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CREATE AND CONSTRUCT

CSR CEMINTEL™

DESIGNER SERIES™

FC:502

EXTERNAL CLADDING AND INTERNAL FEATURE WALL LININGS

AUGUST 2014

The Cemintel Designer Series™ (CDS) pre-finished walling system combines a modern contemporary appearance with the time and effort saving of a pre-finished panel, and a fast, easy to use installation system to deliver outstanding exterior cladding and interior feature wall solutions for lightweight timber and steel stud framed applications.

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CONTENTS

DESCRIPTION

The Cemintel Designer Series™ (CDS) pre-finished, walling systems combine contemporary appearance with simple installation systems to deliver outstanding external cladding and internal feature wall solutions for residential buildings. Systems are available for horizontal panelling or vertical panelling to provide infinite architectural freedom.

CDS panels are pre-finished using a durable multi-layer paint process and a NichiGuard* stain resistant coating. Panels are tongue and groove profiled along the long edges, and fit neatly together to form a waterproof joint. Depending on the chosen system, some joints may be expressed and filled with colour matched sealant.

The CDS system requires little change to Australian building practices and is compatible with industry standard aluminium and timber framed windows.

CDS is also easily integrated with other materials such as Hebel PowerPanel™, Cemintel™ fibre cement and PGH brick veneer finishes.

*NOTE: NichiGuard is available on all panels EXCEPT Smooth Frappe and Smooth Latte.

APPLICATIONS

The Cemintel Designer Series™ (CDS) system may be used on timber and steel framed buildings of up to two storeys that meet the geometric limits of AS4055 : Wind loads for housing. The system is suitable as an external cladding on Class 1 and Class 10 buildings only.

CDS is ideal for new homes with either slab-on-ground or elevated timber/concrete floor construction, including duplex and townhouse construction, extensions, upper storey additions and other applications where residential construction techniques are appropriate.

EXTERNAL CLADDING SYSTEMS

The Cemintel Designer Series™ external cladding systems feature a ventilated and drained cavity which is a proven and highly effective method of weatherproofing buildings.

The CDS external cladding system has been issued with a CodeMark™ Certificate of Conformity No. GM-CM 30048. The certificate includes compliance with a number of BCA clauses relating to structure, weather resistance, bushfire construction, fire hazard properties and thermal resistance. It applies only to horizontal panels fixed to steel or timber framing, and refers to the Technical Manual FC502T, available on the Cemintel web site. For current certificate information, please refer to www.global-mark.com.au.

INTERNAL LINING SYSTEM

The CDS internal lining system is ideal for creating feature walls and creative elements in residential and commercial applications on both steel and timber structural framing.

ADVANTAGES

Cemintel Designer Series™ (CDS) pre-finished walling system features include:

- An ultra-modern contemporary appearance to deliver individual differentiation in building designs.
- Pre-finished panels that speed up the construction process, reduce on-site labour, reduce supervision requirements and reduce trade coordination delays.
- Pre-finished panels provide quality factory checked finishes to deliver higher customer satisfaction and reduce call-backs.
- Extensive range of smooth, textured and profiled surface finishes in attractive colour tones to meet today's customer tastes.
- Panels are protected with NichiGuard coating*, which has an anti-staining, self-cleaning function. Silica particles in the NichiGuard coating attract water from the atmosphere to form a thin molecular film, so that airborne contaminants do not reach the panel surface itself. Rain water that runs down the wall washes contaminants away.
- Compatible with cost effective, industry standard lightweight timber and steel stud wall construction.
- Suitable for integration with industry standard window and door frames.
- Has simple components and construction techniques to ensure fast and easy assembly.
- Results in an attractive sealed joint finish.
- Pre-fabricated external corner profiles assist quick and easy installation and produce a high quality finish. No additional reinforcing required to corners.

* Note: Available on all panels EXCEPT Smooth Frappe and Smooth Latte. NichiGuard coating does not resist heavy staining, such as bird droppings. Refer to maintenance section for guidance.

DESIGN CONSIDERATIONS

This guide represents good practice, though it is not intended as an exhaustive statement of all relevant information. It remains the responsibility of the building designer to verify that the Cemintel Designer Series™ cladding system is suitable for the particular requirements of any given project.

Horizontal and vertical panelling systems with various fixing systems are detailed in this guide and each has specific framing set-out and fixing requirements. Refer to the chosen system details for specific information.

This guide should be read in conjunction with the Building Code of Australia (BCA).

FRAMING

The Cemintel Designer Series™ (CDS) pre-finished walling system has been evaluated for use in all Australian wind zones up to and including 'Cyclonic C3'.

Designer Series™ can be fixed horizontally or vertically to timber or steel framing. As a minimum requirement, framing shall be in accordance with the following standard:

- AS1684 – Residential Timber-Framed Construction.
- AS/NZS4600 – Cold-Formed Steel Structures.

Timber shall be seasoned or have reached an equilibrium moisture content of 16% or less at the time of framing. Unseasoned timber is not recommended.

The design and construction of the steel frames should be considered in conjunction with the advice from the manufacturer. In highly corrosive environments, appropriate measures should be taken to protect the frame from corrosion.

DRAINED & VENTILATED CAVITY SYSTEM

Cemintel Designer Series™ uses a drained and ventilated cavity system which provides an effective alternative to manage the migration of water vapour through stud framed wall systems. The cavity is created by fixing Designer Series™ panels to the face of framing, over a layer of suitable wall wrap/sarking, with proprietary Designer Series™ Fixing Clips and Spacer Strips. Ventilation must be maintained at the top and base of each wall section. Refer to detail drawings.

TERMITE PROTECTION

As there is a wide variety of methods for managing termite entry to buildings, and selecting the appropriate method for any structure depends on specific risk factors and the form of construction, measures for termite management have not been addressed in this guide.

