, install it to the outer side of the primary insulation layer. Vapour-permeable membranes (Class 3–4) are suitable and recommended where drained and ventilated wall cavities are provided.

Ventilation and Condensation Management (cont.)

5. Membranes, insulation and cavity configuration (continuation)

Metal roofs (Use one system only):
a) Low-permeance layer (e.g. foil blanket) with a ventilated roof space provided where required, or
b) Vapour-permeable roof membrane installed immediately above the primary insulation layer, with the roof space above the membrane ventilated where required.
Note: Option `a' only applies to batten fixing roofing installations, and must be capped at 60mm blanket thickness.

Ceiling/roof insulation
Keep insulation clear of the ventilation path. Where lofting could choke the 20 mm space (e.g. walls compressing the blanket at eave/roof junction), fit perimeter spacers/baffles to unobstruct air passage.

Wall drained-ventilated cavities
Where a cavity is provided, allow a minimum 20 mm drained cavity to the outer side of the wall membrane. Vent to outdoor air where required at the head and/or base. Use cavity closers and flashings to maintain water shedding.

6. Detailing — Snap-Line45® roof (typical)

Design Notes: Refer to specific eave, ridge and apron ventilated details under roof cladding (on plywood or battens) section. Where ember-resisting mesh ≤ 2 mm is installed, apply the vent product's free-area factor so required NFVA is still achieved.

Notes for Eaves:
Provide intake vent sized to meet NFVA for the project.
Water path continuity: Underlay/membrane turns into eave trim or over a support angle to drain into gutter.
Cavity closer/mesh to prevent insect/ember ingress.
Maintain thermal-movement allowance at panel ends (bottom hook to starter where specified).

Notes for Ridges:
Use vented ridge with baffles; Z-Closure set on butyl to seal water path while leaving free air path.
High-level vent NFVA to meet target; place outlets continuous along ridge where feasible.

Notes for Aprons:
Where the roof space relies on ridge outlet, do not block the high-level path at changes of plane; introduce vented pressure flashings or purpose-made vent slots under cover flashings as needed.
Maintain membrane turn-ups (≥ 75 mm) and back-up seals.

7. Bushfire-prone areas (BAL) — vents and gaps

Where the site is designated bushfire-prone, vents and openings must be screened with non-combustible metal mesh with maximum 2 mm aperture.
Seal gaps > 3 mm; close rib ends at eaves; consider fire-retardant sealant within rib cavities as a belt-and-braces measure at the lower end.
Select one compliance pathway per building: AS 3959 or NASH Bushfire Standard; do not mix.

8. Wall cladding — condensation control (Snap-Line45®)

Build-up (typical): Snap-Line45® panels installed over a breathable anti-abrasive vapour-permeable wall membrane, located to the exterior side of the primary insulation layer, over plywood or battened construction as detailed.
Cavity and moisture control: Wall cavity configuration (ventilated or non-ventilated), drainage provisions and cavity dimensions shall be in accordance with the wall build-up options shown under Wall Cladding (Plywood or Battens).
Penetrations/windows: Maintain membrane continuity with head flashings and jamb seals draining into the cavity. Keep drainage paths clear.

9. QA checkpoints (sign-off)

VENT path is continuous (no choke points at perimeters or by insulation).
NFVA calculated and scheduled (include any mesh reduction factors).
Exhaust systems ducted to outdoor air; make-up air provided where required.
BAL measures applied to vents, ribs and gaps.
Thermal movement allowed for (positive restraint at upper end; free movement at lower).
Membrane selection & placement matches the intended pathway (permeable vs low-permeance).
Site climate zone confirmed and documented.

Mansard Detail
Roof to Wall Cladding

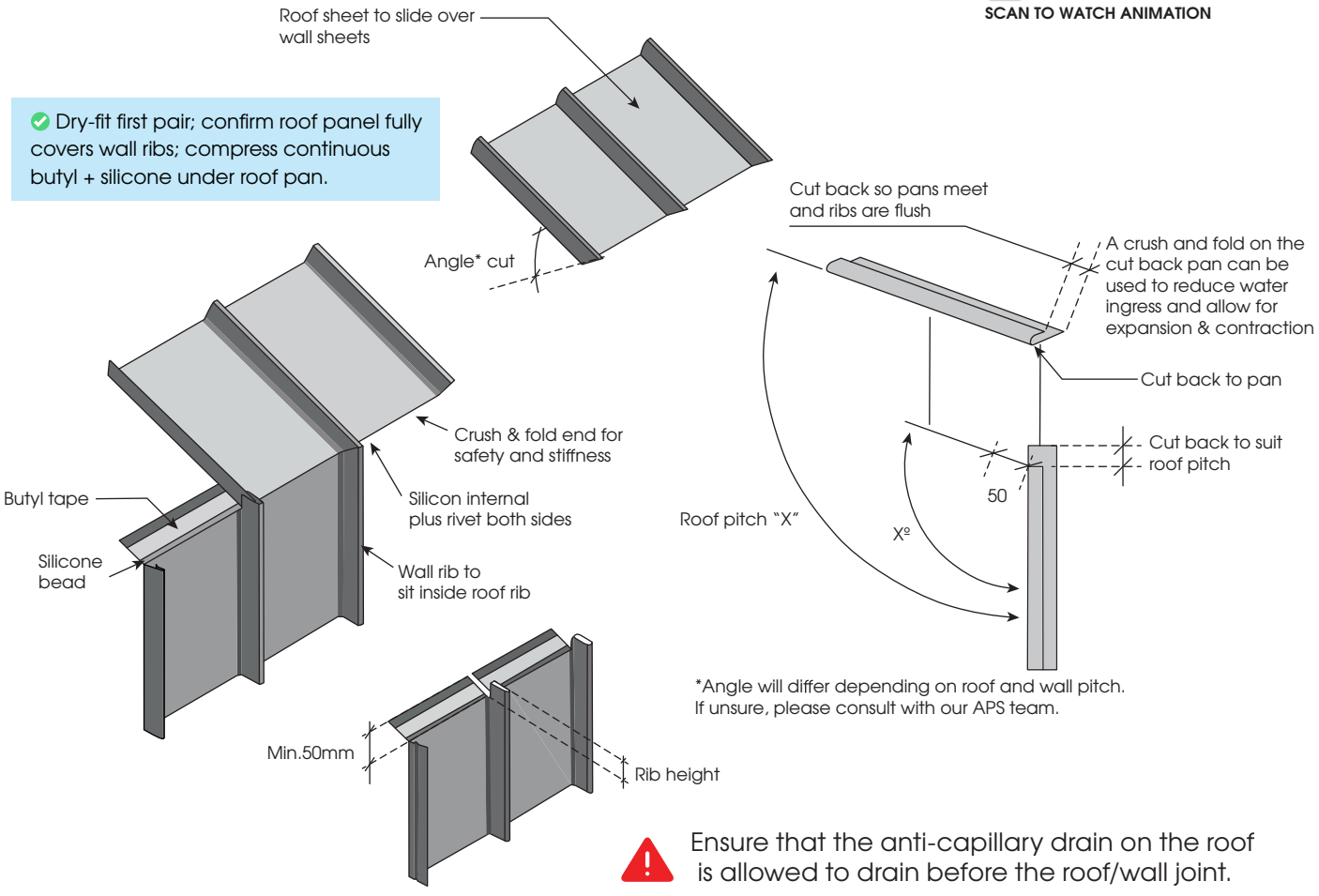
Mansard detail - a common request

For a clean mansard with Snap-Line45®, order the wall panels at least 50 mm longer than the finished wall height. At the top of each wall panel, notch the ribs, then fold the pan back onto the roof plane so the ribs stand up proud. Order the roof panels longer as well so their ribs can fully over-cloak the wall ribs at the mansard break. Dry-set your first pair to confirm the geometry, alignment, and that the roof panel length comfortably buries the wall ribs.

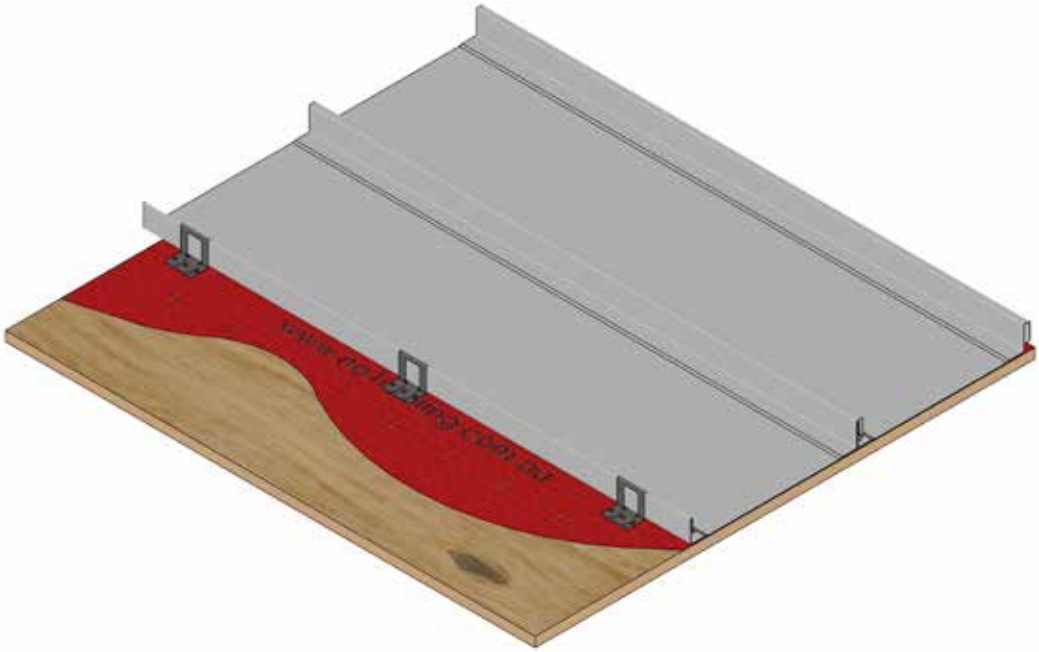
Begin by installing the first wall panel and forming its top fold. Apply two full, continuous beads of neutral-cure silicone plus a continuous line of butyl tape to the folded upper section of the wall panel (on the roof plane). Set the first roof panel so its pan beds into the sealant and its ribs pass over and conceal the standing wall ribs; cut the roof ribs on the required angle so the roof-to-wall rib encounter is neatly mitred. Fold the bottom section of the roof pan back 180° as detailed, then fix using standard clips to maintain thermal movement. Continue in coordinated sequence—next wall panel, then the next roof panel covering it—repeating along the mansard so each new roof panel fully shrouds the adjacent wall ribs.

Throughout, check that roof panel lengths allow complete coverage of the wall ribs, that mitred rib cuts are clean and deburred, and that the butyl and silicone lines are continuous and compressed under the roof pan for a watertight seal. Keep set-out true, alternate roof and wall installation to maintain coverage, and avoid direct fixing that could restrict expansion over clips. Scan the QR code to watch our animation on Snap-Line 45® Mansard detail installation.

SCAN TO WATCH ANIMATION



Ensure that the anti-capillary drain on the roof is allowed to drain before the roof/wall joint.

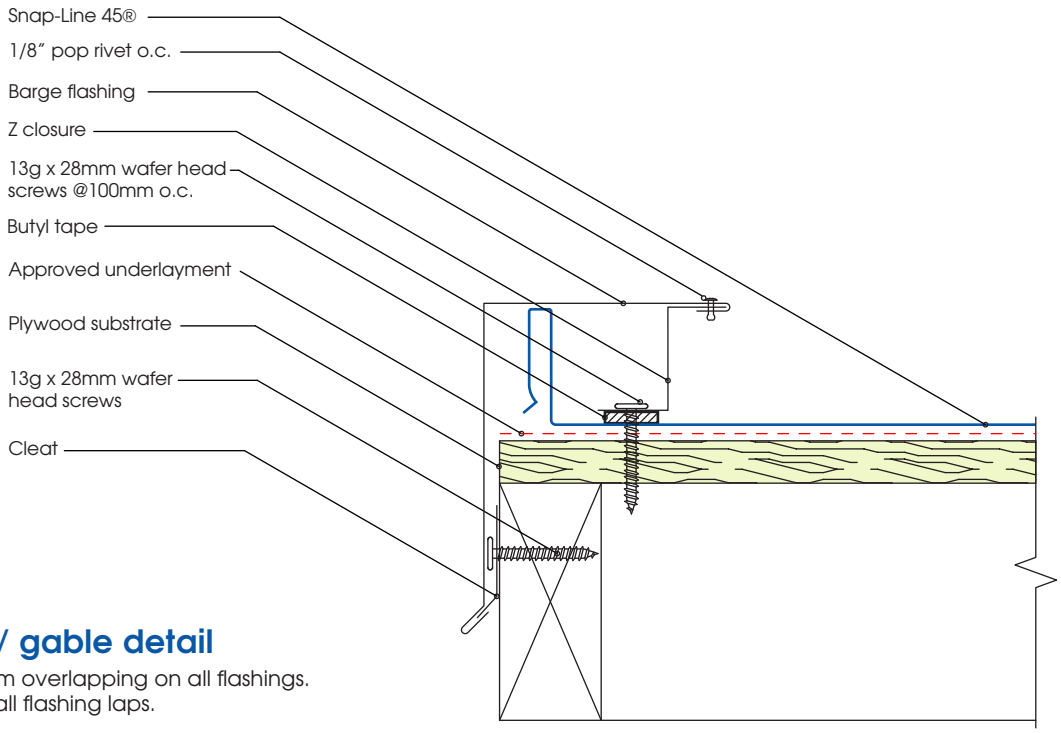


Snap-Line 45®
ROOF Cladding Flashing Details
Installation on Plywood

CYCLONIC INSTALLATION NOTE:
All flashing fixings, cleats, Z-closures, barge flashings, ridge assemblies and edge details shown in this section must be installed with fixing types, sizes and spacings suitable for cyclonic wind pressures. Fixing densities shown are indicative only and must be increased where required to satisfy project-specific cyclonic design loads in accordance with AS/NZS 1170.2 and AS 1562.1.

Cyclonic plywood substrate note:
Where Snap-Line45® is installed over a solid substrate such as plywood, the plywood and its fixings must be designed to resist internal wind pressure in accordance with the NCC and applicable Australian Standards.

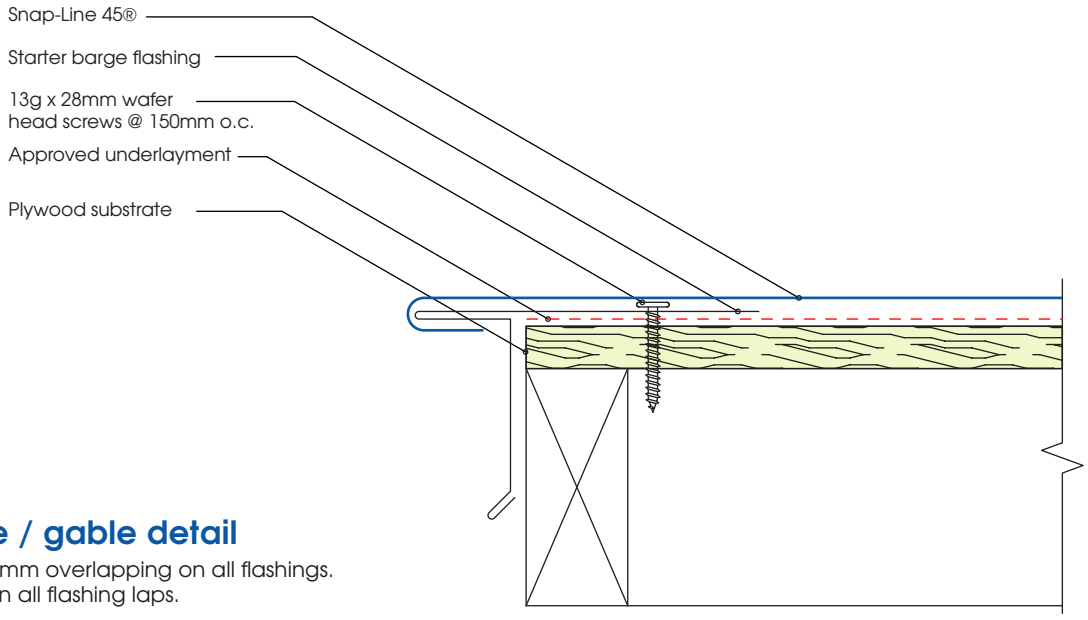
Roof Cladding
Flashing Details on Plywood



PBG1 - Barge / gable detail

Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.

⚠ CYCLONIC EDGE ZONE WARNING
Roof edges, corners, ridges, hips and valleys are subject to increased wind pressures in cyclonic regions. Ensure detailing, fixings and substrate capacity in these zones comply with the project-specific cyclonic wind classification.

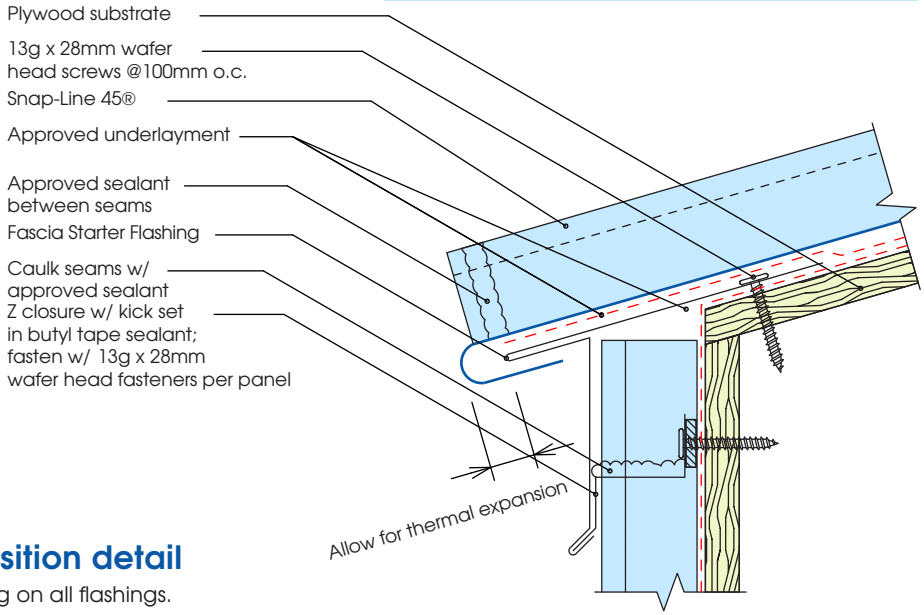


PBG2 - Barge / gable detail

Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.

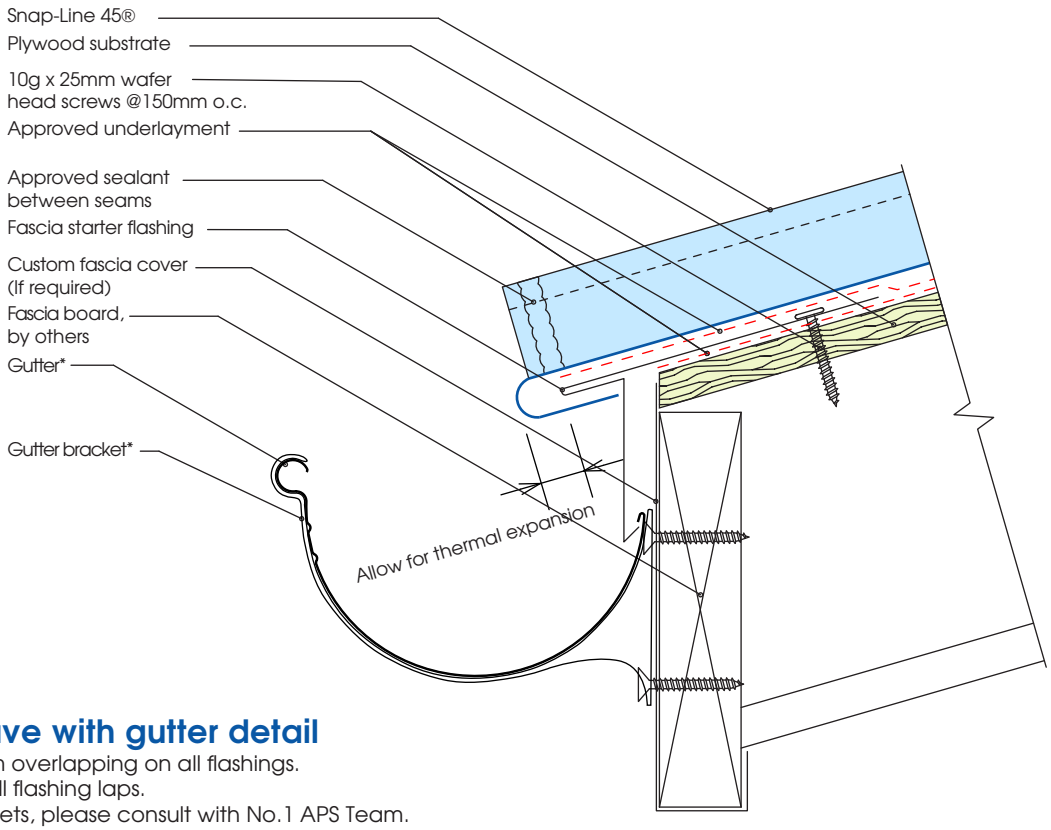
Roof Cladding
Flashing Details on Plywood

⚠ CYCLONIC EDGE ZONE WARNING
Roof edges, corners, ridges, hips and valleys are subject to increased wind pressures in cyclonic regions. Ensure detailing, fixings and substrate capacity in these zones comply with the project-specific cyclonic wind classification.



PT1 - Roof / Fascia transition detail

Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
Non-ventilated transition shown. For ventilated options, please contact No.1 APS Team.