Refer to your local pest management service, the BCA, AS3660 : Termite management, or your local building authorities for more information about the requirements for the design of a suitable termite management system.

STRUCTURAL BRACING

CDS panels are indirectly attached to the structural framing using clips and spacers. As a consequence, they are not designed to provide wall bracing. Bracing must be provided in the structural framing in the normal manner by using methods such as strap bracing or sheet bracing. Where sheet bracing is used, the entire wall framing to be clad with CDS panels must be sheeted to maintain a uniform fixing plane. Note that window set-out will be affected.

SERVICES

The CDS system will accommodate services that are run through the framing. Any notches or holes formed must be considered in the framing design

PENETRATIONS

Penetrations in the CDS panels must be neatly cut using appropriate tools such as a saw, drill or hole saw. Penetrations should be prepared with a clearance of 8-10mm all around and the gap must be fully sealed with CDS Sealant

COASTAL AREAS

The Cemintel Designer Series™ (CDS) system may be used in some coastal areas. Corrosivity zones are detailed in AS4312, and CDS may be used in zones up to and including C4 - High. It is recommended that the building designer assess the site in accordance with the standard and local conditions.

CDS is NOT suitable for Corrosivity Zone C5 – Very High. This includes the beachfront in regions of rough seas and surf beaches, and inland for several hundred metres, e.g. around Newcastle extending over half a kilometre from the coast. It also includes aggressive industrial areas where the environment may be acidic with a pH of less than 5.

Consideration must also be given to local weather and topographical features that can cause an increase in the distance that salt spray can travel beyond the limits detailed in AS4312.

In Category C3 and above, all walls which are protected by soffits above must be washed down twice per year, to remove salt and debris build-up, particularly around window/door openings.

WALL WRAP/SARKING SELECTION

To ensure occupant comfort and protection of the building frame, the following factors should be considered during the selection of the correct wall wrap/sarking.

- **Condensation Risk:** This is a complex problem and can occur under a variety of conditions (not just in cold and tropical climates) so selection of the right wall wrap/sarking needs to consider the local climate, building use and orientation, material R-Value of the insulation, as well as the degree and location of ventilation.
- **Weather Barrier:** Wind loads can produce lower air pressures within buildings than on the outside, forcing water through small gaps in the building envelope around penetrations and joints, even at low wind speeds.

Careful selection of a wall wrap/sarking with the appropriate level of vapour permeability or vapour resistance is one key factor in reducing condensation risk. The Table 1 on page 8 provides guidance on recommended wall wrap/sarking selection. Key selection characteristics for a suitable wall wrap/sarking are as follows:

- The wall wrap/sarking must have a 'high' water barrier classification – an 'unclassified' rating is not suitable.
- Wall wrap/sarking must meet the requirements of AS/NZS4200.1: Pliable building membranes and underlays – Materials, and be installed in accordance with AS/NZS4200.2: Pliable building membranes and underlays – Installation requirements.

Whilst the requirement to seal joins and penetrations may vary depending upon BCA and/or state requirements, CSR recommends sealing the external wall wrap/sarking to maintain vapour performance and draught proofing effectiveness, as well as to ensure water barrier integrity. As there are a number of factors that need to be considered in assessing and managing condensation risk, it is recommended that designers undertake a condensation risk analysis prior to wall wrap/sarking selection as part of the building design. Additional literature on this subject is available from CSIRO/BRANZ/ASHRAE/ABCB and CSR DesignLINK can help with this assessment.

INSULATION

It is recommended that insulation values above the minimum be chosen for energy conservation and occupant comfort. Insulation also improves the acoustic performance of the wall against outside noise.

The level of insulation provided in a wall is described by its R-value. The higher the R-value the greater the insulation provided.

R-values for some systems are given in the Thermal Performance Selection, Table 2 on page 8.

Refer to 'Components' for product information.

WINDOW SELECTION

The CDS system is designed to accept standard aluminium or timber framed windows and doors. Aluminium windows MUST NOT have sill drain holes which can direct water into the wall cavity. Jamb flashing is recommended in all cases.

Consideration must be given to the total depth of the wall to ensure the required clearance is provided at the window jamb to accommodate the panels. As per normal industry practice, reveal depth is usually varied to adjust the window location.

Elements that affect window/door installations include the depth of the stud framing, the thickness of internal linings, the depth and design of the chosen window frame, the depth of the timber reveal and the total depth of the chosen Designer Series™ cladding system and support framing. Refer to typical window installation details later in this guide.

BUILDING RENOVATIONS

When undertaking building renovations, remove all cladding and wall wrap/sarking from the original wall framing. Ensure the condition of the framing is in accordance with current applicable requirements. Install additional framing as required, wall wrap/sarking and flashings as per details in this publication. Install the CDS system in accordance with all requirements in this publication.

BUILDING ADDITIONS

When undertaking building additions, a movement control joint must be installed at the junction of the current framing and new framing. The current and new framing and cladding systems must be discontinuous at this control joint. Refer to installation details later in this publication.

BUSHFIRE ZONES

Cemintel™ Designer Series has been tested to AS1530.8.1 and passed the requirements for BAL: A-40. Test report EWFA 2593800. The wall system therefore complies with the requirements of AS 3959 Section 8 'Construction for Bushfire Attack Level 40 (BAL – 40)' for an external wall.

For additional bush fire requirements, refer to AS 3959 Construction of buildings in bushfire prone areas, and to the BCA Volume 1 Part 3.7.4.

LIMITATIONS

The CDS system is unsuitable for the following applications: panels with non-vertical face (e.g. parapet capping); wet areas such as bathrooms and water features; chimney cladding; exposure to temperatures over 50°C; non-vented parapet cladding; contact with standing snow or ice.

Do NOT apply tiles or other materials to the face of the panels.