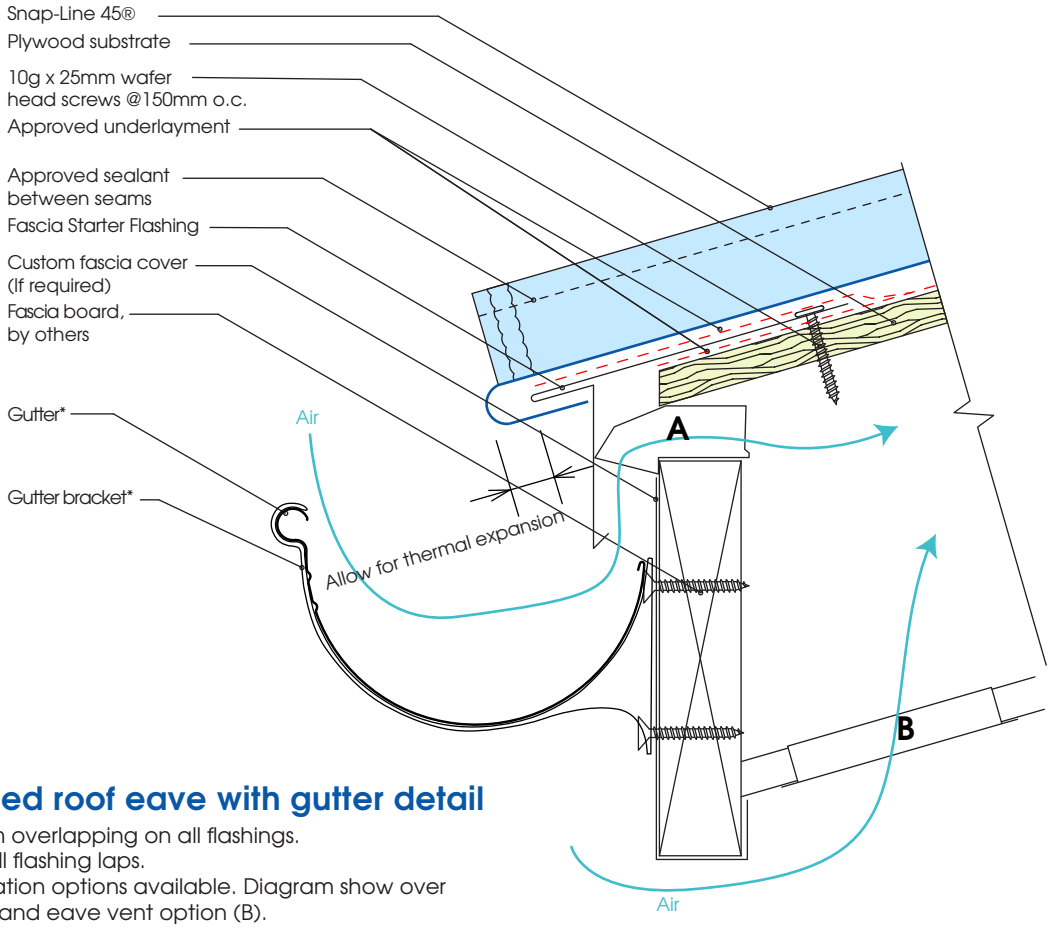


PEG1 - Roof eave with gutter detail

Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
For eave ventilation inlets, please consult with No.1 APS Team.

*No.1 150 Half Round gutter shown for information only. For other gutter options, please contact No.1 APS Team.

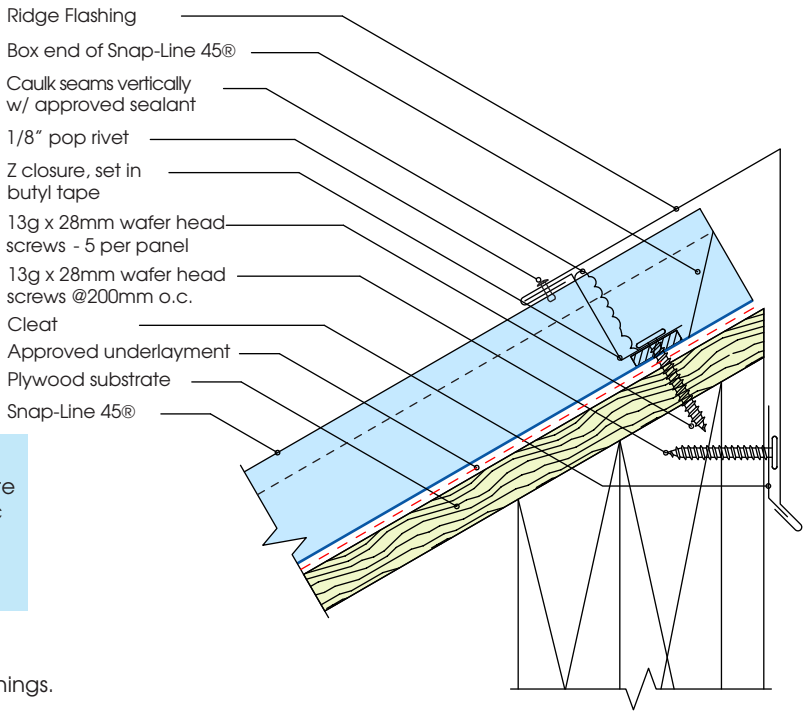
Roof Cladding
Flashing Details on Plywood



PEG2 - Ventilated roof eave with gutter detail

Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
Roof lower level ventilation options available. Diagram show over fascia vent option (A) and eave vent option (B).
For more information on ventilation, please consult with No.1 APS Team.

*No.1 150 Half Round gutter shown for information only. For other gutter options, please contact No.1 APS Team.

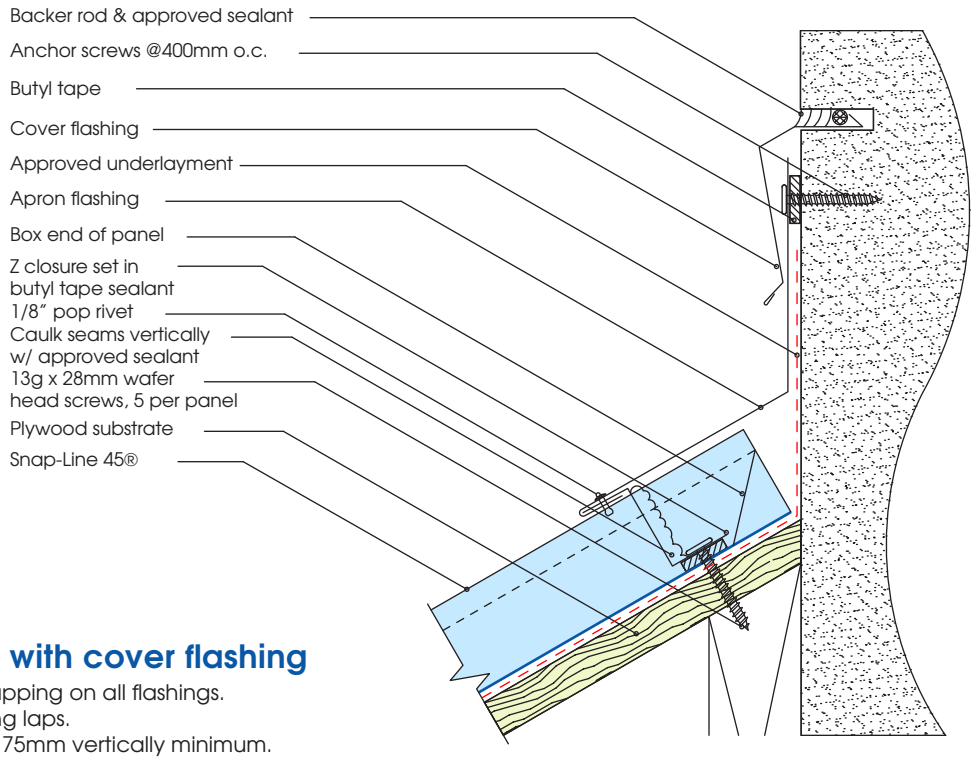


⚠ CYCLONIC EDGE ZONE WARNING
Roof edges, corners, ridges, hips and valleys are subject to increased wind pressures in cyclonic regions. Ensure detailing, fixings and substrate capacity in these zones comply with the project-specific cyclonic wind classification.

PSR1 - Skillion roof ridge detail

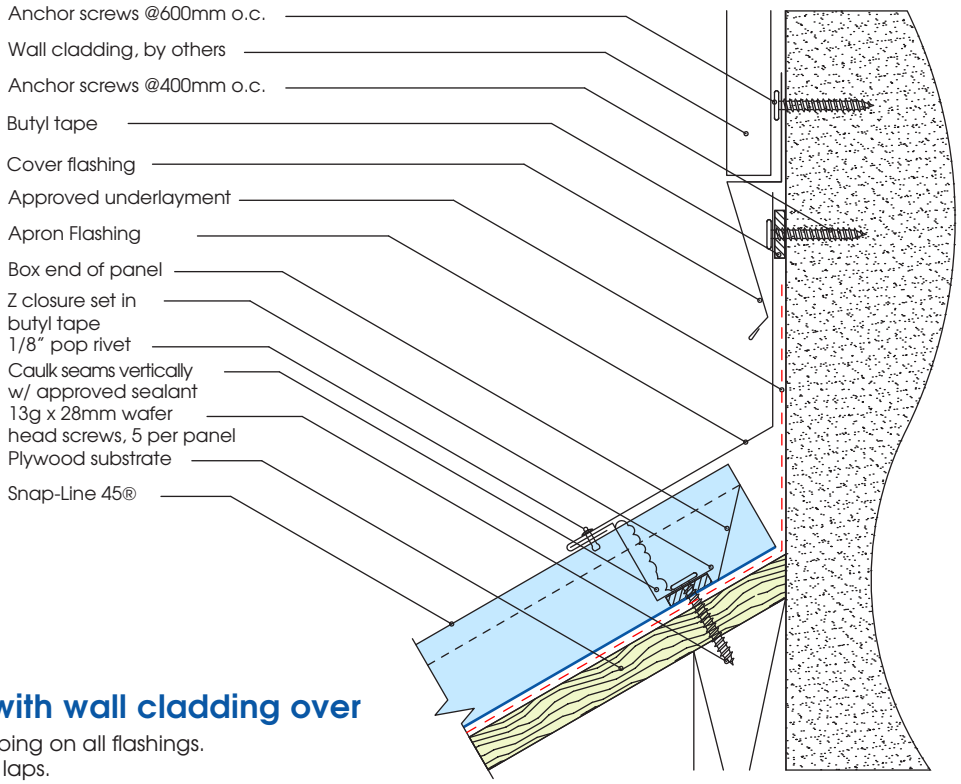
Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
Non-vertilated ridge option shown. For ventilated options, please contact No.1 APS Team.

Roof Cladding
Flashing Details on Plywood



PAP1 - Apron detail with cover flashing

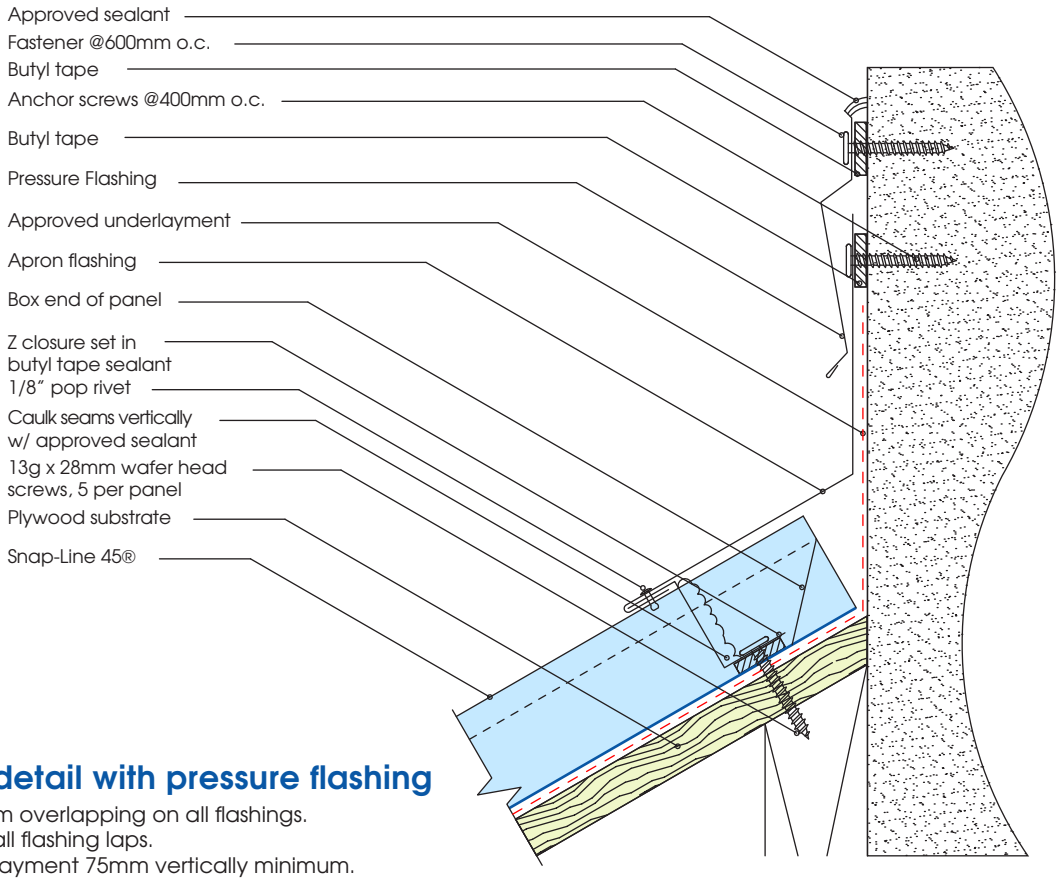
Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
Turn approved underlayment 75mm vertically minimum.
Non-vertilated apron option shown. For ventilated options, please contact No.1 APS Team.



PAP2 - Apron detail with wall cladding over

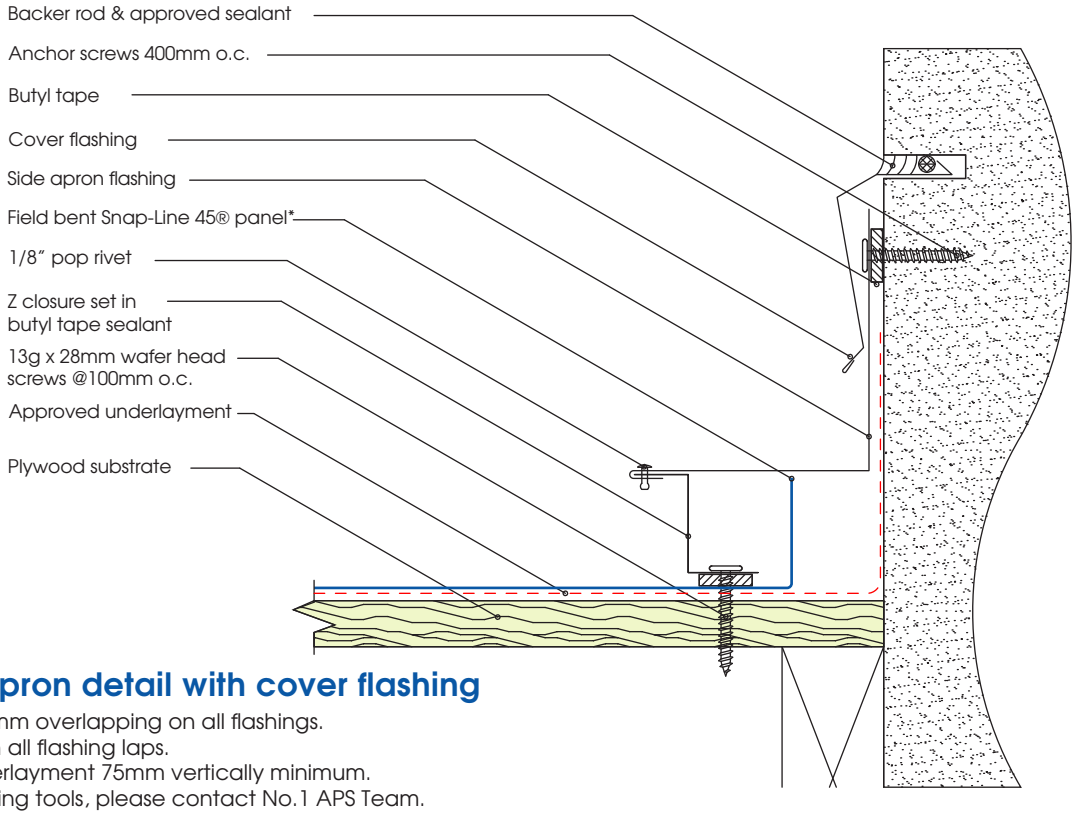
Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
Turn approved underlayment 75mm vertically minimum.
Non-vertilated apron option shown. For ventilated options, please contact No.1 APS Team.

Roof Cladding
Flashing Details on Plywood



PAP3 - Apron detail with pressure flashing

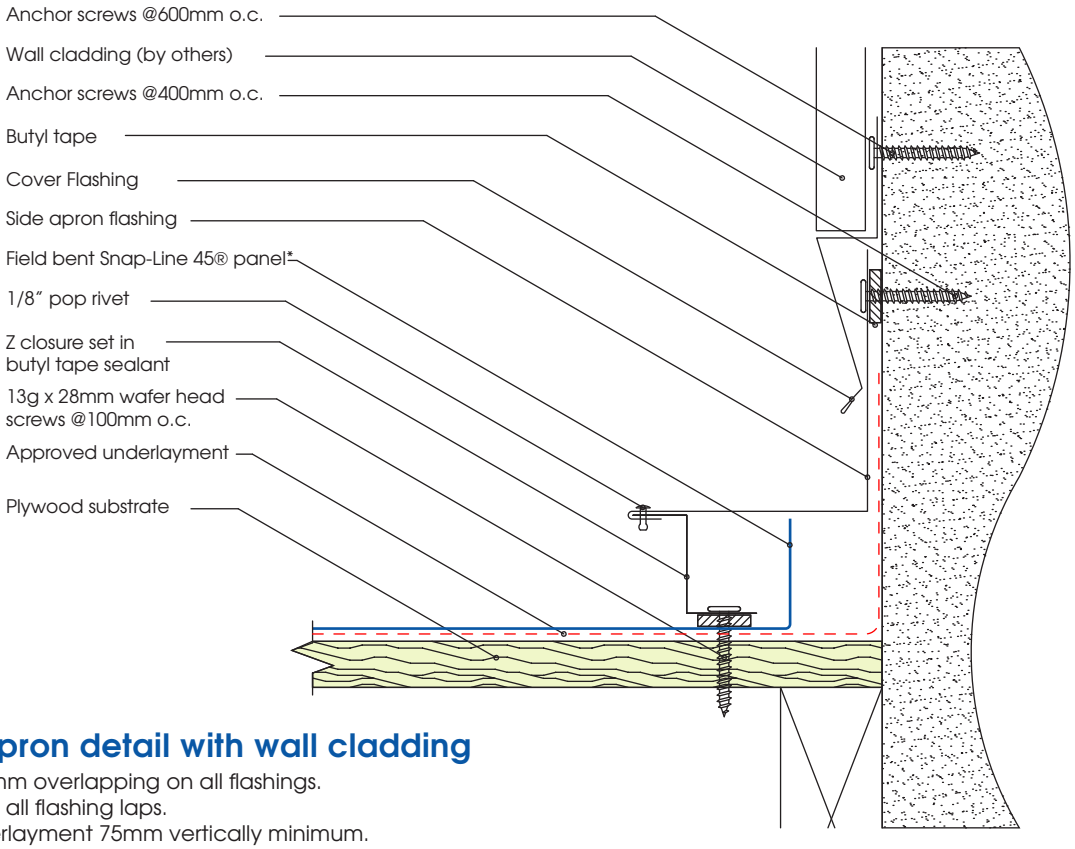
Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
Turn approved underlayment 75mm vertically minimum.
Non-vertilated apron option shown. For ventilated options, please contact No.1 APS Team.



PSA1 - Side apron detail with cover flashing

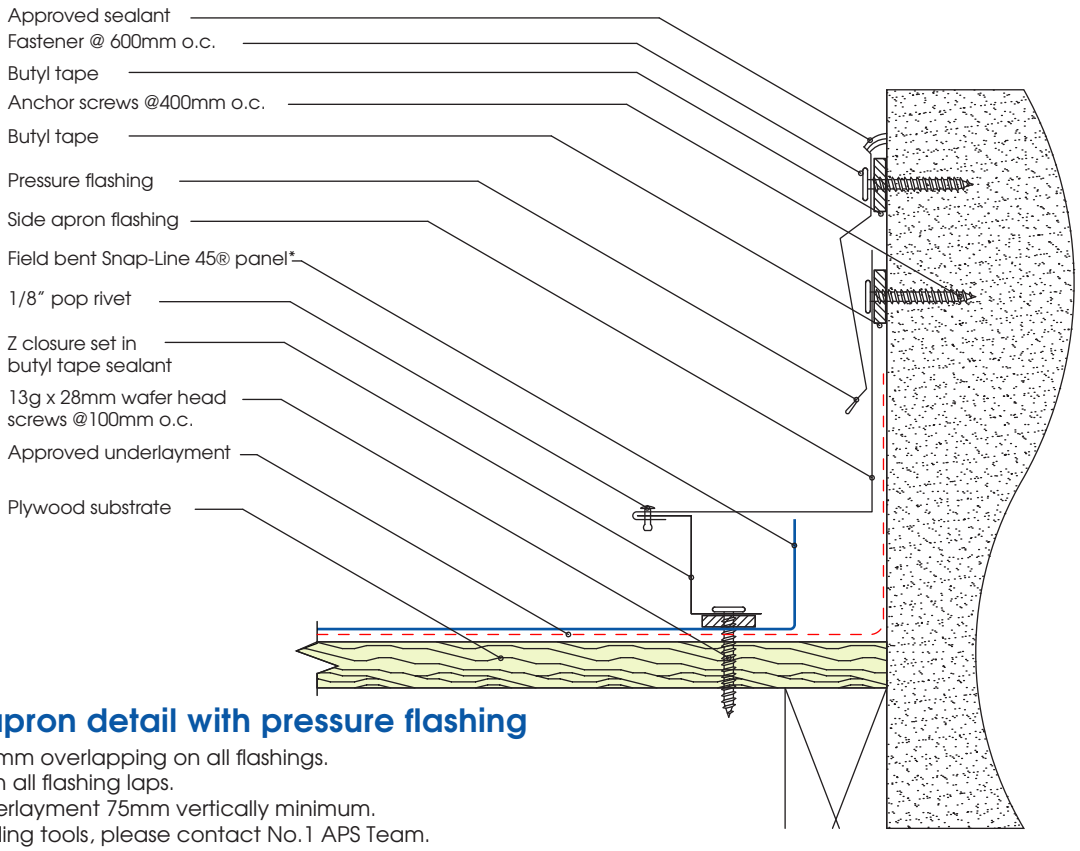
Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
Turn approved underlayment 75mm vertically minimum.
*For field roller bending tools, please contact No.1 APS Team.

Roof Cladding
Flashing Details on Plywood



PSA2 - Side apron detail with wall cladding

Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
Turn approved underlayment 75mm vertically minimum.
*For field roller bending tools, please contact No.1 APS Team.

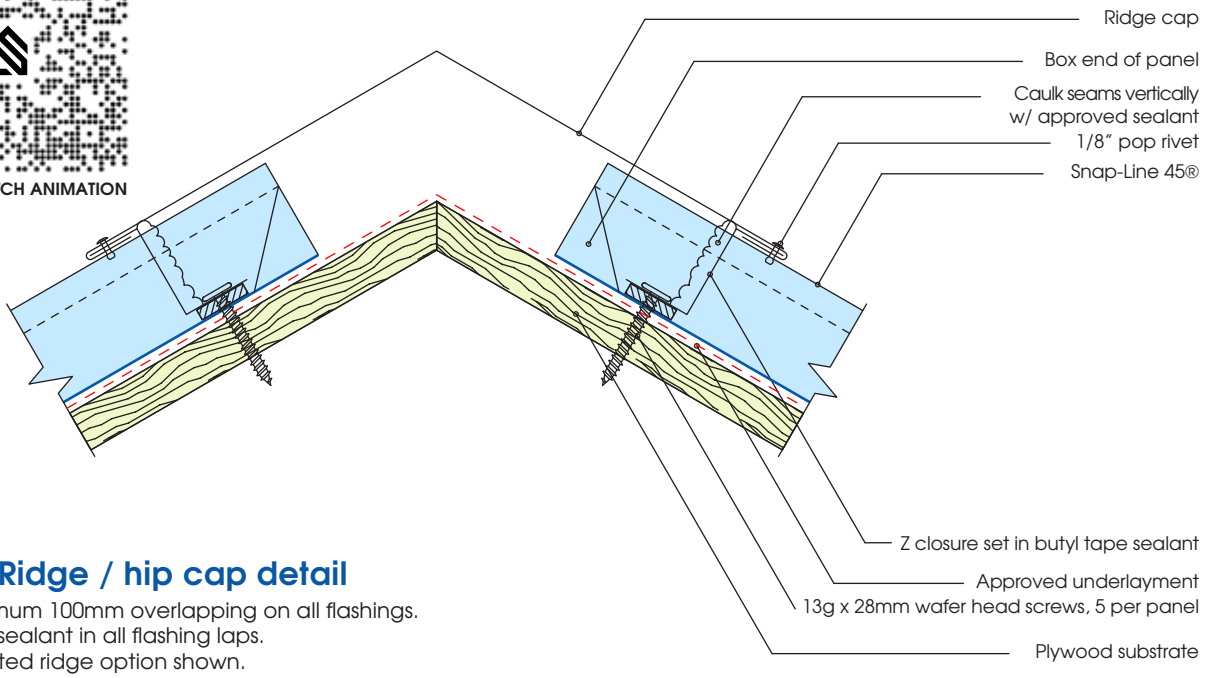


PSA3 - Side apron detail with pressure flashing

Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
Turn approved underlayment 75mm vertically minimum.
*For field roller bending tools, please contact No.1 APS Team.

Roof Cladding
Flashing Details on Plywood

SCAN TO WATCH ANIMATION

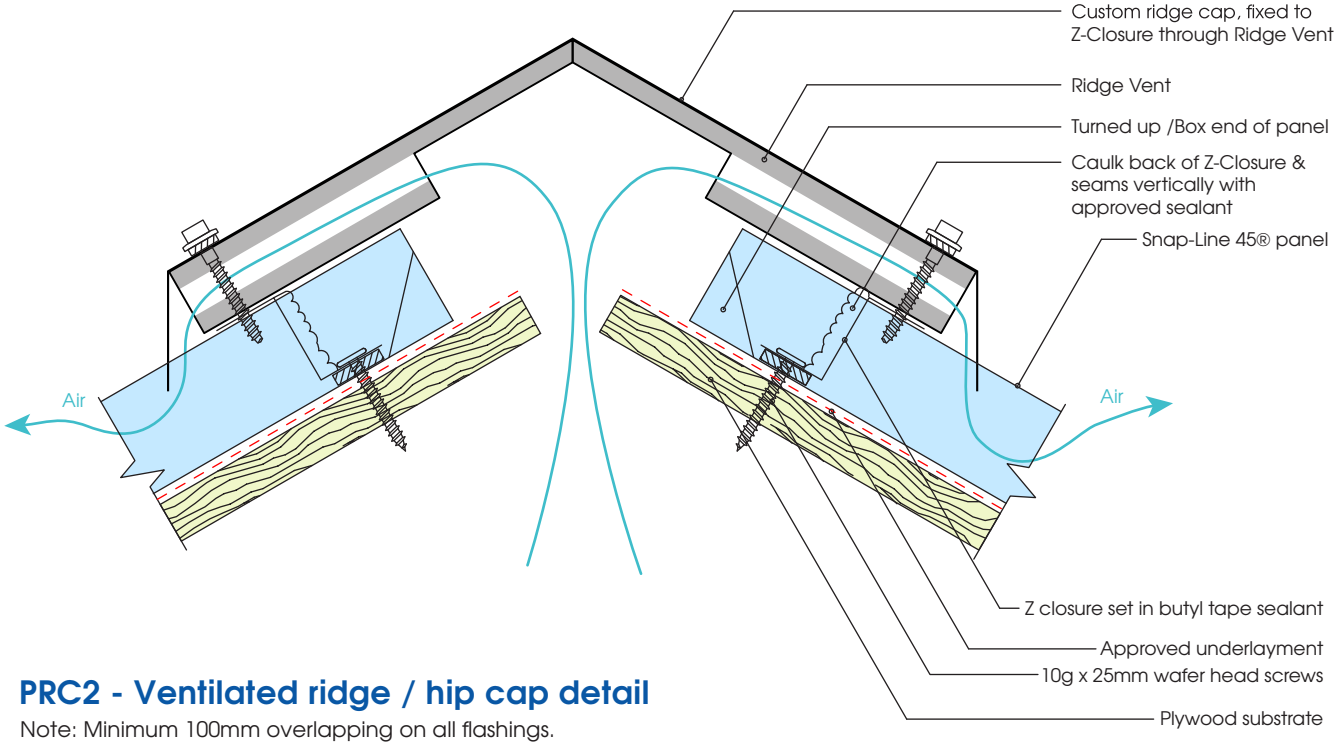


PRC1 - Ridge / hip cap detail

Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
Non-vertilated ridge option shown.

If ember mesh ≤ 2mm is used, apply free-area factor to maintain NFVA

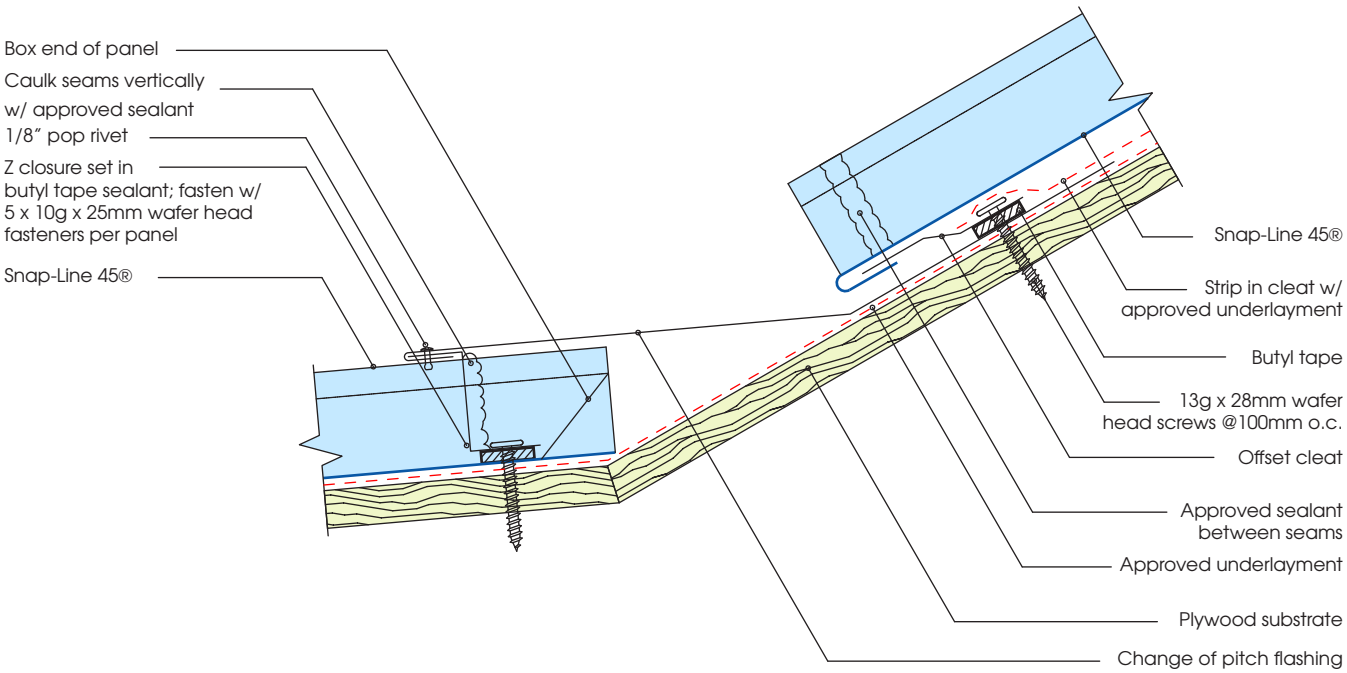
⚠ CYCLONIC EDGE ZONE WARNING
Roof edges, corners, ridges, hips and valleys are subject to increased wind pressures in cyclonic regions. Ensure detailing, fixings and substrate capacity in these zones comply with the project-specific cyclonic wind classification.



PRC2 - Ventilated ridge / hip cap detail

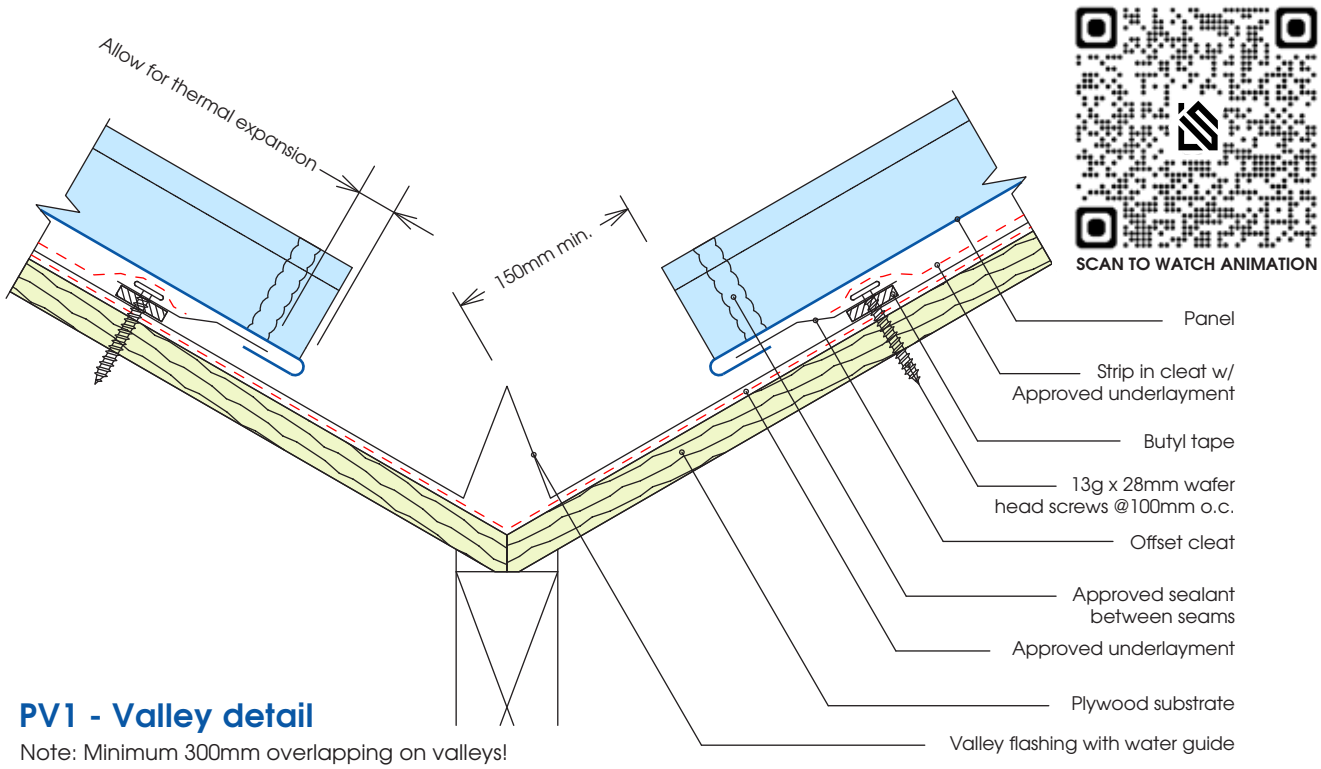
Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.

Roof Cladding
Flashing Details on Plywood



PCP1 - Change of pitch detail

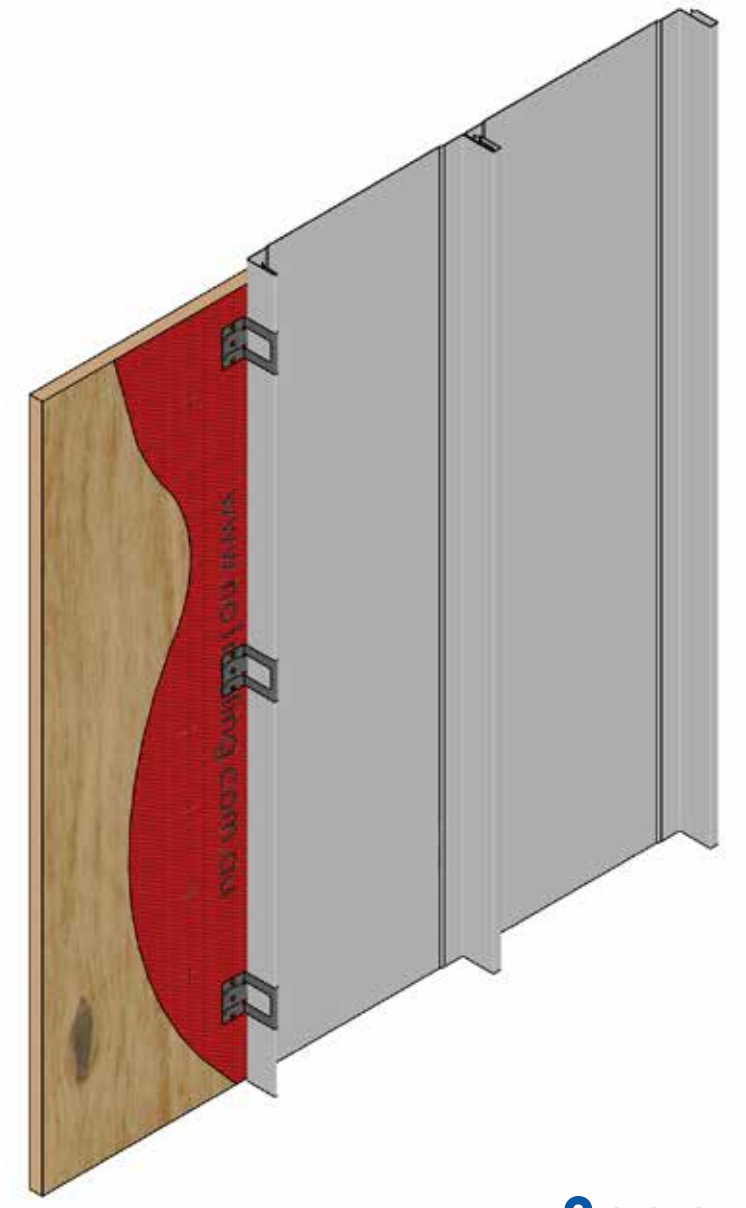
Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.



PV1 - Valley detail

Note: Minimum 300mm overlapping on valleys!
Approved sealant in all laps in valley.
Two rows of sealant between valley laps,
100mm up from lap.

Snap-Line45®



Snap-Line 45®
WALL Cladding Flashing Details
Installation on Plywood

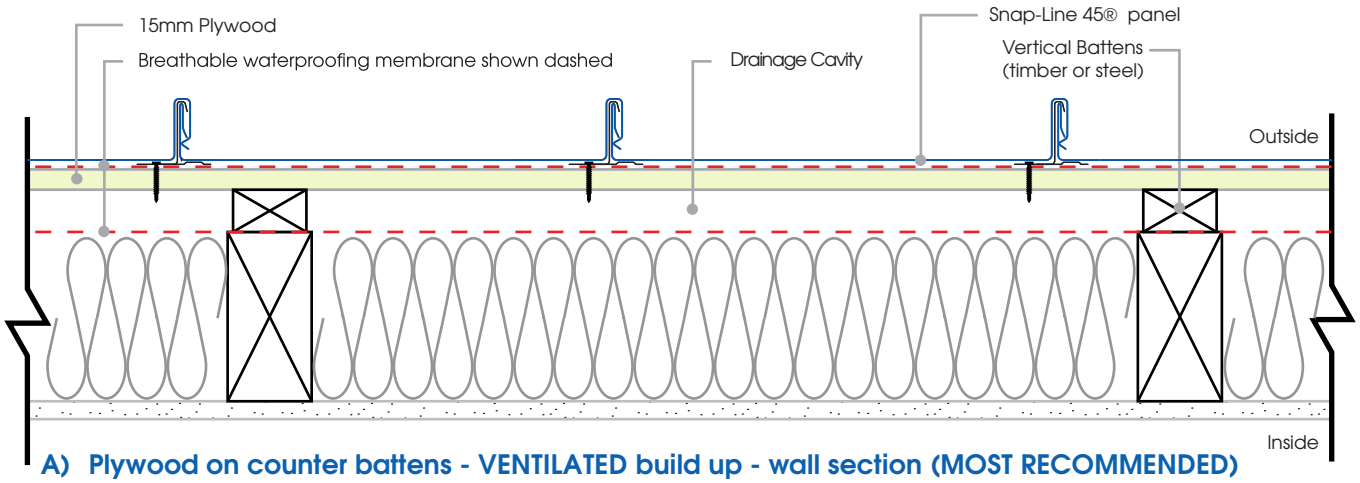
CYCLONIC INSTALLATION NOTE:
All flashing fixings, cleats, Z-closures, barge flashings, ridge assemblies and edge details shown in this section must be installed with fixing types, sizes and spacings suitable for cyclonic wind pressures. Fixing densities shown are indicative only and must be increased where required to satisfy project-specific cyclonic design loads in accordance with AS/NZS 1170.2 and AS 1562.1.

Cyclonic plywood substrate note:
Where Snap-Line45® is installed over a solid substrate such as plywood, the plywood and its fixings must be designed to resist internal wind pressure in accordance with the NCC and applicable Australian Standards.

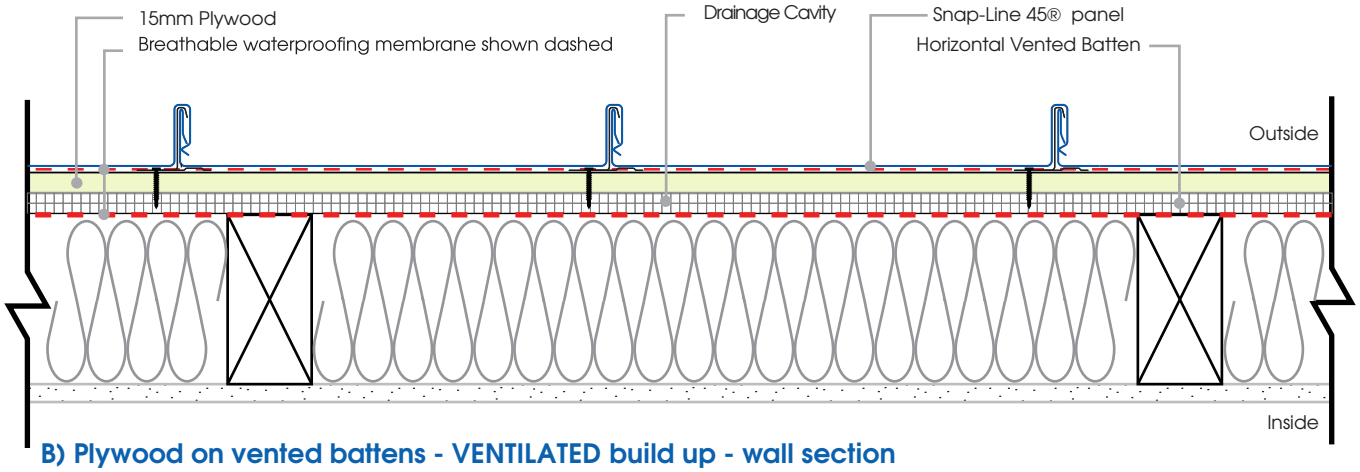
Snap-Line45®

Snap-Line 45® Wall Types - Installation on Plywood

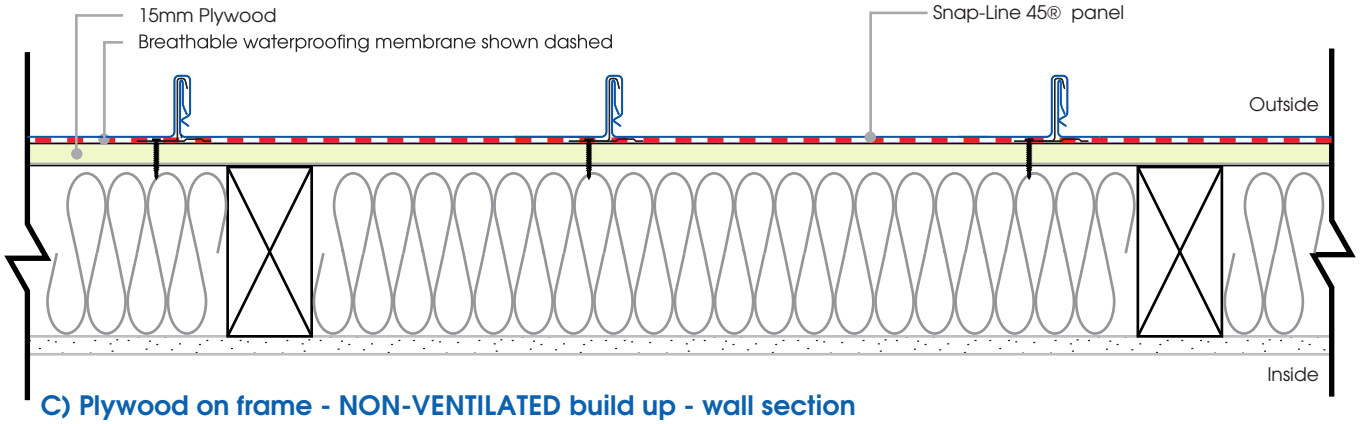
Important: Ensure that the applicable requirements for wall condensation management — including wall ventilation strategy and membrane class — are considered before selecting a wall build-up. The wall types shown below represent the most common Snap-Line45® applications. For custom wall build-ups, consult the No.1 APS team.