MAINTENANCE

The durability of the Designer Series™ system can be enhanced by periodic inspection and maintenance. Inspections should include examination of the coatings, flashings, and seals. Any cracked or damaged finish or seals which would allow water ingress, must be repaired immediately by resealing the affected area, or by removing the panel and replacing gaskets. Any damaged flashings, sheets or gaskets must be replaced as for new work.

Regularly inspect panel surfaces and follow wash-down procedures when required. Small blemishes can be repaired using CDS Touch-up Paint or other approved paint.

Ensure ventilation and drainage gaps between panels and flashings are clear of any debris.

Should surface deterioration occur after extended exposure to UV radiation, the surface can be washed-down and coated with a proprietary clear finish to restore surface protection.

WASH-DOWN

When cleaning panels, use no more than 700psi (50kg/cm^2) of water pressure at 3m to 3.5m distance from the face. Water pressure should be applied downward to avoid forcing water into tongue and groove joints.

Use neutral detergent with a soft brush when removing dirty spots from a panel. When diluting the neutral detergent, follow the manufacture's instructions, and use the weakest solution possible.

GRAFFITI PROTECTION

For walls requiring anti-graffiti protection, Cemintel recommends the application of Wattyl™ Poly U-400 Anti-Graffiti Clear. Please refer to Wattlyl™ for coating instructions and the warranty conditions of this product.

RECOATING

The CDS system utilises a multi-layered coating system designed to provide long lasting performance, and can be recoated with a proprietary clear finish to prevent deterioration.

If recoating in an alternative colour is desired, Cemintel recommends the use of 1 coat of Wattyl™ Aquaprep Primer Sealer Undercoat and 2 coats of Wattyl Solagard™.

Prior to any recoating, panels should be washed down, as per the maintenance instructions, and the coating should be applied as per Wattyl® instructions.

Cemintel recommends that only Designer Series Smooth and Woodgrain are recoated with an alternative colour.

CONTROL JOINTS – HORIZONTAL PANEL SYSTEM

Vertical Control Joints

Vertical sealant filled control joints are required at the ends of panels, (at a maximum 3030mm spacings, full panel length), and at junctions with the CDS Pre-formed Corner and at other end wall junctions. No additional vertical control joints are required. Movement joints provided in framing should be aligned with joints in the panels.

Vertical joints in panels must be aligned and extend for the full height of continuous panelling, although additional joints may be placed over openings for ease of installation. As the joints are expressed and sealant filled, consideration to the positioning of joints is important for aesthetic reasons. Placing joints at sides or above openings, or the use of full height windows can reduce the visual impact of joints.

A control joint must also be installed when a masonry wall adjoins framed construction, and at the junction of framed additions or existing buildings, to allow for differential movement. Refer to 'Installation Details'.

Horizontal Control Joints

Where frame shrinkage may be a concern, CSR recommends creating a horizontal break in the panelling at first floor level, or by incorporating verandah or awning roofing or other design elements to create discontinuous panelling.

CONTROL JOINTS – VERTICAL PANEL SYSTEMS

Vertical Control Joints

Vertical sealant filled control joints are required at junctions with the CDS Pre-formed Corner, and wherever the CDS wall adjoins another wall type, such as a junction with a masonry wall or at the junction of framed additions or an existing building, to allow for differential movement. Movement joints provided in framing should be aligned to control joints in the panels. Vertical control joints in panels must extend for the full height of continuous panelling. Refer to 'Installation Details' for construction methods.

Horizontal Control Joints

Horizontal joints in panelling must be aligned and extend for the full width of continuous panelling. CSR recommends creating a horizontal break in the panelling at first floor level, or by incorporating verandah or awning roofing or other design elements to create discontinuous panelling. The use of full height windows may assist with aesthetics.

FIG 1: Typical Layout of Vertical & Horizontal Panel Joints – Horizontal Cladding