A) Plywood on counter battens - VENTILATED build up - wall section (MOST RECOMMENDED)



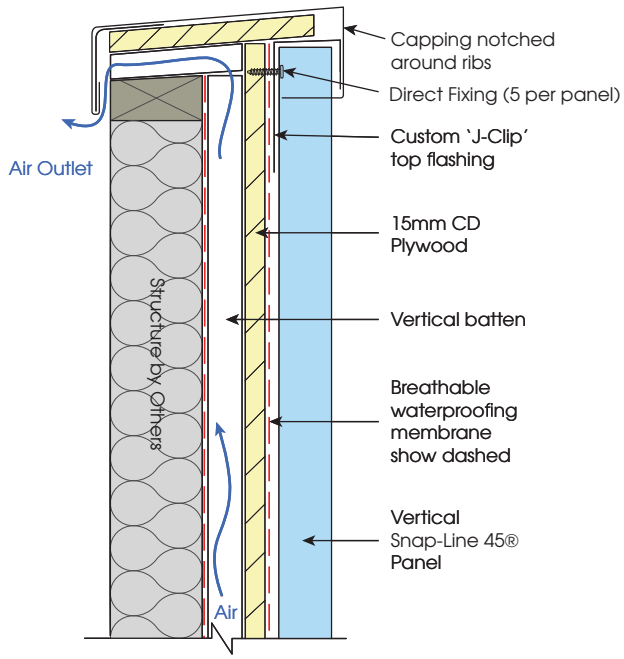
B) Plywood on vented battens - VENTILATED build up - wall section



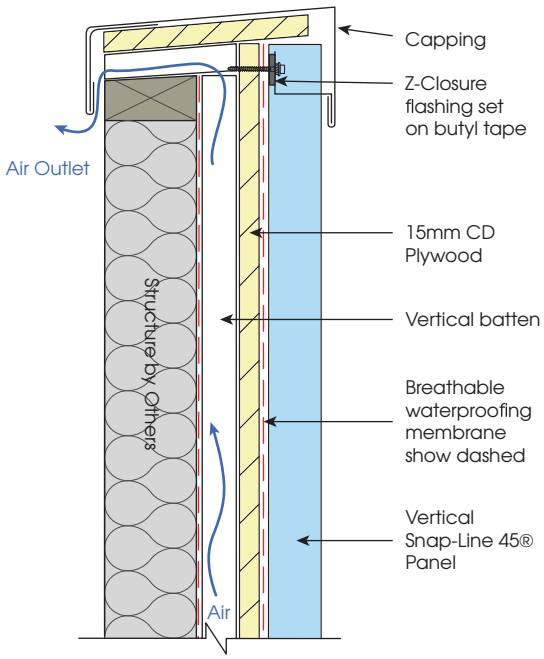
C) Plywood on frame - NON-VENTILATED build up - wall section

IMPORTANT.: Ventilated options are recommended for improved condensation management control.

Wall Cladding
Flashing Details on Plywood



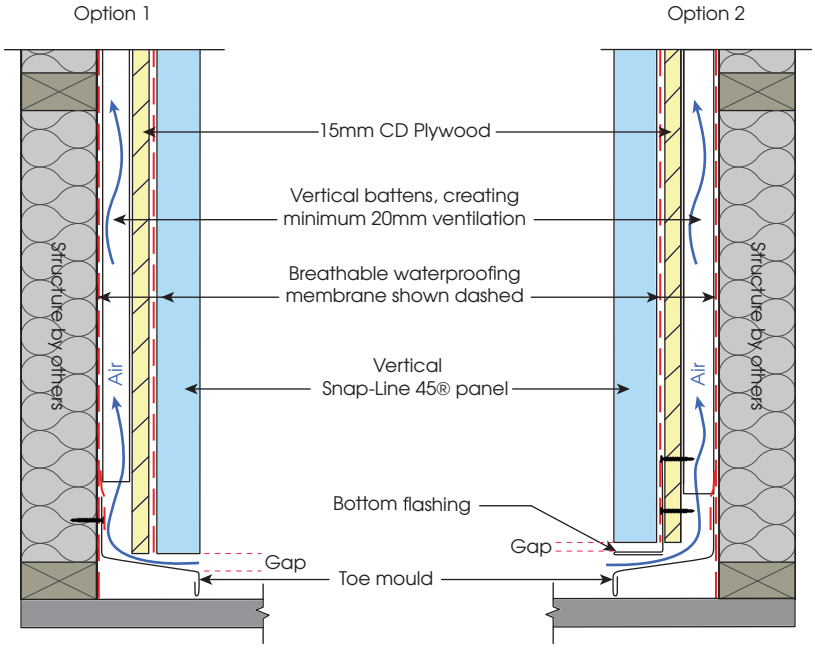
With notched capping



With Z-Closure method

PP1- Typical parapet capping detail

Note: For projects in BAL areas, gaps might need to be sealed.
Ventilated wall build-up shown. For other wall types, please contact No.1 APS team.



Note:

A minimum gap must always be maintained between the bottom edge of vertical Snap-Line 45® panels and the toe mould or bottom flashing. Panels must never rest directly on the toe mould or flashing.

The required minimum gap is **the greater** of the following:

- 5 mm, or
- Panel length (in metres) ×

a. 1.2 for steel-based (e.g., Colorbond) panels
b. 2.3 for aluminium-based panels

Examples:

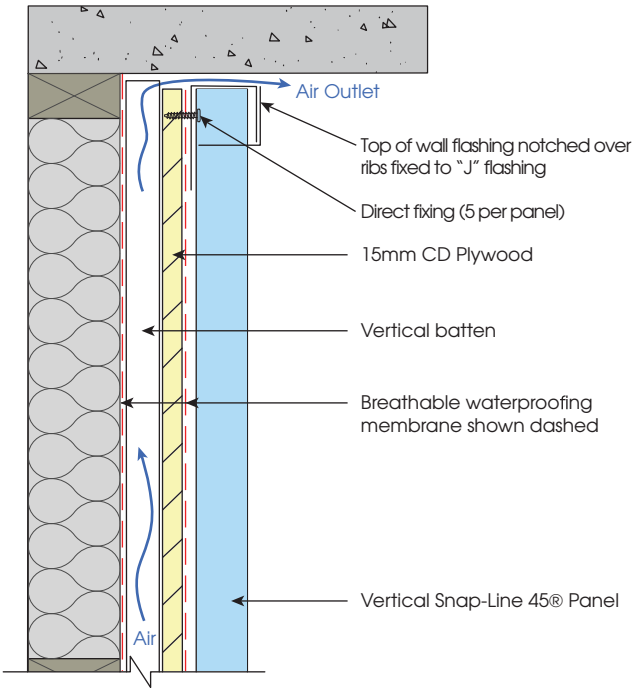
A 3m Colorbond panel: 3 × 1.2 = 3.6 mm
→ use 5mm gap

A 3m aluminium panel: 3 × 2.3 = 6.9 mm
→ use 6.9mm gap

PBF1 - Typical toe mould / bottom flashing detail

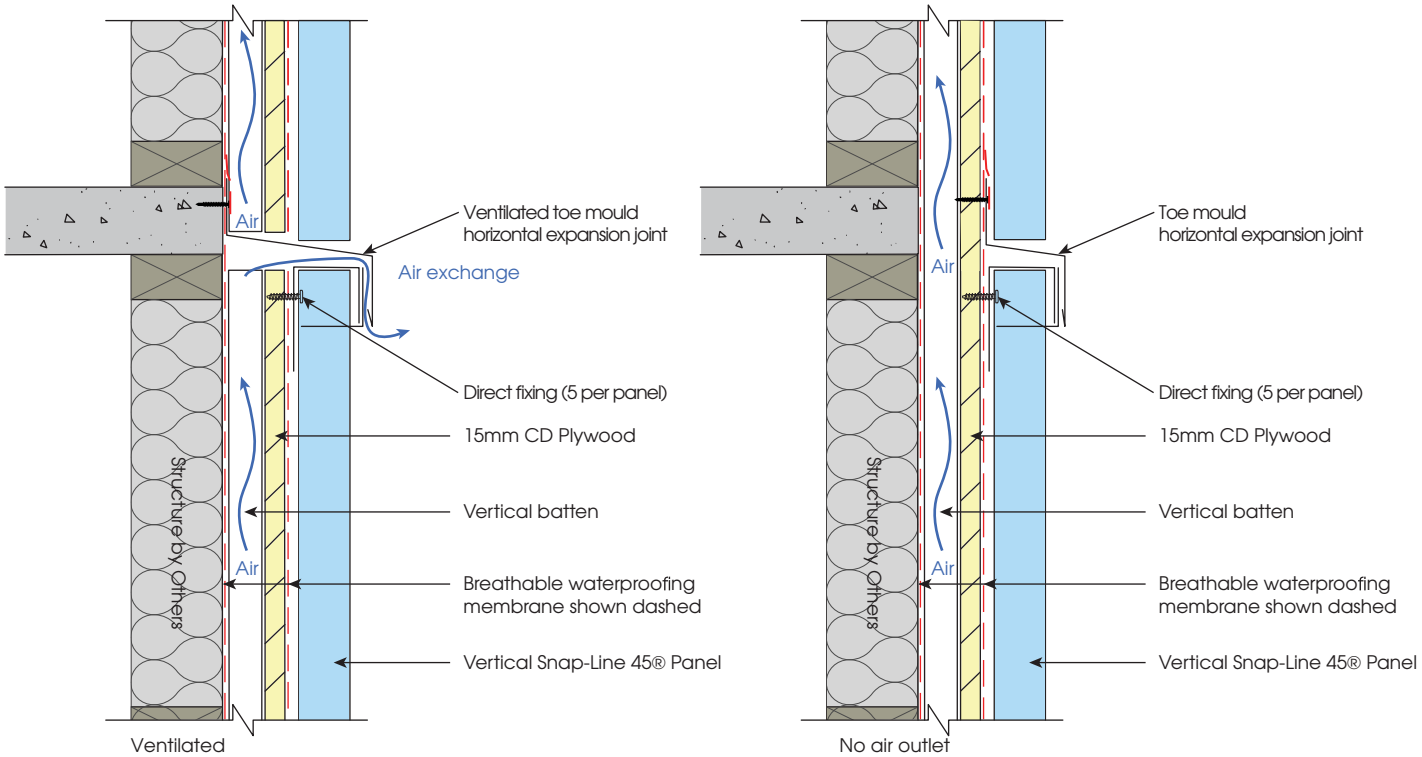
Note: For projects in BAL areas, gaps might need to be sealed.
Toe mould must be taped continuously to the waterproofing membrane to external water diversion.
Ventilated wall build-up shown. For other wall types, please contact No.1 APS team.

Wall Cladding
Flashing Details on Plywood



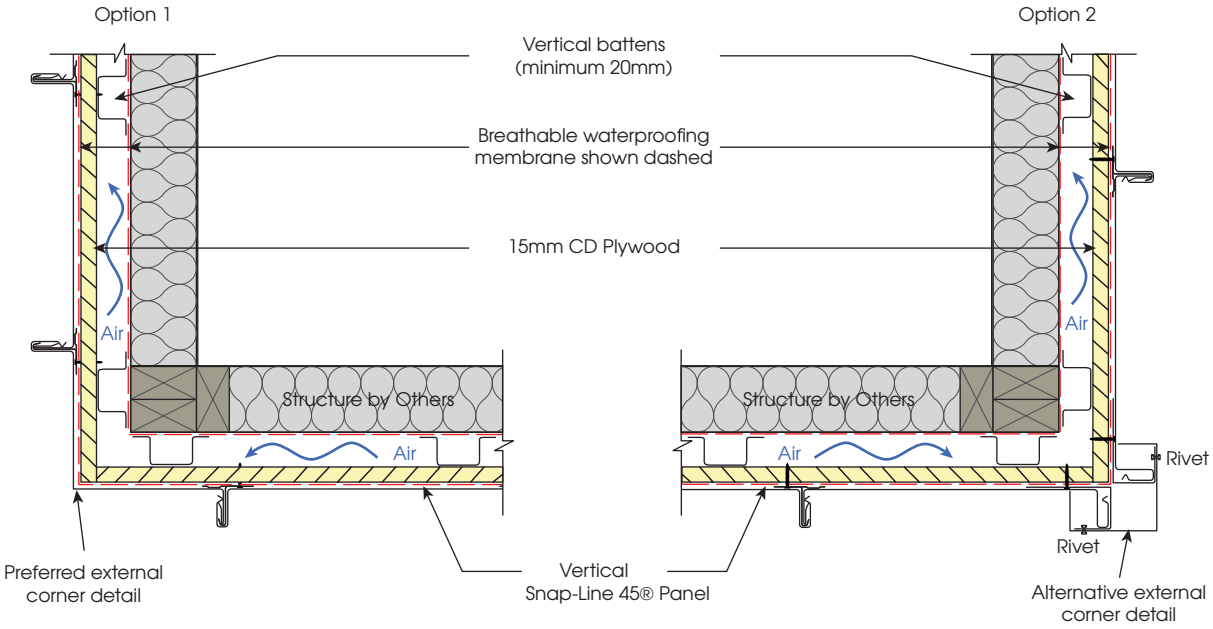
PTW1- Typical top of wall detail

Note: For projects in BAL areas, gaps might need to be sealed.
Ventilated wall build-up shown. For other wall types, please contact No.1 APS team.



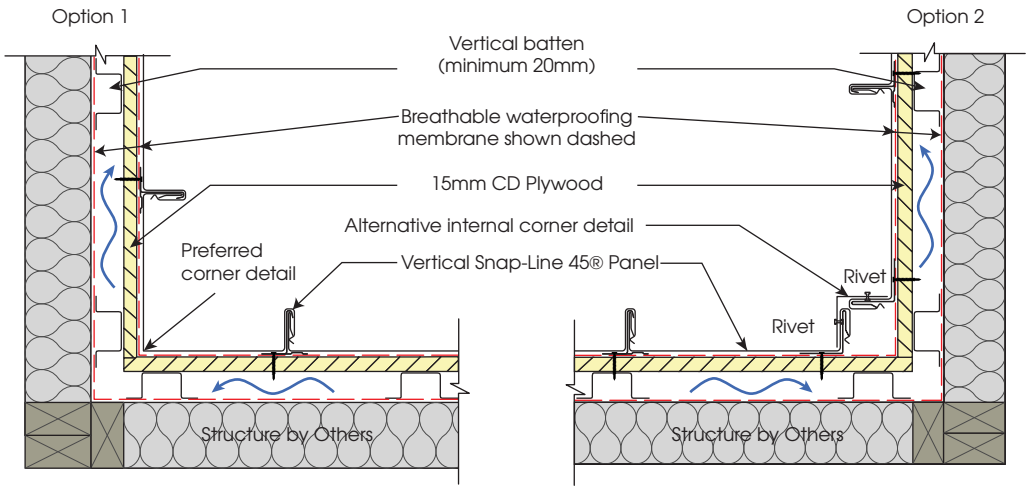
PHJ1 - Typical horizontal joint detail

Note: For projects in BAL areas, gaps might need to be sealed.
Toe mould must be taped continuously to the waterproofing membrane for external water diversion.
Ventilated wall build-up shown. For other wall types, please contact No.1 APS team.



PEC1 - Typical external corner detail

Note: For projects in BAL areas, gaps might need to be sealed.
Ventilated wall build-up shown. For other wall types, please contact No.1 APS team.

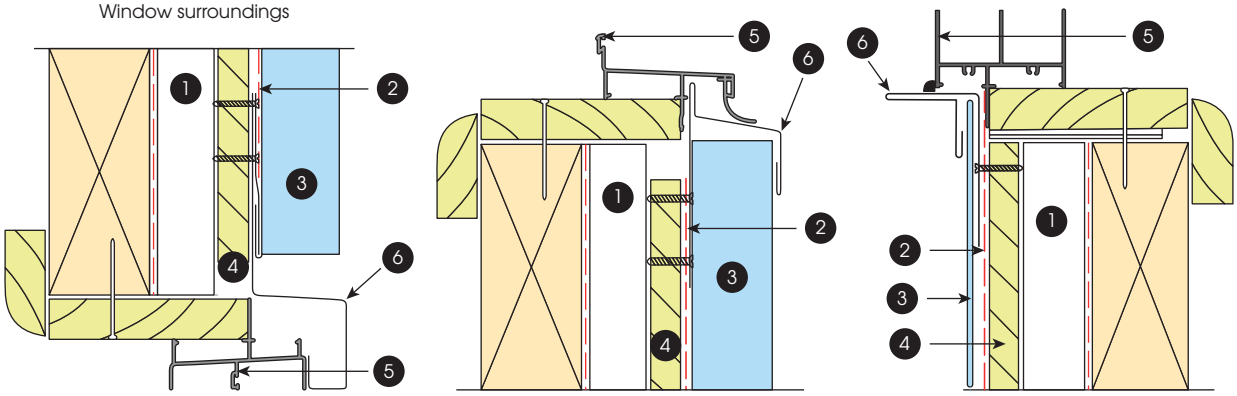


PIC1 - Typical internal corner detail

Note: For projects in BAL areas, gaps might need to be sealed.
Ventilated wall build-up shown. For other wall types, please contact No.1 APS team.

Wall Cladding
Flashing Details on Plywood

Window surroundings

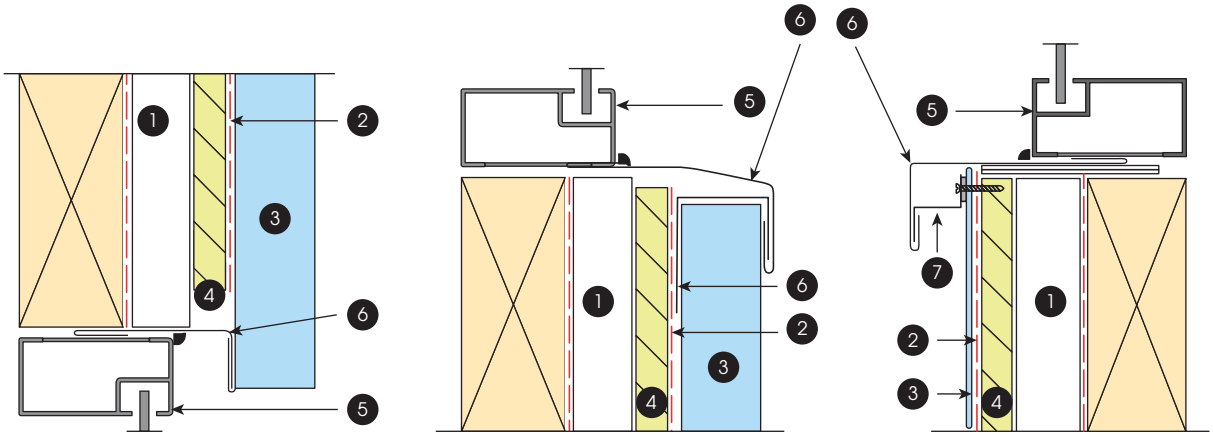


Head Sill Jamb

1. Vertical Battens min 20mm
2. Breathable waterproofing membrane shown dashed
3. Vertical Snap-Line 45® panel
4. 15mm CD plywood
5. Window supplied by others
6. Flashing

PWR1 - Typical timber window flashing details

Note: For projects in BAL areas, gaps might need to be sealed.
Ventilated wall build-up shown. For other wall types, please contact No.1 APS team.



Head Sill Jamb

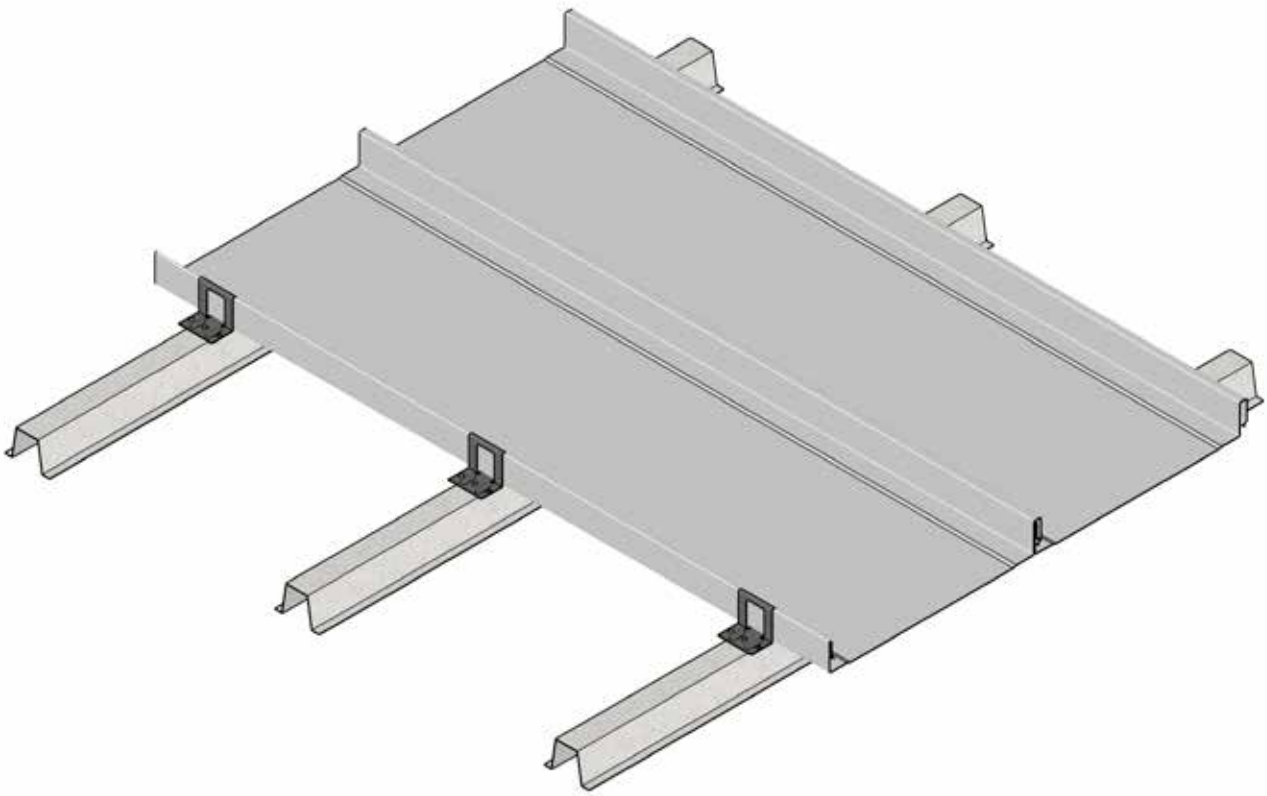
1. Vertical Battens min 20mm
2. Breathable waterproofing membrane shown dashed
3. Vertical Snap-Line 45® panel
4. 15mm CD plywood
5. Window supplied by others
6. Flashing
7. Z-closure flashing installed over sealer/Butyl tape

PWR2 - Typical metal window flashing details

Note: For projects in BAL areas, gaps might need to be sealed.
Ventilated wall build-up shown. For other wall types, please contact No.1 APS team.

Snap-Line45®

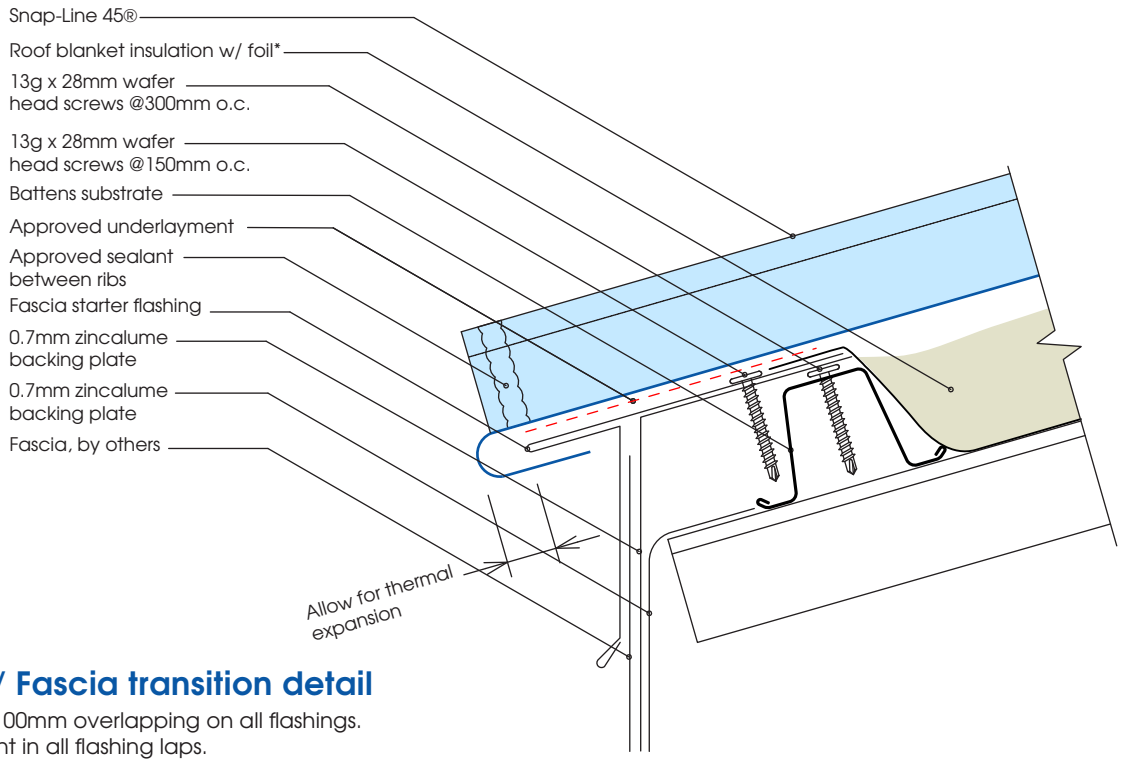
SCAN TO WATCH ANIMATION



Snap-Line 45®
ROOF Cladding Flashing Details
Installation on Battens

CYCLONIC INSTALLATION NOTE:
All flashing fixings, cleats, Z-closures, barge flashings, ridge assemblies and edge details shown in this section must be installed with fixing types, sizes and spacings suitable for cyclonic wind pressures. Fixing densities shown are indicative only and must be increased where required to satisfy project-specific cyclonic design loads in accordance with AS/NZS 1170.2 and AS 1562.1.

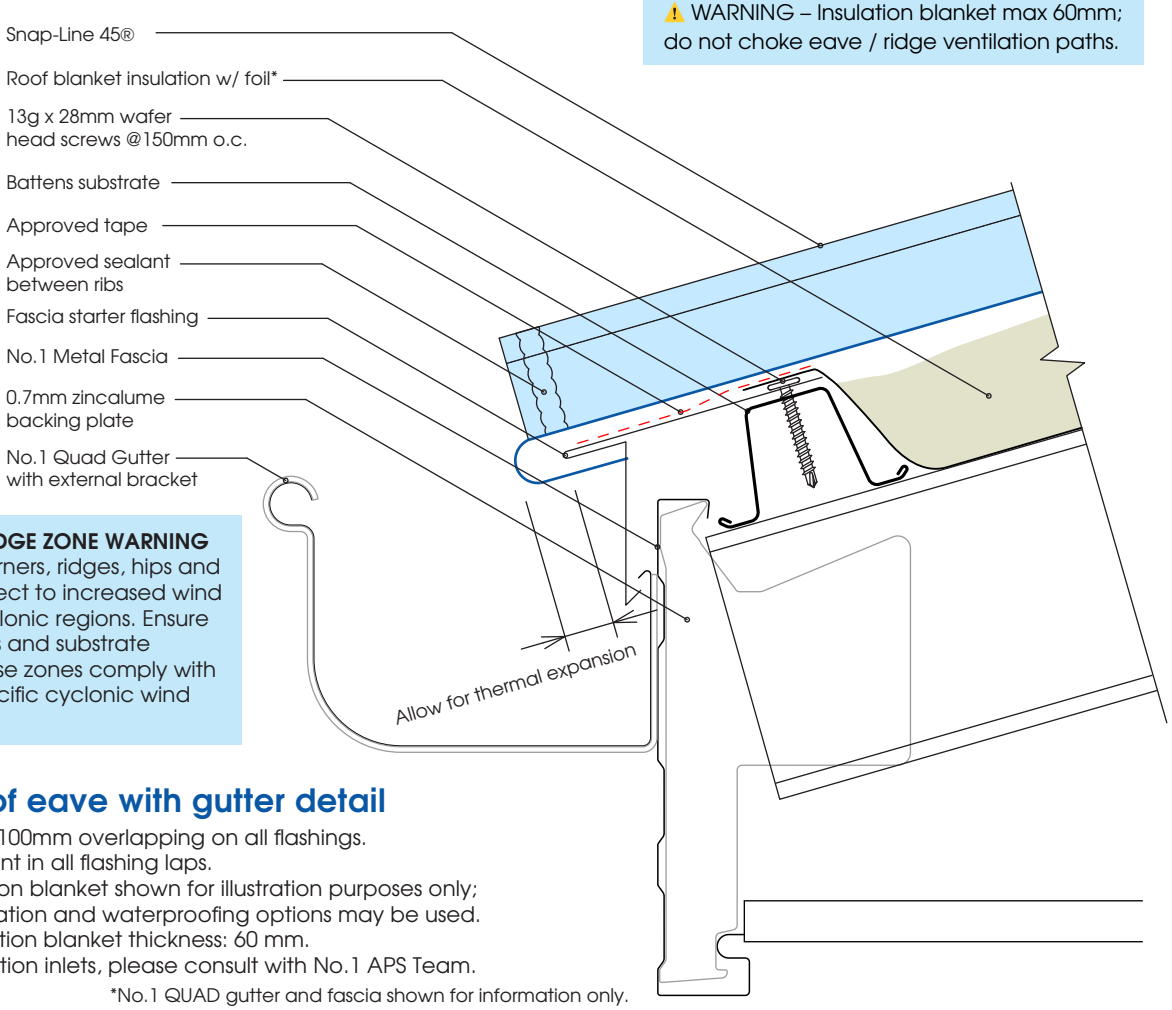
Roof Cladding
Flashing Details on Battens



BT1 - Roof / Fascia transition detail

Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
*Roofing insulation blanket shown for illustration purposes only; alternative insulation and waterproofing options may be used.
Maximum insulation blanket thickness: 60 mm.
Non-ventilated transition shown. For ventilated options, please contact No.1 APS Team.

⚠ WARNING – Insulation blanket max 60mm; do not choke eave / ridge ventilation paths.



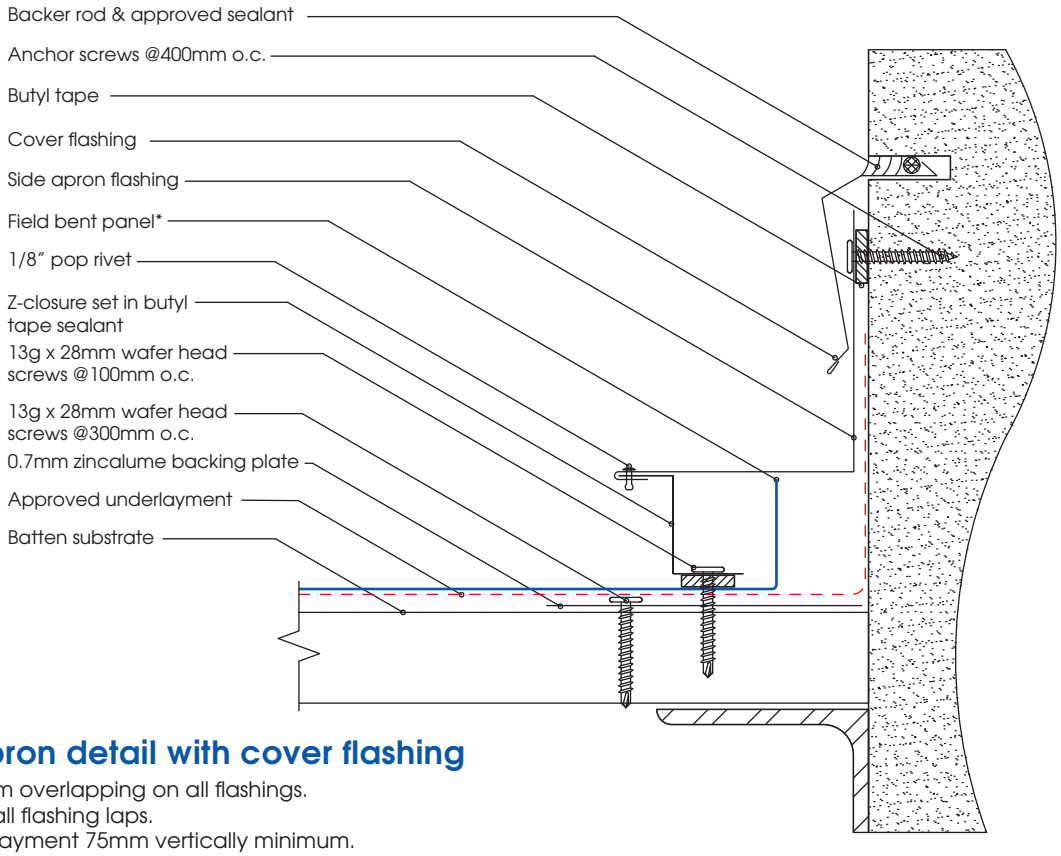
⚠ **CYCLONIC EDGE ZONE WARNING**
Roof edges, corners, ridges, hips and valleys are subject to increased wind pressures in cyclonic regions. Ensure detailing, fixings and substrate capacity in these zones comply with the project-specific cyclonic wind classification.

BEG1 - Roof eave with gutter detail

Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
*Roofing insulation blanket shown for illustration purposes only; alternative insulation and waterproofing options may be used.
Maximum insulation blanket thickness: 60 mm.
For eave ventilation inlets, please consult with No.1 APS Team.

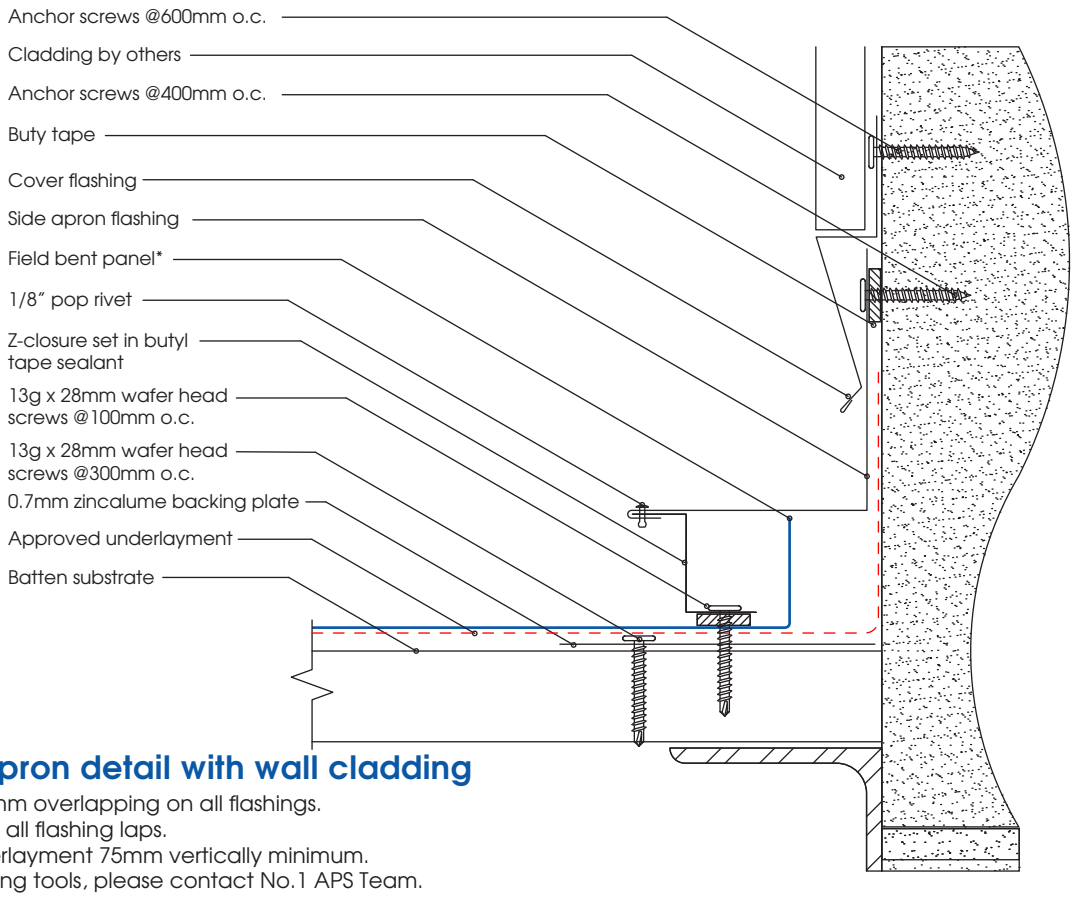
*No.1 QUAD gutter and fascia shown for information only. For other gutter options, please contact No.1 APS Team.

Roof Cladding
Flashing Details on Battens



BSA1 - Side apron detail with cover flashing

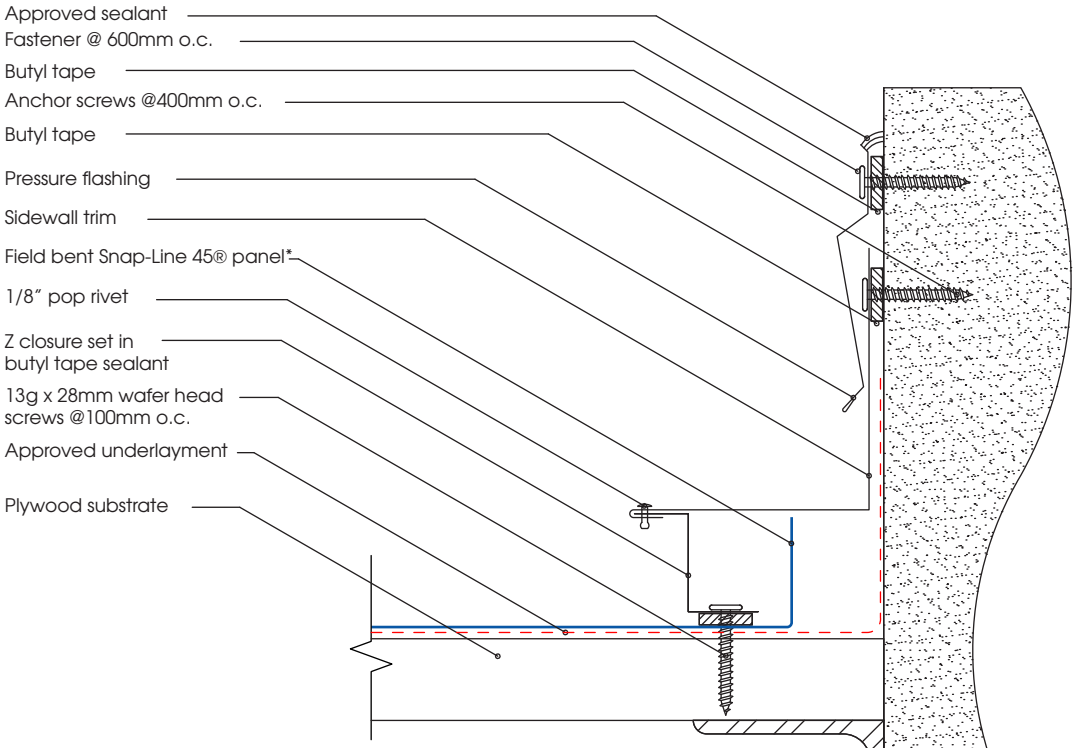
Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
Turn approved underlayment 75mm vertically minimum.
*For field roller bending tools, please contact No.1 APS Team.



BSA2 - Side apron detail with wall cladding

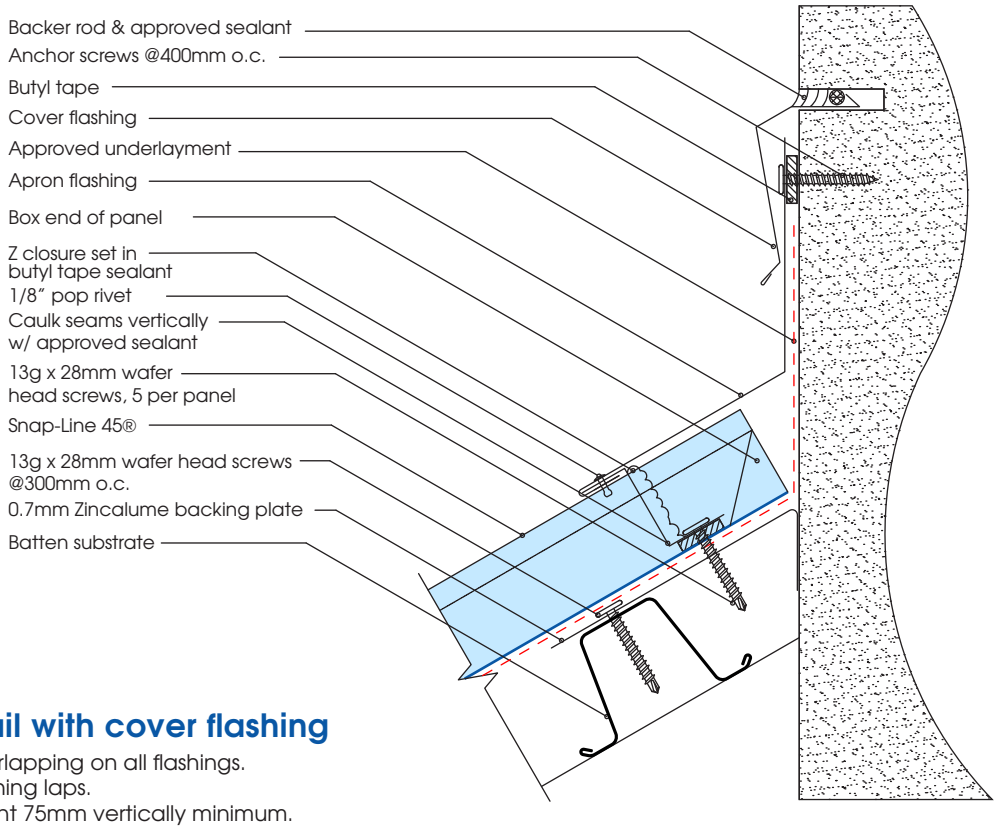
Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
Turn approved underlayment 75mm vertically minimum.
*For field roller bending tools, please contact No.1 APS Team.