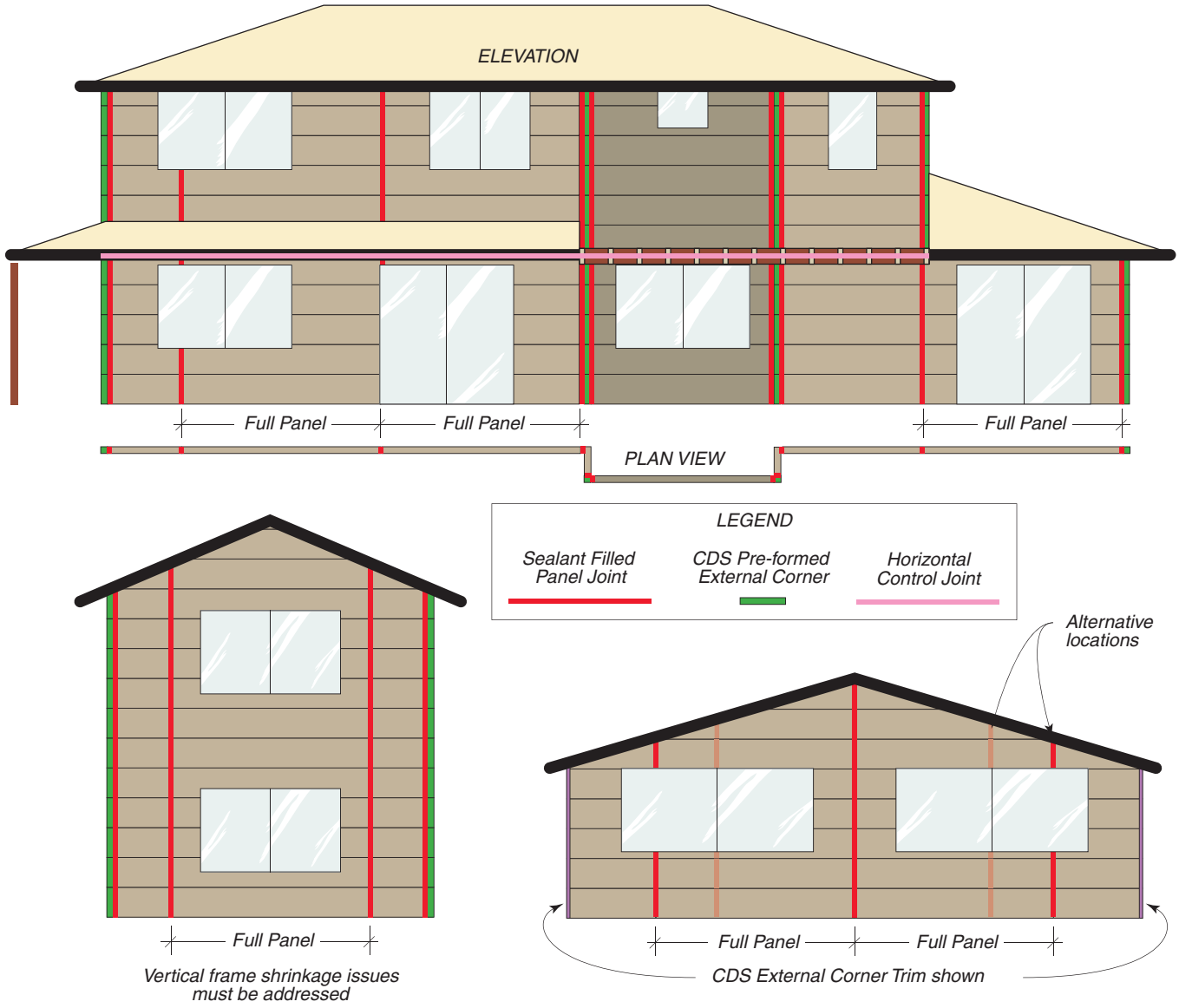


FIG 2: Typical Layout of Vertical & Horizontal Panel Joints – Vertical Cladding System

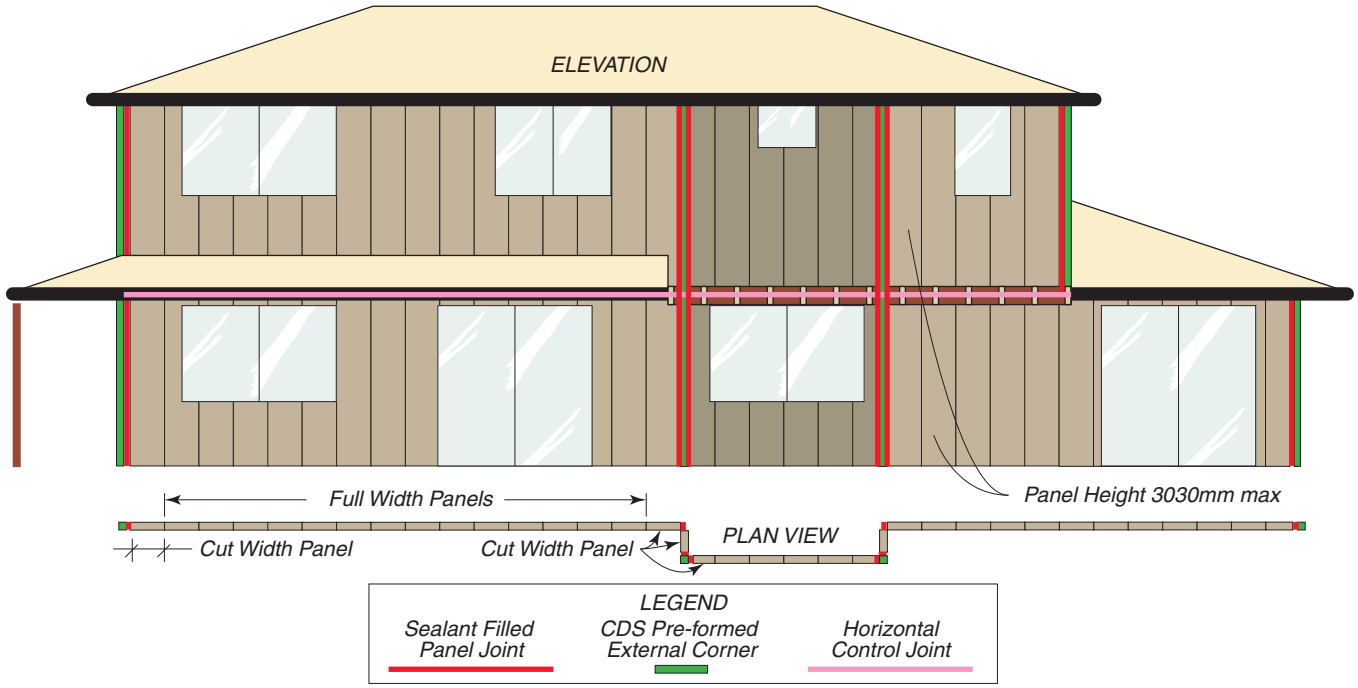


Table 1: Guidance on Wall Wrap/Sarking

Climate	Guidance on wall wrap/sarking to be used behind the cladding	Performance Criteria	Recommended Product
Cold Climates*	In cold climates where the risk of condensation is high, vapour permeable membranes should always be installed on the cold external side of the insulation.	Vapour Permeability > 2.5µg/N.s	Enviroseal ProctorWrap RW or CW
Temperate and inland climate zones	It is recommended to use vapour permeable membranes to avoid creating a seasonal moisture trap and to allow drying in either direction – interior or exterior.	Vapour Permeability > 2.5µg/N.s	Enviroseal ProctorWrap RW or CW or
Warm humid coastal and tropical climates	Where vapour flow is typically inward, such as where the building is air-conditioned, membrane should be non-permeable.	Vapour Resistance > 7MNs/g	Thermoseal Resiwrap or Thermoseal Wall Wrap or Thermoseal 733

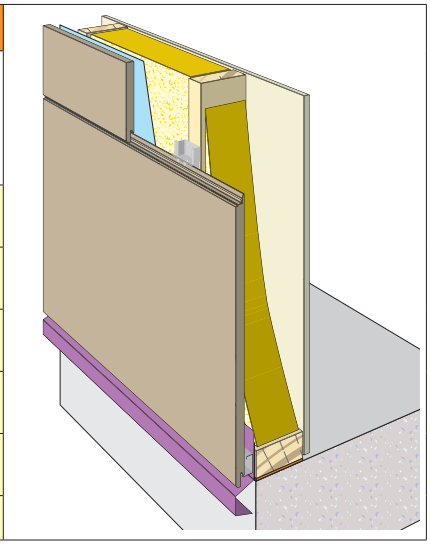
* For alpine areas and buildings that have high internal levels of humidity (such as indoor swimming pool areas), please contact CSR Bradford for project specific technical advice.

Table 2: Thermal Performance Selection

CEMINTEL DESIGNER SERIES

- Cemintel Designer Series™ walling system fixed to the outside of framing.
- Wall Wrap/Sarking as per table below.
- Insulation in framing as per table below.
- Studs at 600mm maximum centres. (Minimum depth to suit insulation thickness)
- 1 layer x 10mm GYPROCK Standard Plasterboard to the inside of framing.

Insulation	Wall Wrap/Sarking	Winter Total Wall R-Value	Summer Total Wall R-Value
(a) BRADFORD 70mm Gold Wall Batts R2.1	Bradford Thermoseal Wall Wrap or Enviroseal ProctorWrap RW	2.6	2.4
(b) BRADFORD 90mm Gold Wall Batts R2.5	Bradford Thermoseal Wall Wrap or Enviroseal ProctorWrap RW	3.1	2.8
(c) Bradford 90mm Gold Wall Batts R2.7HP	Bradford Enviroseal Proctorwrap RW or CW	3.3	3.0
(d) Bradford 90mm Gold Wall Batts R2.7HP	Bradford Thermoseal Wall Wrap or Resiwrap	3.3	3.0
(e) NIL	Bradford Thermoseal 733*	1.5	1.3



NOTES: Values calculated in accordance with AS4859.1, and are based on an un-ventilated cavity and using Bradford Thermal Calculator v1.2.
* Bright side of foil facing stud cavity. Bradford Thermofoil 733 is wall wrap/sarking with reflective finish both sides. Using an alternative product with anti-glare finish will REDUCE the stated R-value performance.

INTERNAL LININGS

Internal linings are to be designed for the applicable pressures calculated in accordance with AS4055. For Gyprock Standard Plasterboard linings, the arrangements in Table 3 may be used. Sheet fixing details are to be in accordance with GYP547 Gyprock Residential Installation Guide. For other lining materials, consult the manufacturer.

CDS panels have been tested and proven to have significantly lower VOC emissions than the Green Building Council of Australia Green Star Office Design IEQ-13 indoor air quality requirements. Copies of the test certificates are available online at cemintel.com.au.

Table 3: Internal Lining Design

Wind Category	Internal Pressure (kPa)	Lining	Sheet Orientation
N1, N2, N3	0.45	10mm Gyprock SP*	Horizontal or vertical
N4, N5, N6, C1	1.33	10mm Gyprock SP*	Horizontal
C2, C3	2.30	13mm Gyprock SP*	Horizontal
C4	3.11	2 x 10mm Gyprock SP*	Horizontal

* Gyprock SP = Gyprock Standard Plasterboard

SOLAR REFLECTANCE/ ABSORPTANCE

Designer Series™ has been tested by the University of New South Wales (Report No: 12185) to determine Solar Absorption and Reflectance as required by the Building Code of Australia. The following table provides the results as tested to ASTM E 903-96 'Standard Test Method for Solar Absorptance, Reflectance, and Transmittance of Materials Using Integrating Spheres'.

Table 4: Solar Reflectance/Absorptance

Cemintel™ CDS Product	Solar Reflectance %	Solar Absorptance %	Paint Type	Finish
i-Cube – Quartz	45.5	54.5 ±1.4	silicon acrylic	matt
i-Cube – Onyx	18.2	81.8 ±0.5	silicon acrylic	matt
Textured – Ebony	12.6	87.4 ±0.4	silicon acrylic	matt
Textured – Alpine	52.9	47.1 ±1.6	silicon acrylic	matt
Textured – Sandstone	27.2	72.8 ±0.8	silicon acrylic	matt
Slimline – Slate	7.4	92.6 ±0.2	silicon acrylic emulsion	matt
Woodgrain – Oak	8.5	91.5 ±0.3	silicon acrylic emulsion	matt
Woodgrain – Teak	17.2	82.8 ±0.5	silicon acrylic emulsion	matt
Urban – Grey	35.6	64.4 ±1.1	silicon acrylic emulsion	matt
Smooth – Cream	54.4	45.6 ±1.6	silicon acrylic emulsion	gloss
Smooth – Mocha	28.1	71.9 ±0.8	silicon acrylic emulsion	gloss
Smooth – Frappe	23.8	76.2 ±0.7	silicon acrylic emulsion	gloss
Smooth – Latte	16.8	83.2 ±0.5	silicon acrylic emulsion	gloss

INSTALLATION METHODS

HANDLING & STORAGE

CDS Panels are pre-finished, and must be treated with care. During handling, avoid damage to edges, ends and surfaces.

All CDS Panels must be stacked flat, clear of the ground, and supported at 300mm maximum centres on a level platform.

Material must be kept dry, preferably by being stored inside the building. Panels exposed to moisture prior to installation may be subject to shrinkage, and voiding of warranty. Protect from contaminants such as silicone spray. Where it is necessary to store panels outside, they must be protected from the weather.