Roof Cladding
Flashing Details on Battens



BSA3 - Side apron detail with pressure flashing

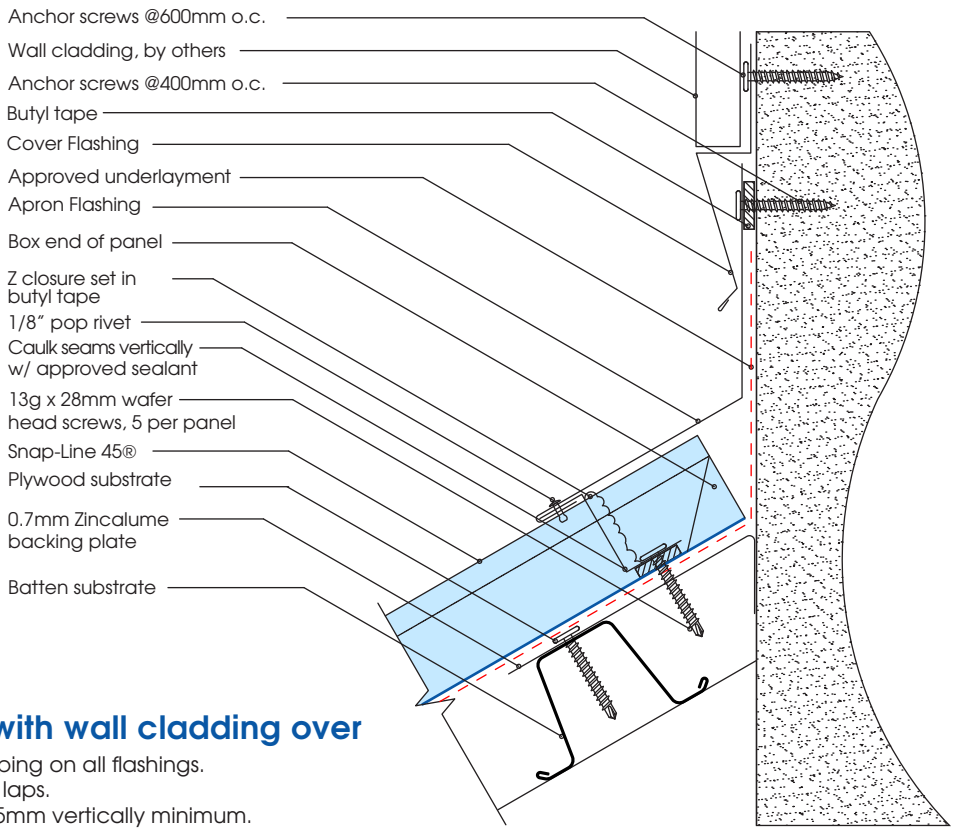
Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
Turn approved underlayment 75mm vertically minimum.
*For field roller bending tools, please contact No.1 APS Team.



BAP1 - Apron detail with cover flashing

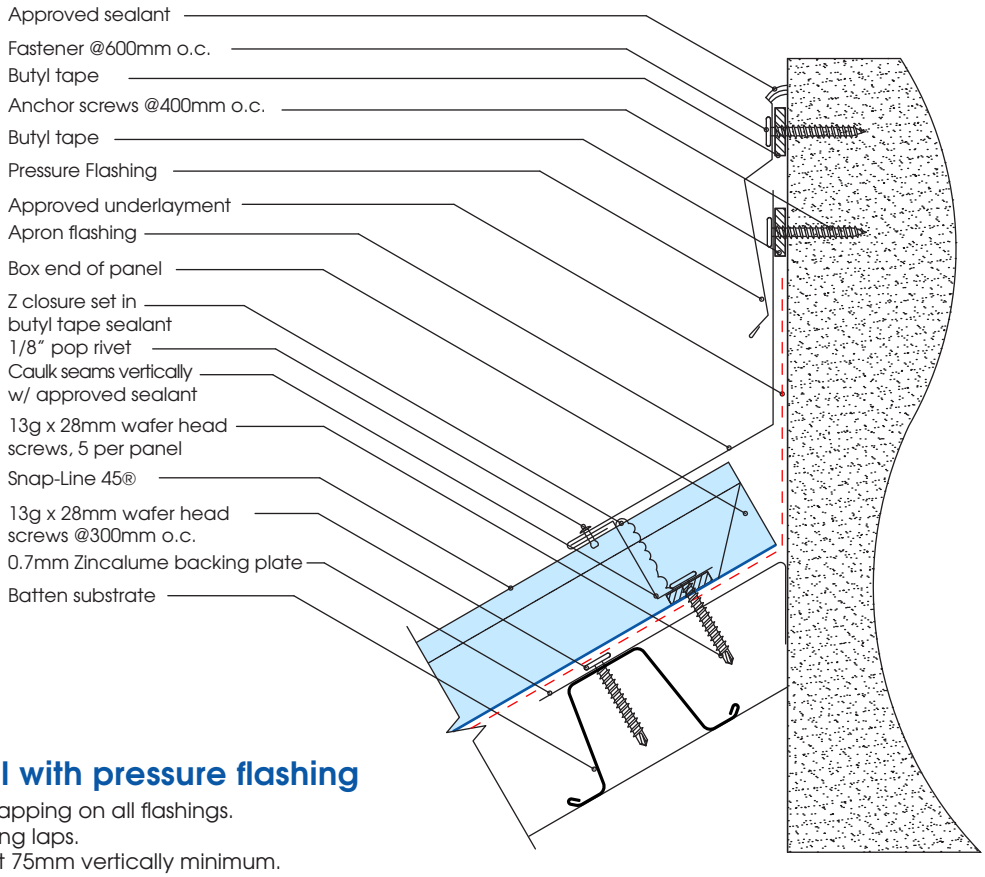
Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
Turn approved underlayment 75mm vertically minimum.
Non-vertilated apron option shown. For ventilated options, please contact No.1 APS Team.

Roof Cladding
Flashing Details on Battens



BAP2 - Apron detail with wall cladding over

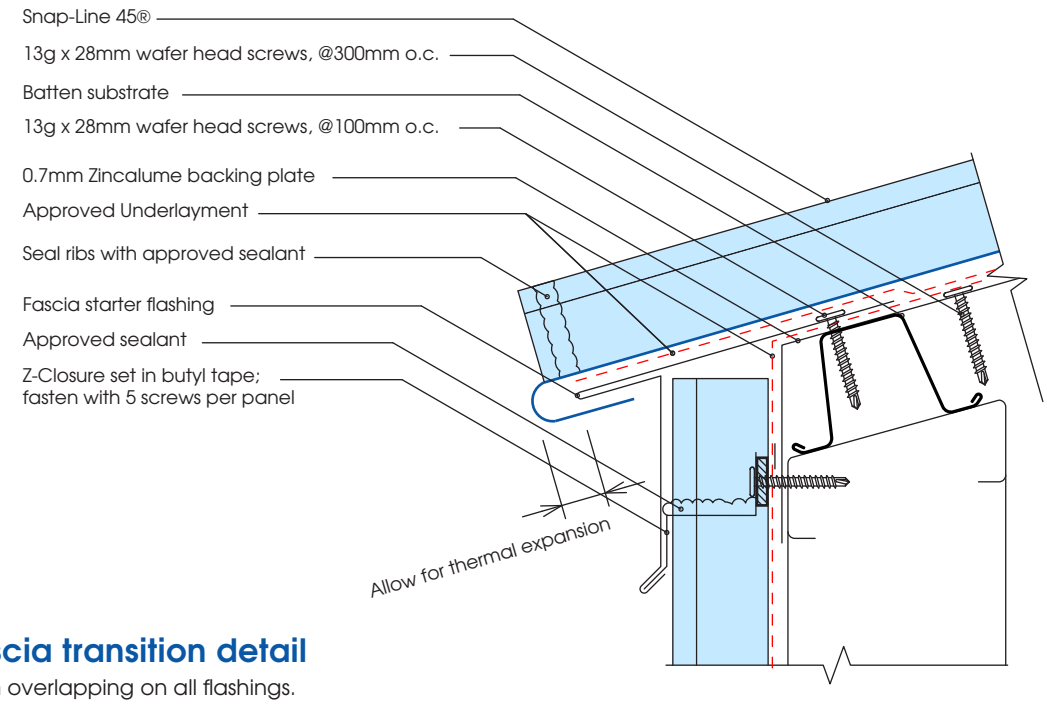
Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
Turn approved underlayment 75mm vertically minimum.
Non-vertilated apron option shown. For ventilated options, please contact No.1 APS Team.



BAP3 - Apron detail with pressure flashing

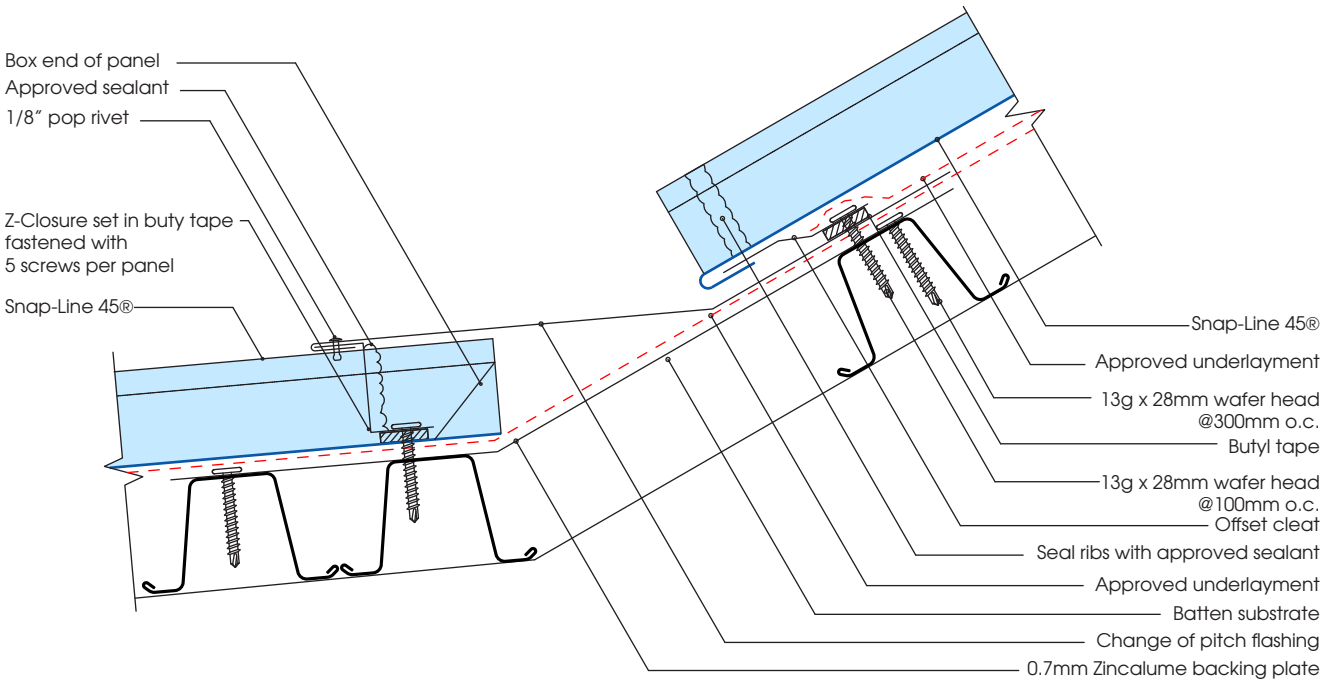
Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
Turn approved underlayment 75mm vertically minimum.
Non-vertilated apron option shown. For ventilated options, please contact No.1 APS Team.

Roof Cladding
Flashing Details on Battens



BT1 - Roof / Fascia transition detail

Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
Non-ventilated transition shown. For ventilated options, please contact No.1 APS Team.

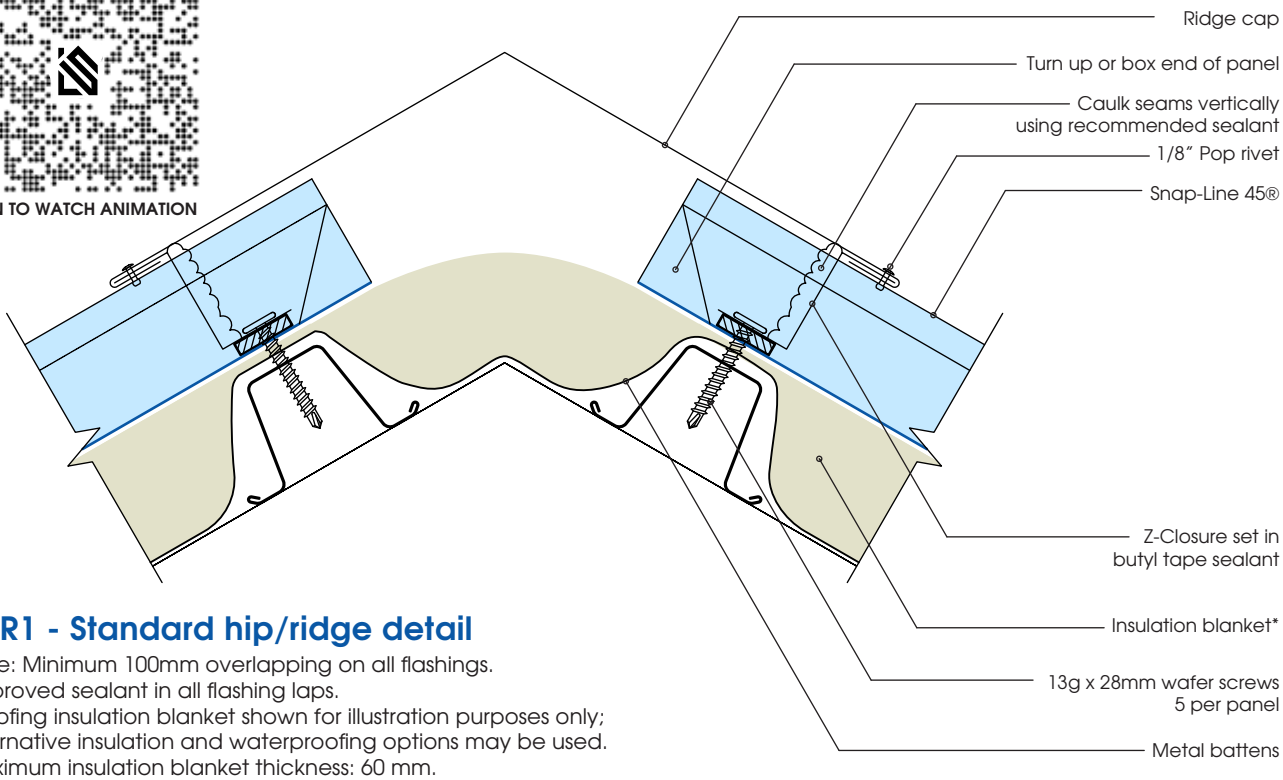


BCP1 - Change of pitch detail

Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.

Roof Cladding
Flashing Details on Battens

SCAN TO WATCH ANIMATION

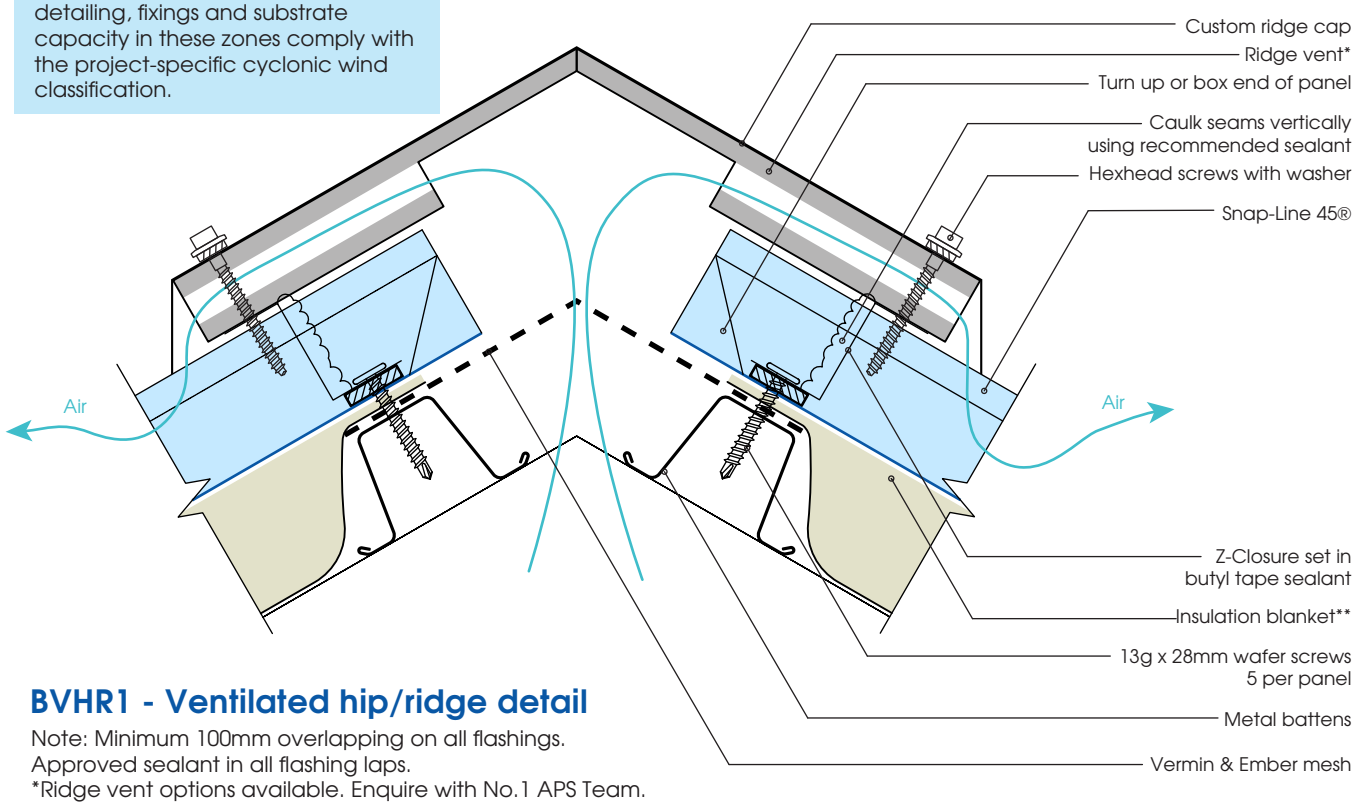


BHR1 - Standard hip/ridge detail

Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
*Roofing insulation blanket shown for illustration purposes only; alternative insulation and waterproofing options may be used.
Maximum insulation blanket thickness: 60 mm.

⚠ **CYCLONIC EDGE ZONE WARNING**
Roof edges, corners, ridges, hips and valleys are subject to increased wind pressures in cyclonic regions. Ensure detailing, fixings and substrate capacity in these zones comply with the project-specific cyclonic wind classification.

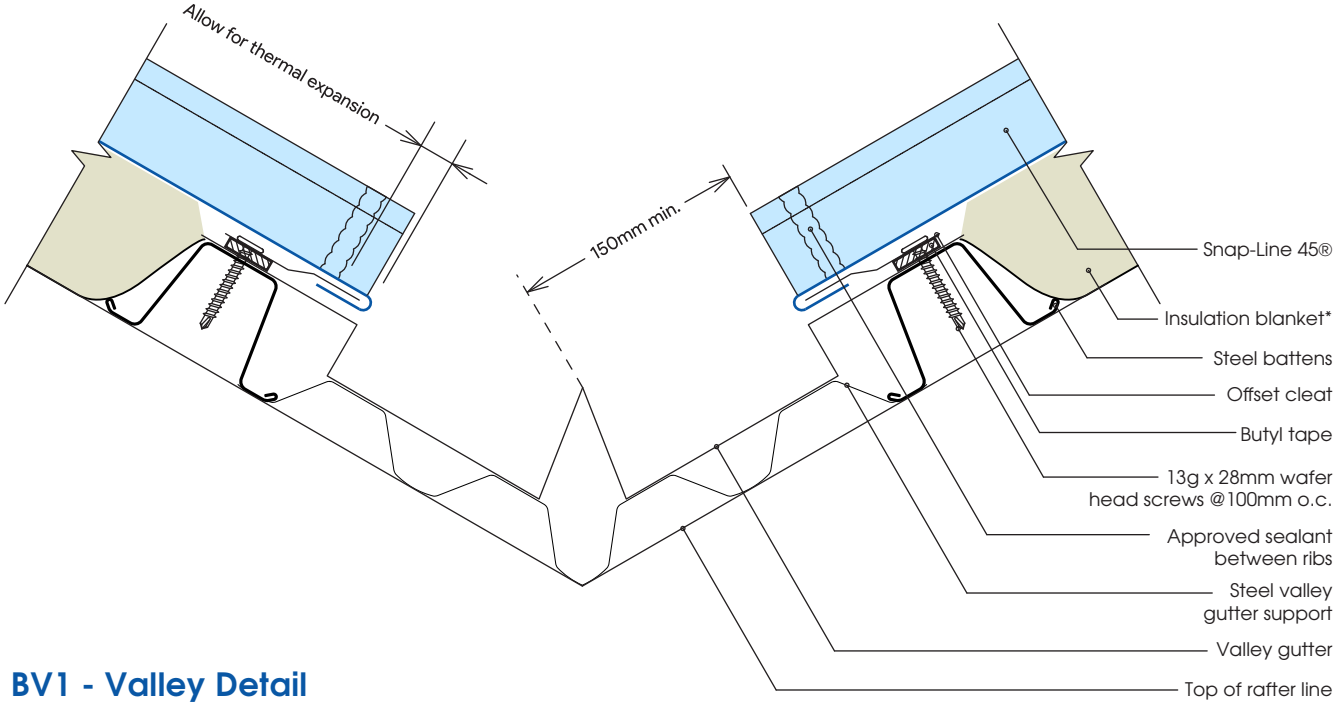
⚠ WARNING – Insulation blanket max 60mm; do not choke eave / ridge ventilation paths.



BVHR1 - Ventilated hip/ridge detail

Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
*Ridge vent options available. Enquire with No.1 APS Team.
**Roofing insulation blanket shown for illustration purposes only; alternative insulation and waterproofing options may be used.
Maximum insulation blanket thickness: 60 mm.