Panels must be carried on edge.

Panels must be dry prior to fixing and prior to joint sealing.

PANEL CUTTING

Panels should be cut from the back using a power saw. CSR recommends using the FESTO TS 55 EBQ Plunge Cut Saw with guide rail and appropriate blade.

All exposed cut edges such as at the window heads and roof junctions must be coated with approved paint. Refer to "CUT EDGES & TOUCH-UP" on page 11.

FACE FIXING OF PANELS

At face fixing points, all panels must be supported by a CDS Spacer Strip of 200mm minimum length. Panels must be pre-drilled to accept nails. Use a 2.5mm timber drill bit, and drill from the front. Nail/screw heads should finish flush with the panel surface. All visible nail/screw heads should be neatly covered with primer and colour matched paint used sparingly. Refer to "CUT EDGES & TOUCH-UP" on page 11.

Do NOT use sealant on nail heads.

PENETRATIONS

Penetrations in CDS Panels may be cut or drilled prior to installation. Cut from the back or drill from the front. Cut penetrations oversize by 8 –10mm all around. Mask, prime and fill cut edges with sealant in accordance with recommended method and products.

BEVELLED EDGES

The top edge of panels at window sill level may require bevelling. CSR recommends using the FESTO DSC-AGP 125 Diamond Blade Cutting & Grinding Tool.

SAFETY

When cutting, drilling or grinding CDS Panel using power tools, always ensure the work area is well ventilated. An approved dust mask (AS1715 and AS1716) and safety glasses (AS1337) must be worn. CSR recommends that hearing protection be worn.

TOOLS

All saws, drill/drivers, cutting blades, drill bits and hand tools must be maintained in good and clean condition to ensure appropriate cutting and drilling.

CSR recommends the use of following tools in conjunction with appropriate dust reduction methods.

FESTO TS 55 EBQ Plunge Cut Saw with guide rail

FESTO DSC-AGP 125 Diamond Blade Cutting & Grinding Tool

Product	Order N°
FESTO TS 55 EBQ Plunge Cut Saw with 1400mm Guide Rail	121400
FESTO Diamond Tipped Blade for TS55 (for cutting CDS Panel, fibre cement sheet, etc.)	112647
FESTO DSC-AGP 125 Diamond Cutting System	107207

TAPING OF WALL WRAP/SARKING AND FLASHING JUNCTIONS

For optimum insulation performance, CSR recommends taping all joints in wall wrap/sarking and junctions between wall wrap/sarking and flashings.

FIG 3: Typical Detail for Taping of Flashing and Wall Wrap/Sarking Junctions – Elevation

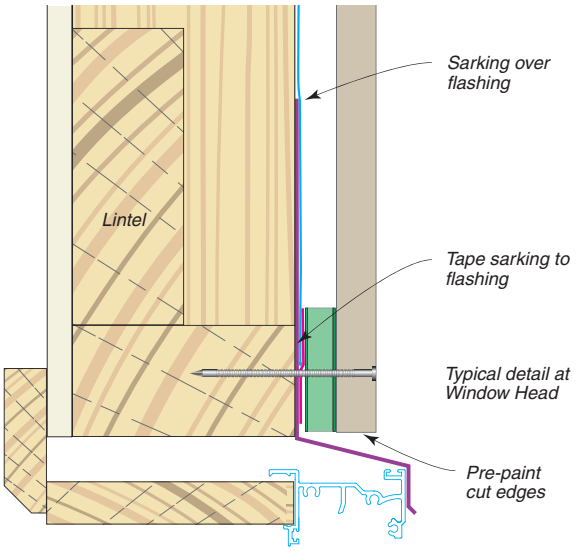
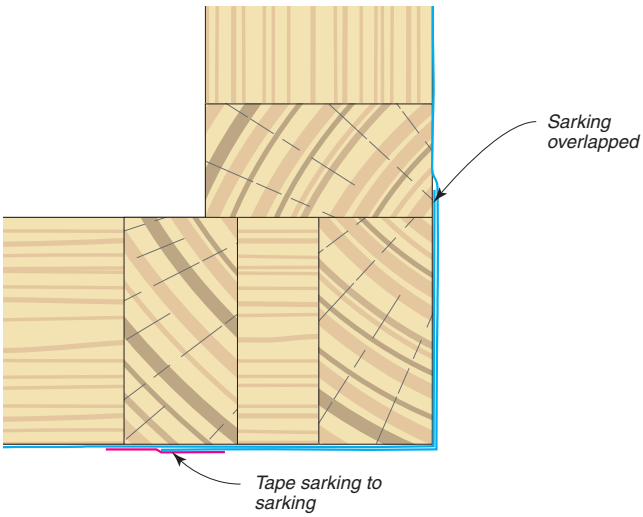


FIG 4: Typical Detail for Taping of Wall Wrap/Sarking Overlaps – Plan View



BASE FLASHING

Base flashing is required to exclude vermin and draughts from the cavity, while allowing moisture to freely escape. At corners of the building, the flashing must be mitred and/or sealed to prevent wind and water from being driven behind the panels.