Roof Cladding
Flashing Details on Battens

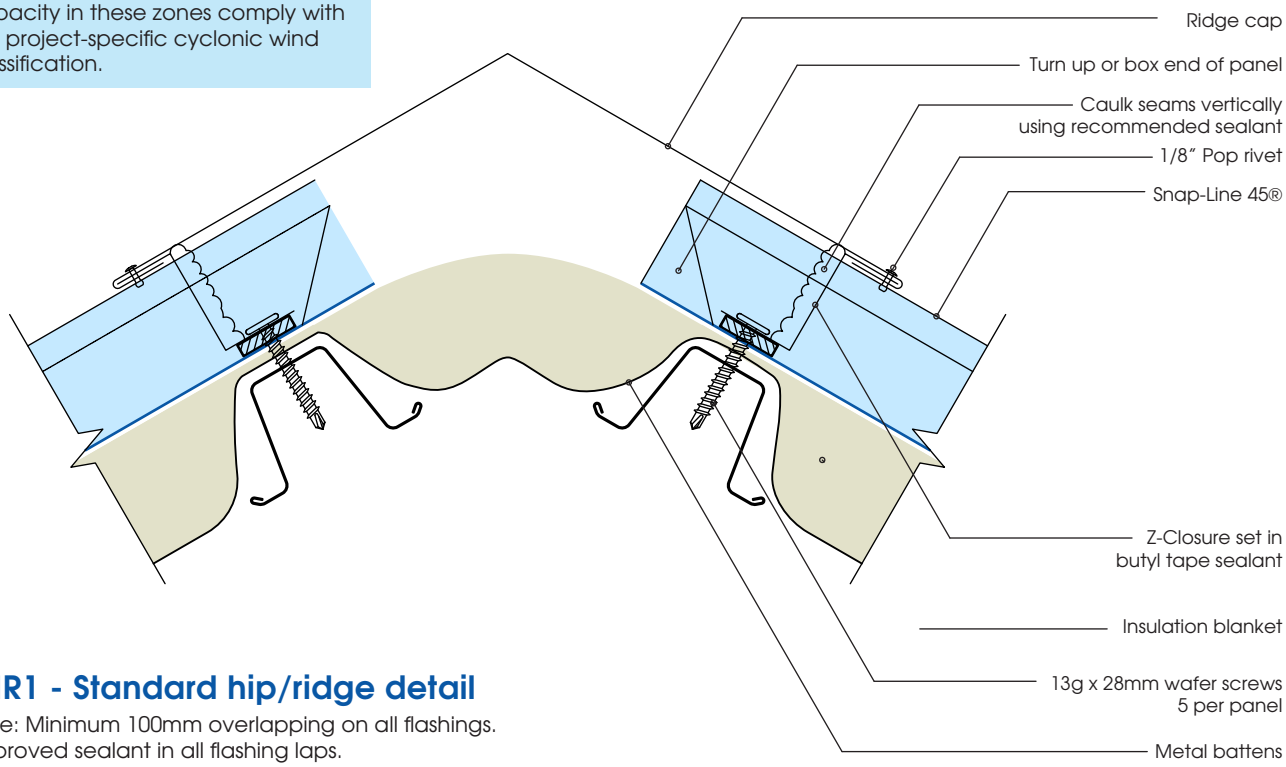


BV1 - Valley Detail

Note: Minimum 300mm laps in valleys.
Approved sealant in all valley laps.
Two rows of sealant between valley laps, 100mm up from lap.
*Roofing insulation blanket shown for illustration purposes only; alternative insulation and waterproofing options may be used.
Insulation blanket must not protrude into the valley gutter. Maximum insulation blanket thickness: 60 mm.

⚠ **CYCLONIC EDGE ZONE WARNING**
Roof edges, corners, ridges, hips and valleys are subject to increased wind pressures in cyclonic regions. Ensure detailing, fixings and substrate capacity in these zones comply with the project-specific cyclonic wind classification.

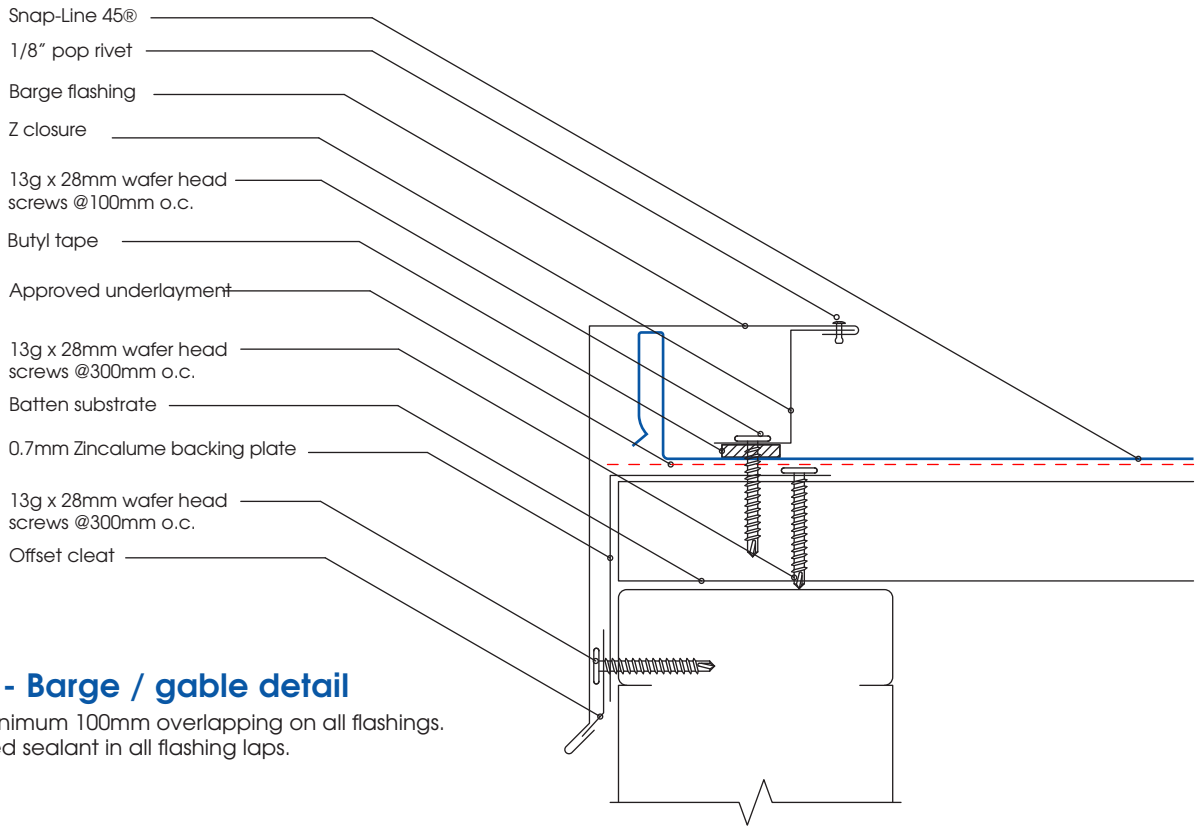
⚠ WARNING – Insulation blanket max 60mm; do not choke eave / ridge ventilation paths.



BHR1 - Standard hip/ridge detail

Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.
Non-vertilated ridge option shown.
*Roofing insulation blanket shown for illustration purposes only; alternative insulation and waterproofing options may be used.
Maximum insulation blanket thickness: 60 mm.

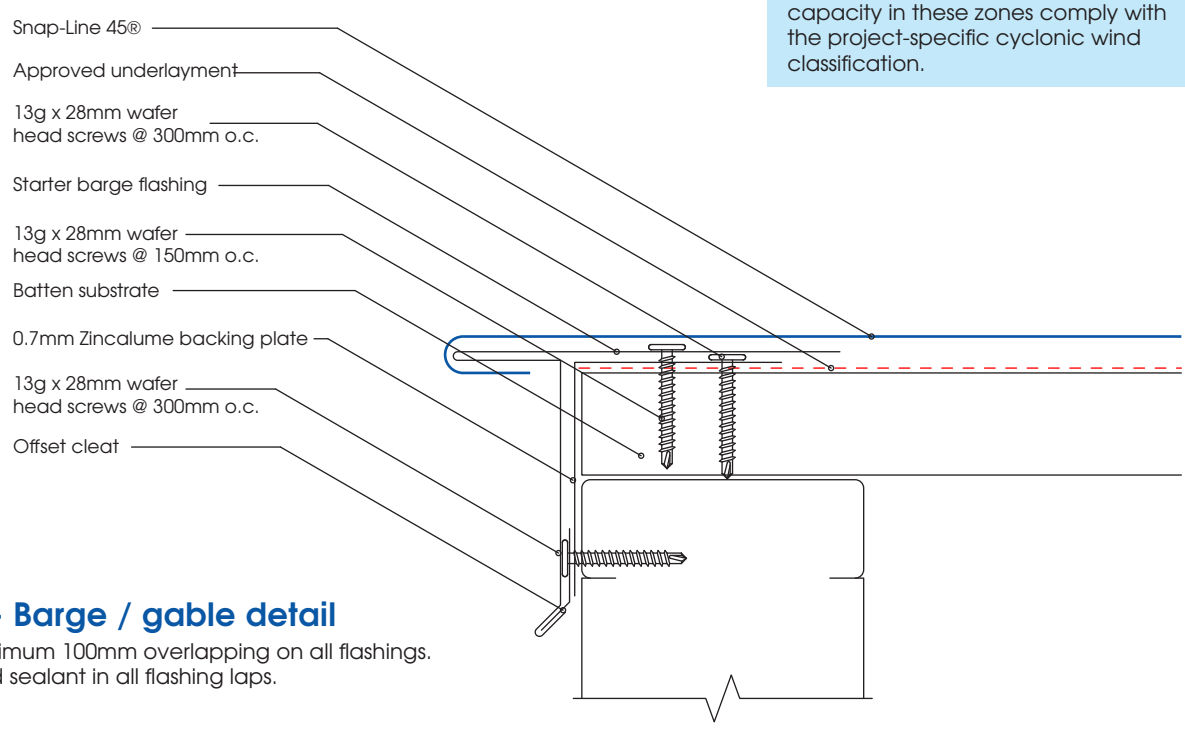
Roof Cladding
Flashing Details on Battens



BBG1 - Barge / gable detail

Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.

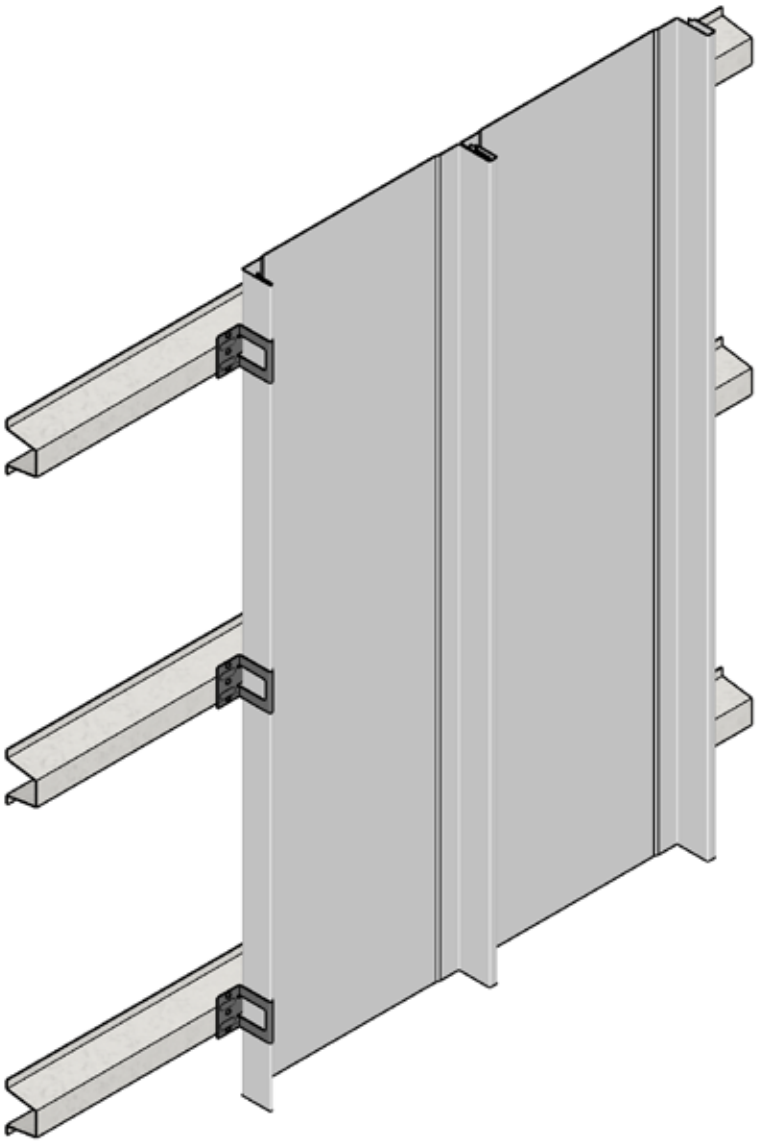
⚠ CYCLONIC EDGE ZONE WARNING
Roof edges, corners, ridges, hips and valleys are subject to increased wind pressures in cyclonic regions. Ensure detailing, fixings and substrate capacity in these zones comply with the project-specific cyclonic wind classification.



BBG2 - Barge / gable detail

Note: Minimum 100mm overlapping on all flashings.
Approved sealant in all flashing laps.

Snap-Line45®

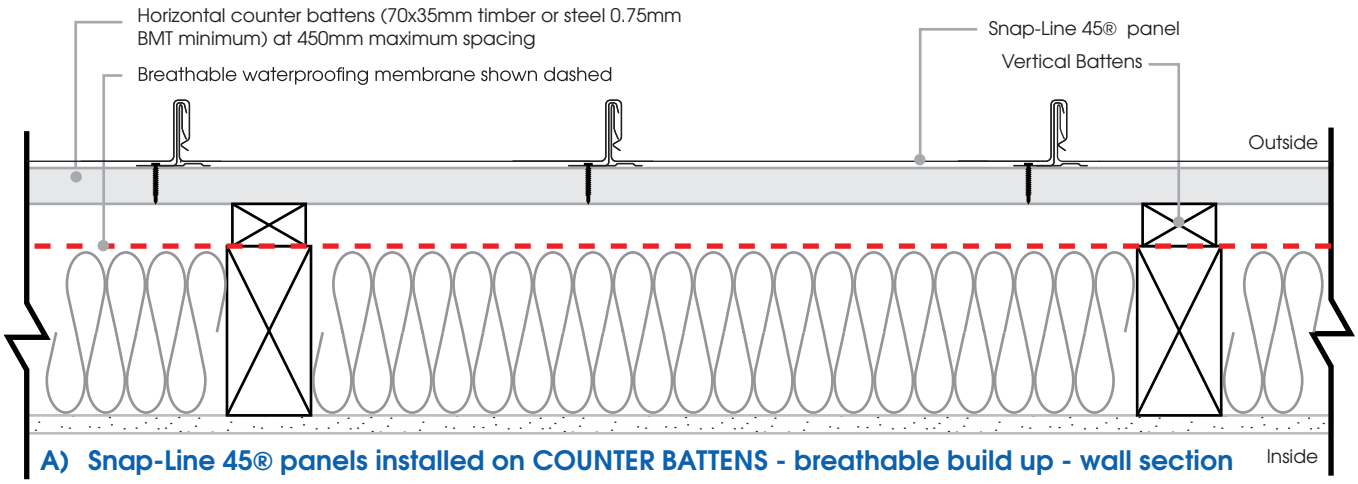


Snap-Line 45®
ROOF Cladding Flashing Details
Installation on Battens

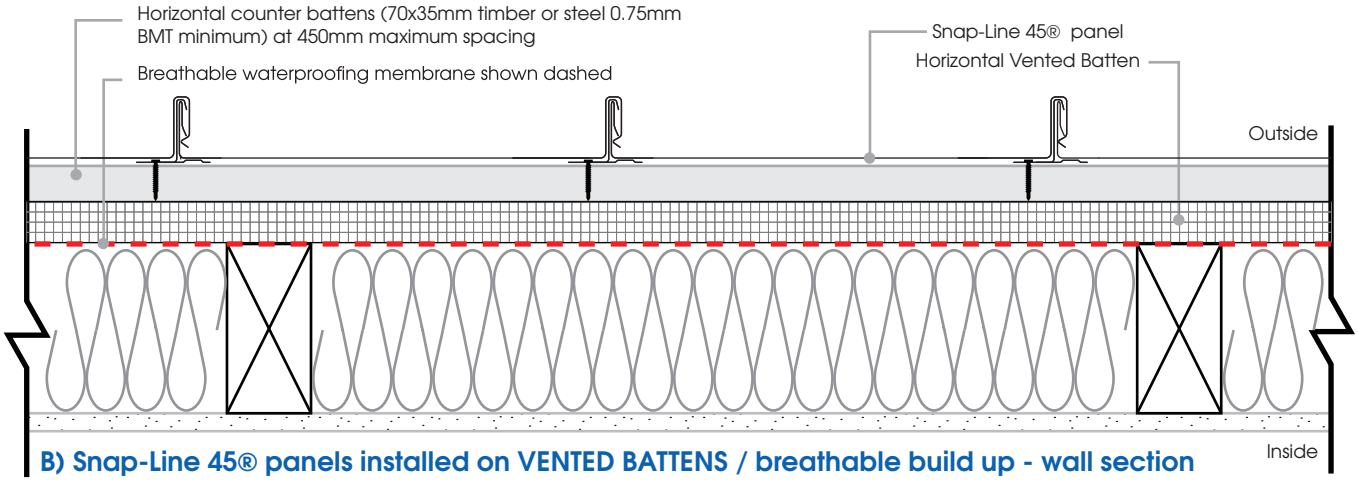
CYCLONIC INSTALLATION NOTE:
All flashing fixings, cleats, Z-closures, barge flashings, ridge assemblies and edge details shown in this section must be installed with fixing types, sizes and spacings suitable for cyclonic wind pressures. Fixing densities shown are indicative only and must be increased where required to satisfy project-specific cyclonic design loads in accordance with AS/NZS 1170.2 and AS 1562.1.

Snap-Line 45® Common Wall Types - Installation on Battens

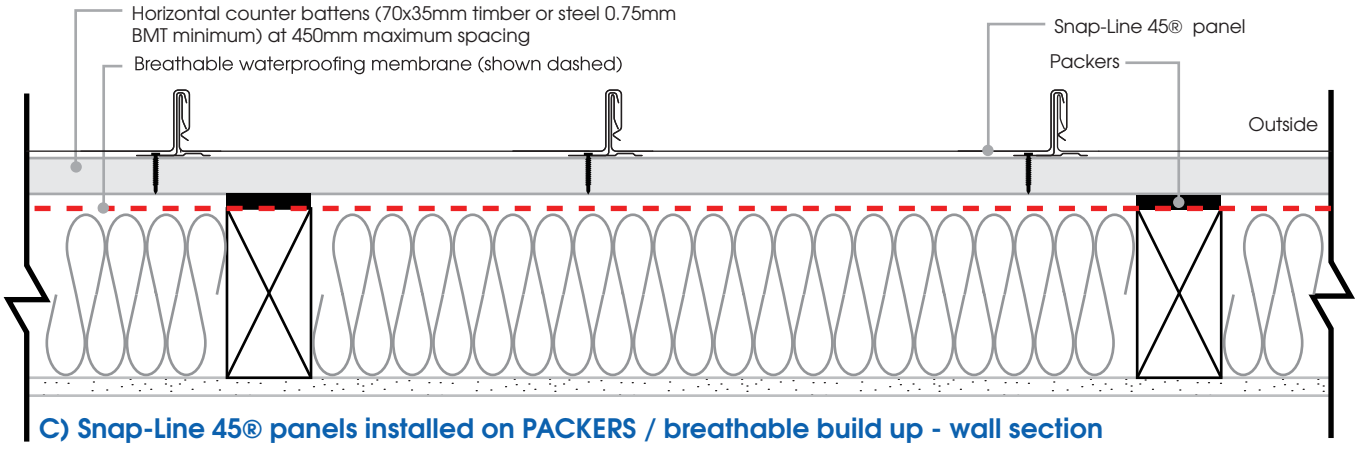
Important: It is recommended that all Snap-Line 45® installations allow for appropriate condensation management control. Below are the most common wall types, all including options of ventilated cavities. For any custom wall types application of Snap-Line 45®, please consult with our No1 APS Team.



A) Snap-Line 45® panels installed on COUNTER BATTENS - breathable build up - wall section

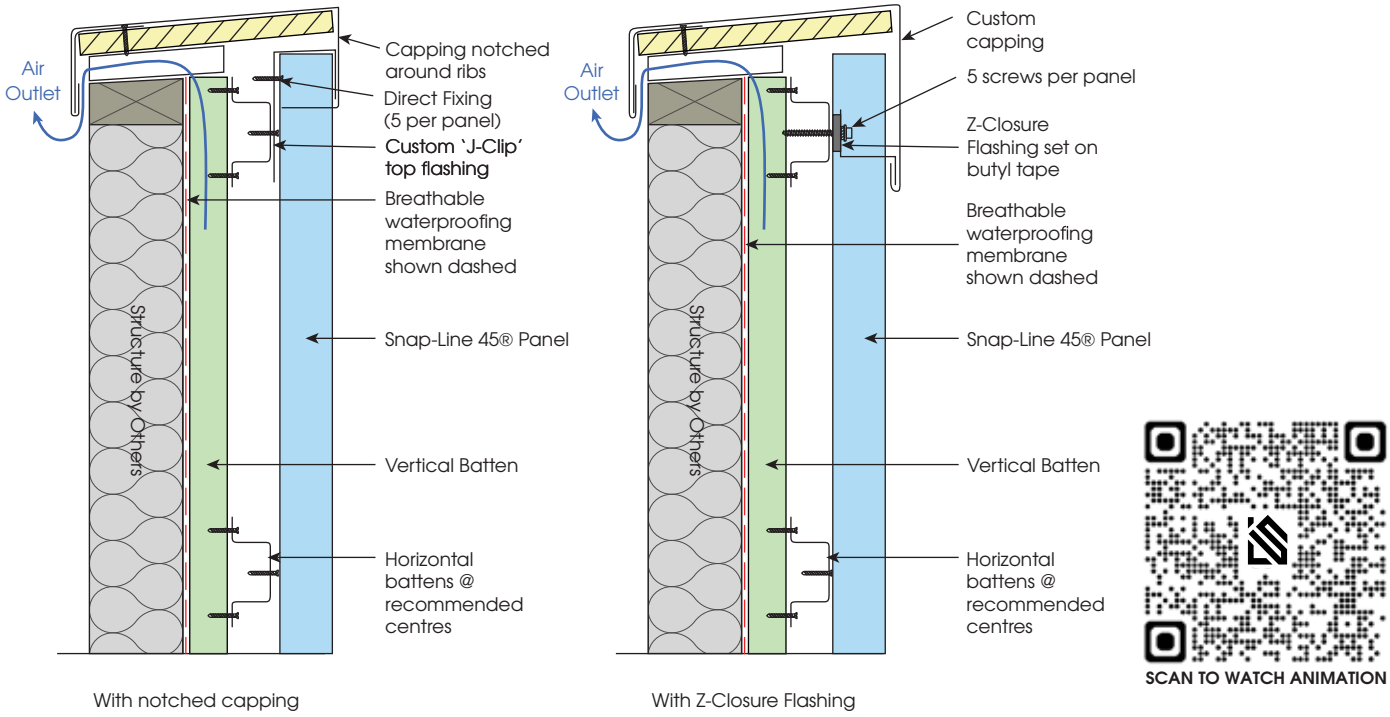


B) Snap-Line 45® panels installed on VENTED BATTENS / breathable build up - wall section
Obs.: Vented battens are combustible.