FIG 5: Base Flashing at Internal Corner

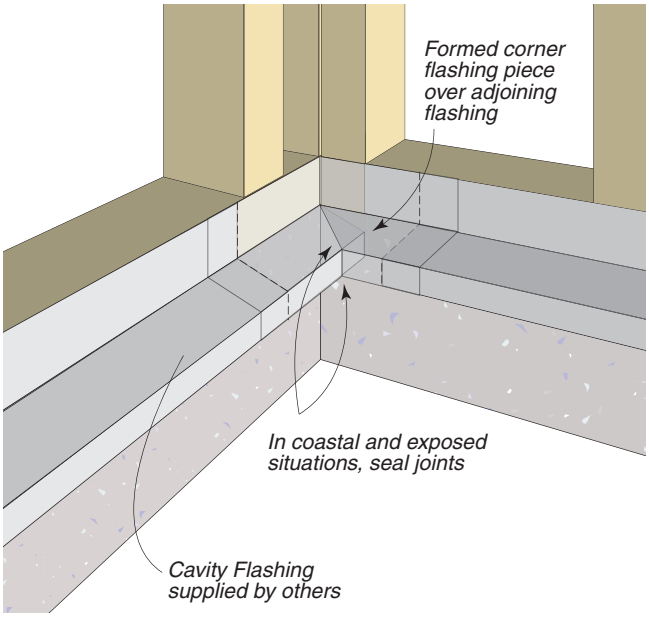
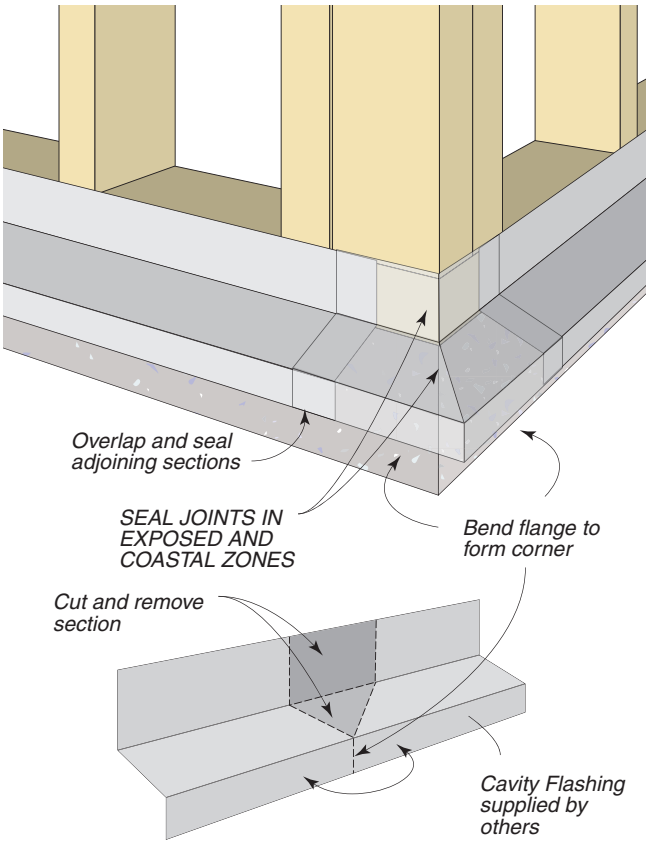


FIG 6: Base Flashing at External Corner



SEALING VERTICAL PANEL JOINTS

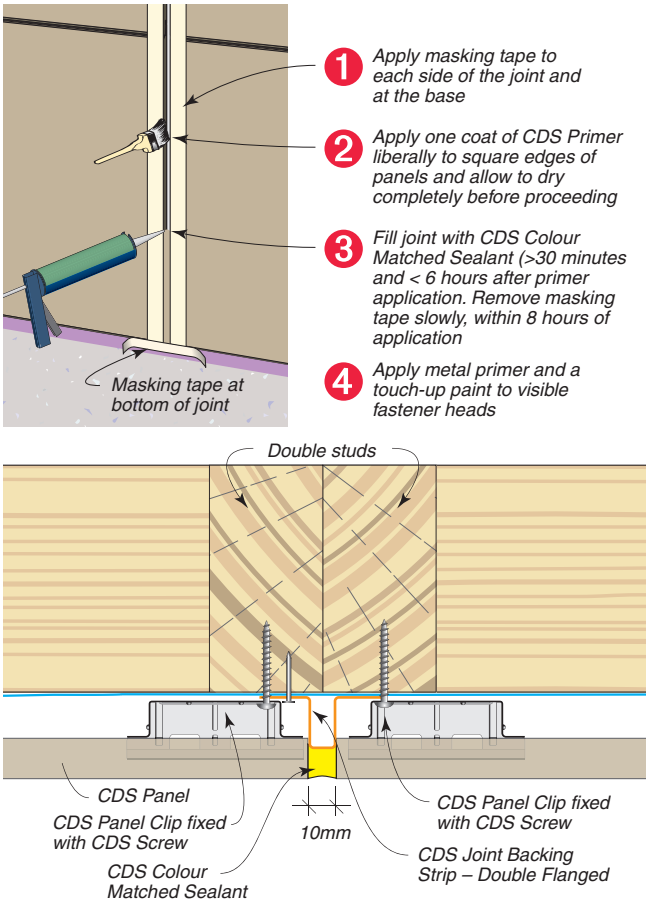
All expressed vertical panel joints must be primed and filled with CDS Colour Matched Sealant after installation. Panels must be completely dry before applying primer and sealant.

Correct and full application of CDS Primer to all square edges of panels is critical to successful sealant performance. Primer must be allowed to dry fully before installing sealant.

Sealant must be installed not less than 30 minutes after and not more than 6 hours after primer application.

Refer to specific details for the CDS internal system.

FIG 7: Typical Method for Sealing Vertical Joints



CUT EDGES & TOUCH-UP

All exposed cut edges of CDS Panels such as at window heads and exposed soffits must be coated. CSR recommends pre-painting these edges prior to installation.

As an alternative to sealing exposed cut edges of panels with CDS Touch-up paint, the cut edges may be treated with a preparatory coat and two coats of either Wattyl Solagard™ or Dulux Weathershield™. The paint should be colour matched to the panel. Contact CSR for colour formulations.

CDS Nails are manufactured from corrosion resistant stainless steel 304 grade. If heads require coating for aesthetic purposes, use a primer suitable for bare steel, such as Dulux™ All Metal Primer, prior to coating with an appropriate colour matched enamel or acrylic coating.