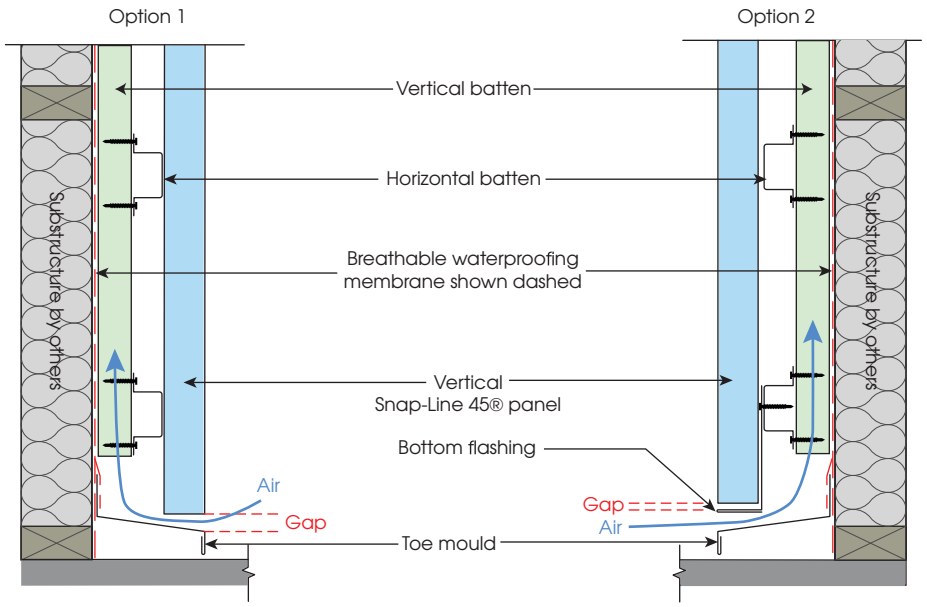
C) Snap-Line 45® panels installed on PACKERS / breathable build up - wall section

Wall Cladding
Flashing Details on Battens



BP1- Typical parapet capping detail

Note: For projects in BAL areas, gaps might need to be sealed.
Ventilated wall build-up shown. For other wall types, please contact No.1 APS team.



Note:

A minimum gap must always be maintained between the bottom edge of vertical Snap-Line 45® panels and the toe mould or bottom flashing. Panels must never rest directly on the toe mould or flashing.

The required minimum gap is **the greater** of the following:

- 5 mm, or
- Panel length (in metres) ×

a. 1.2 for steel-based (e.g., Colorbond) panels
b. 2.3 for aluminium-based panels

Examples:

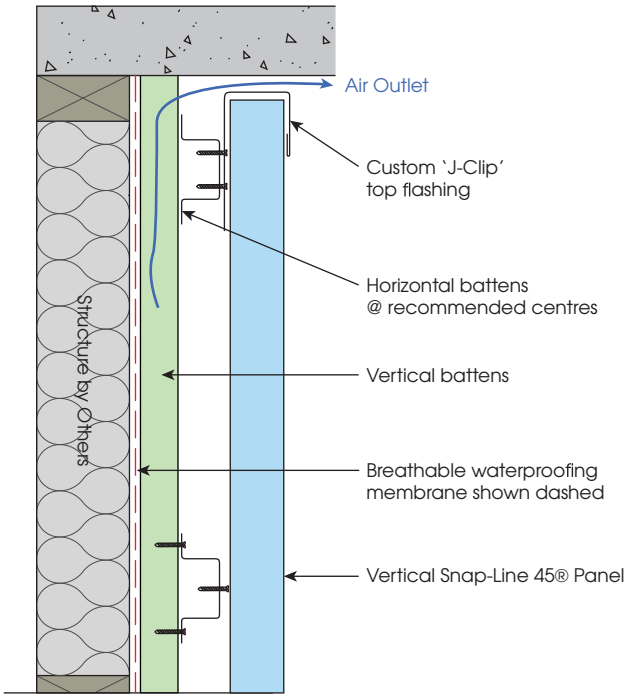
A 3 m Colorbond panel: 3 × 1.2 = 3.6 mm → use 5mm gap

A 3 m aluminium panel: 3 × 2.3 = 6.9 mm → use 6.9mm gap

BBF1 - Typical toe mould / bottom flashing detail

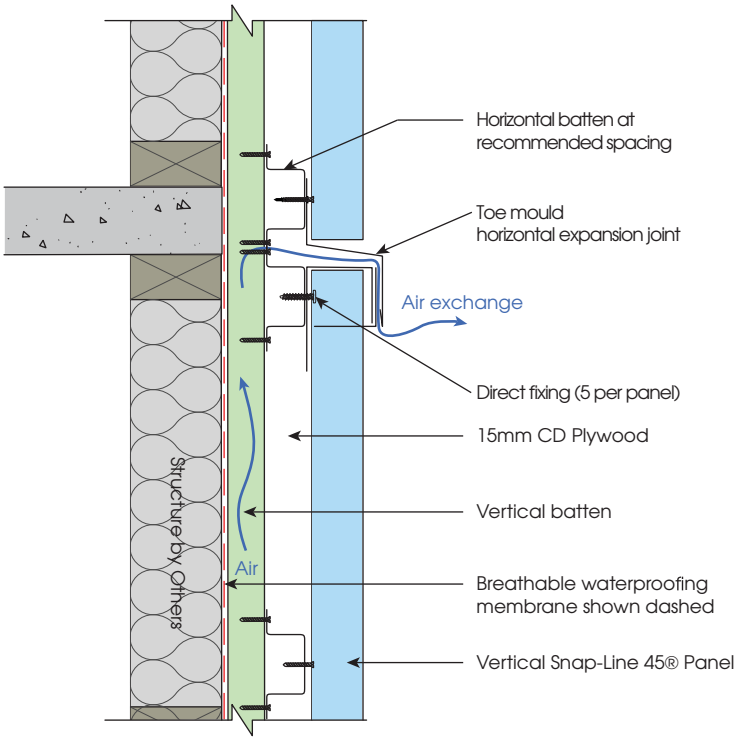
Note: For projects in BAL areas, gaps might need to be sealed.
Toe mould must be taped continuously to the waterproofing membrane to external water diversion.
Ventilated wall build-up shown. For other wall types, please contact No.1 APS team.

Wall Cladding
Flashing Details on Battens



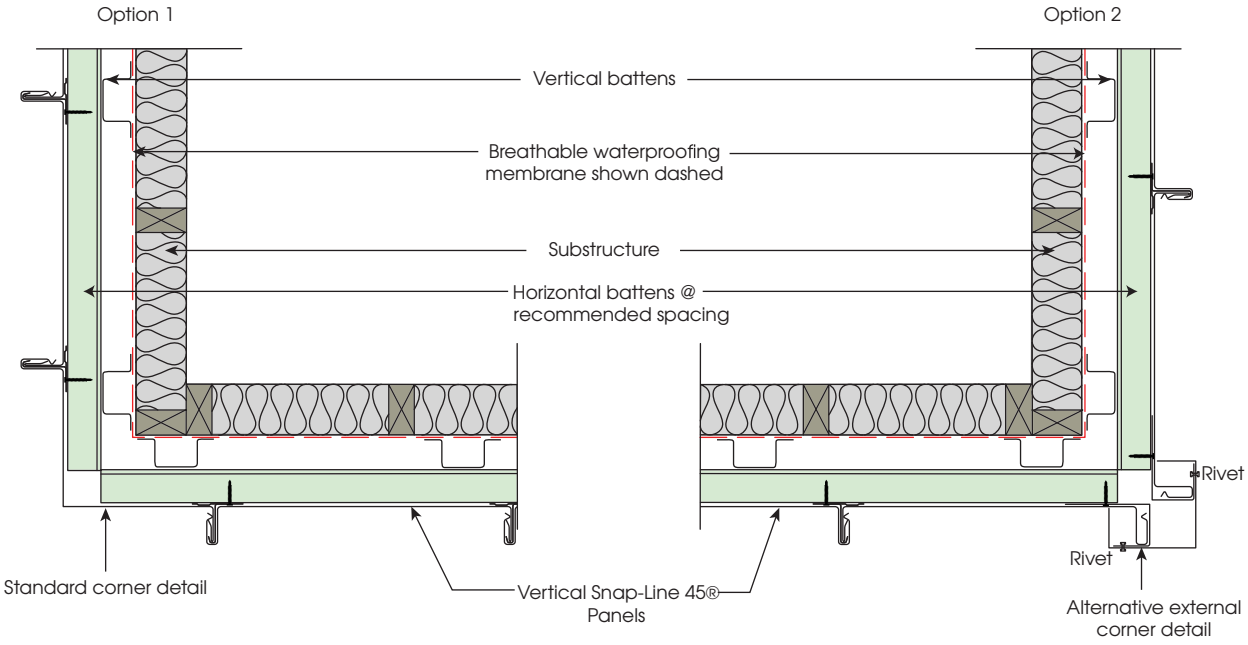
BTW1- Typical top of wall detail

Note: For projects in BAL areas, gaps might need to be sealed.
Ventilated wall build-up shown. For other wall types, please contact No.1 APS team.



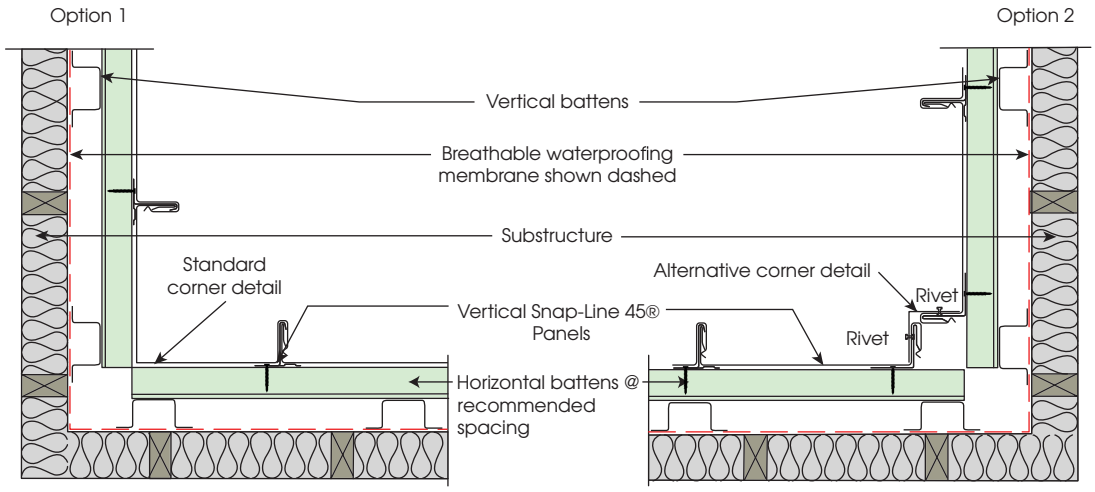
BHJ1 - Typical horizontal joint detail

Note: For projects in BAL areas, gaps might need to be sealed.
Ventilated wall build-up shown. For other wall types, please contact No.1 APS team.



BEC1 - Typical external corner detail

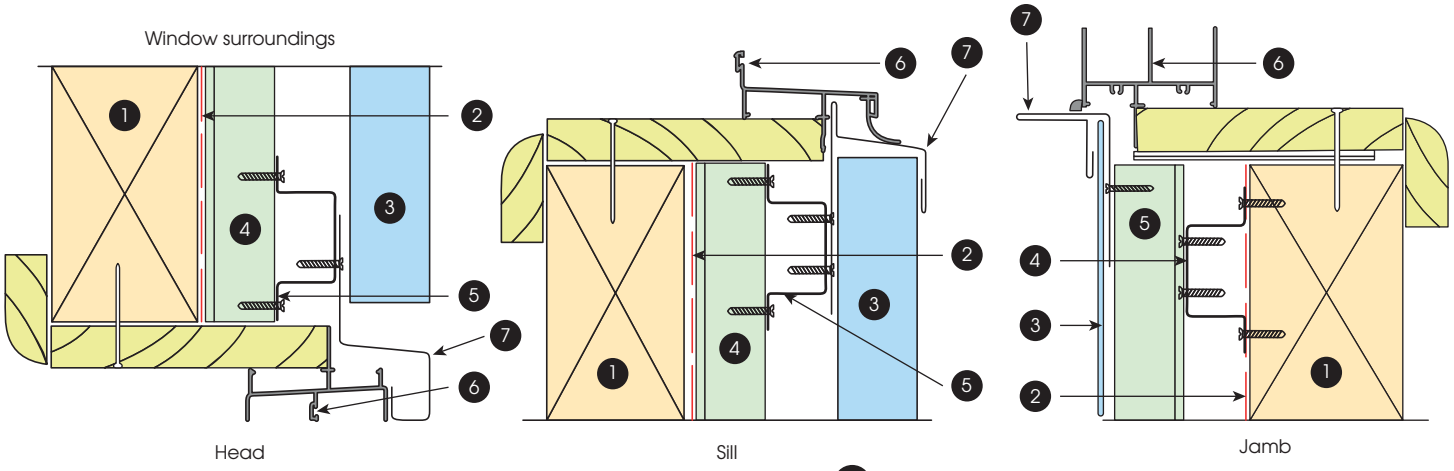
Note: For projects in BAL areas, gaps might need to be sealed.
Ventilated wall build-up shown. For other wall types, please contact No.1 APS team.



BIC1 - Typical internal corner detail

Note: For projects in BAL areas, gaps might need to be sealed.
Ventilated wall build-up shown. For other wall types, please contact No.1 APS team.

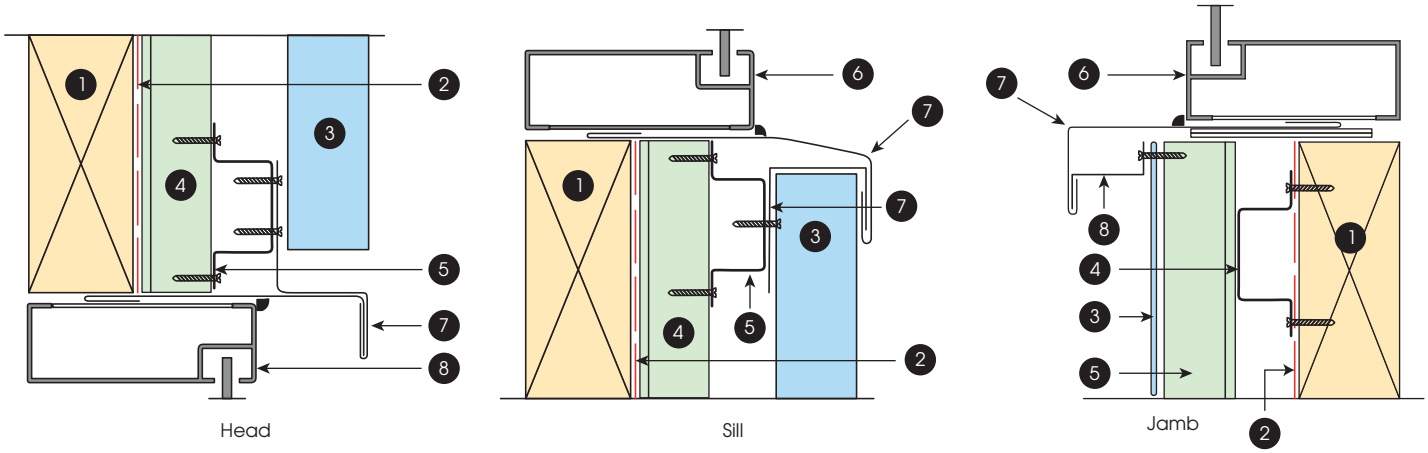
Wall Cladding
Flashing Details on Battens



1. Substructure supplied by others
2. Breathable waterproofing membrane shown dashed
3. Vertical Snap-Line 45® panel
4. Vertical Battens
5. Horizontal battens @ recommended centres
6. Window supplied by others
7. Flashing

BWR1 - Typical timber window flashing details

Note: For projects in BAL areas, gaps might need to be sealed.
Ventilated wall build-up shown. For other wall types, please contact No.1 APS team.



1. Substructure
2. Breathable waterproofing membrane shown dashed
3. Vertical Snap-Line 45® panel
4. Vertical battens
5. Horizontal battens @ recommended centres
6. Window supplied by others
7. Flashing
8. Z-closure flashing installed over sealer/Butyl tape

BWR2 - Typical metal window flashing details

Note: For projects in BAL areas, gaps might need to be sealed.
Ventilated wall build-up shown. For other wall types, please contact No.1 APS team.

Appendix A: Certified Design Pressures Cyclonic Regions (Snap-Line 45®)

This Appendix summarises independent certified design pressures for Snap-Line45® when installed in cyclonic wind regions. Values are derived from cyclonic certification and AS 4040.3 testing and apply only to the configuration covered by this Cyclonic Installation Manual.

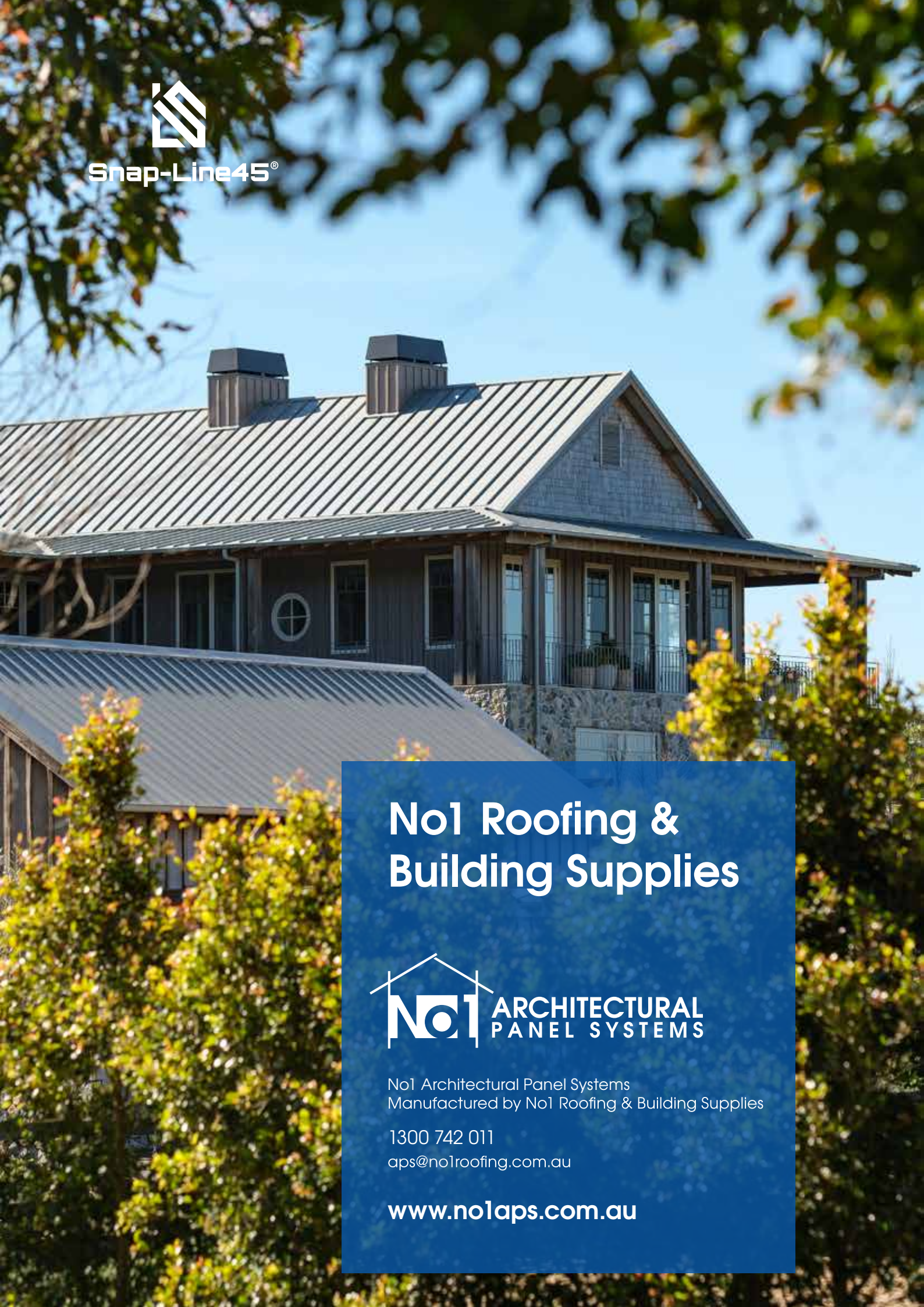
Certification basis:

- Parametric Developments – Cyclonic Certification, dated 27 June 2019
- James Cook University / Cyclone Testing Station – AS 4040.3 cyclonic testing, Report TS1107

Material	Thickness	Cover Width	Serviceability Design Pressure (kPa)	Strength Design Pressure (kPa)	Application
G300 Steel	0.55 bmt	305	1.2	4.0	Roofing & Walling

Notes (Cyclonic):

- These design pressures apply only to the Snap-Line45® 305 mm module, which corresponds to the configuration physically tested to AS 4040.3.
- Installation is limited to UL90 concealed clips fixed to 0.75 mm steel battens or 70×35 timber battens at maximum 450 mm centres.
- Where fixed over a solid substrate such as plywood, the substrate and its fixings must be designed to resist internal pressure; the metal cladding resists external suction only.
- Other Snap-Line45® module widths and materials are outside the scope of this Cyclonic Installation Manual and require separate engineered assessment.



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