CDS Screws are Class 3 galvanised coated steel, and the heads should be primed and painted as per CDS Nails.

Do not use sealant on fastener heads.

BUILDER'S INSTALLATION CHECKLIST

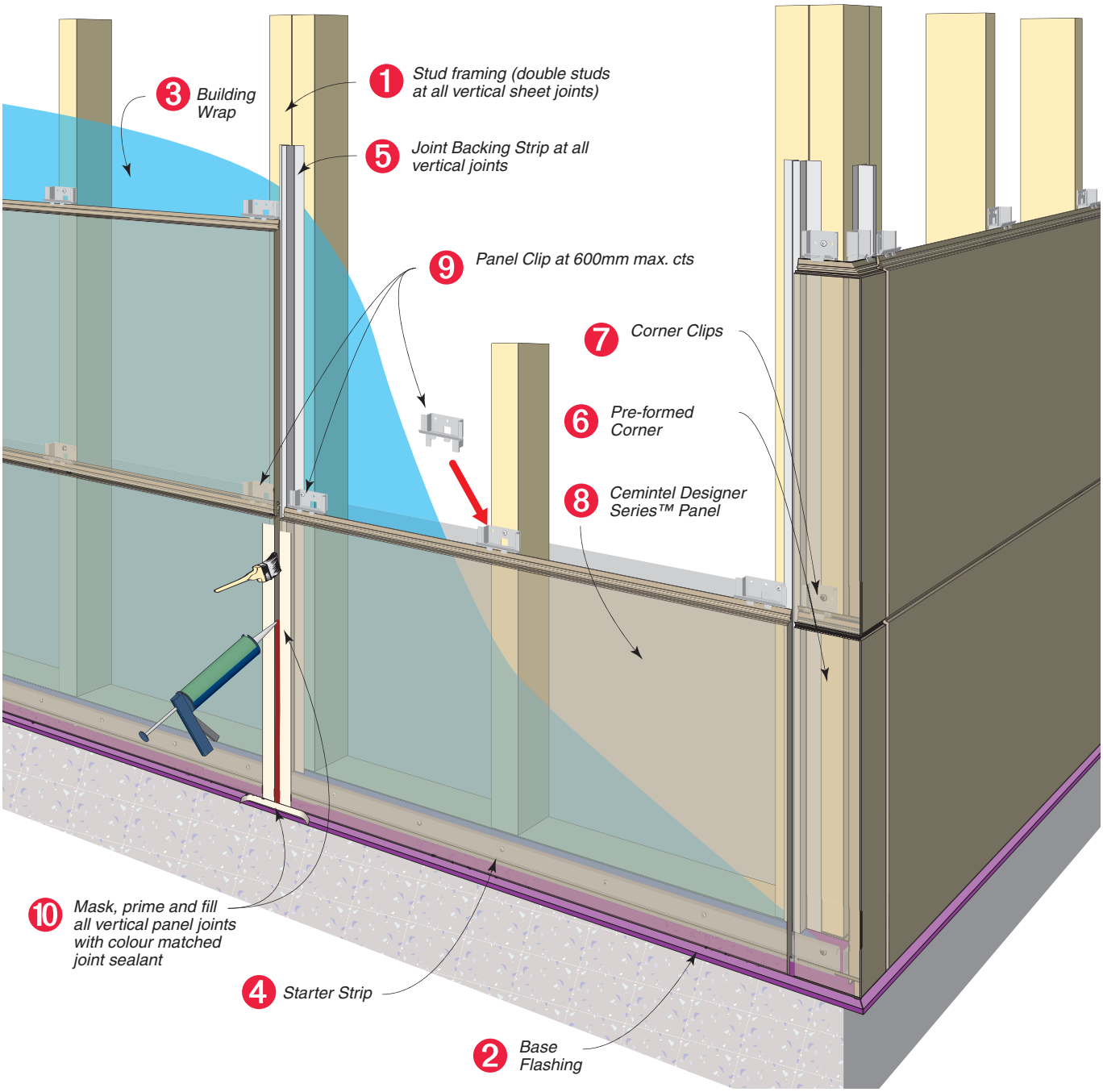
The CDS construction process requires coordination between the builder and the CDS System Installer. The following builder's checklist may assist in making this process run smoothly.

	ACTION	COMPLETED
PRE-CLADDING CHECKLIST		
1	Confirm framing has been installed to suit the system chosen. HORIZONTAL PANELLING: Confirm that double studs are appropriately located behind all vertical panel joints. VERTICAL CLADDING ON BATTENS: Confirm that studs/blocking is appropriately located to allow for 30mm gaps at batten ends and between adjacent battens. VERTICAL CLADDING WITH CLIPS-ON STUDS: Confirm that studs are appropriately located to allow for symmetrical panel layout (if desired). Confirm accurate stud spacing of 455mm to match panel cover.	
2	Confirm that studs are appropriately located to accept preformed corners (when used).	
3	Confirm that studs are appropriately located at internal corners.	
4	Confirm timber framing alignment is in accordance with AS1684, or steel framing is in accordance with AS/NZS4600, and correct if necessary.	
5	Confirm any concrete that may foul the cladding line has been removed, particularly at steps in slabs and isolated columns.	
6	Confirm bracing is in place. NOTE: Where sheet bracing is used behind CDS panels, the entire area must be sheeted to maintain a uniform fixing plane.	
7	Confirm adequate ground clearance to the bottom of the CDS Panels in accordance with Australian Standards.	
8	Confirm that the wall wrap/sarking has been fully and correctly installed, and overlapped and taped at joints.	
9	Confirm windows are front draining type.	
10	Confirm that window placement provides the appropriate clearance for panel installation.	
11	Confirm all window and door flashings are correctly installed.	
12	Confirm chosen eaves soffit detail and preparations have been completed correctly.	
13	Confirm adequate structural support for fixtures such as pergolas and decks has been provided. No loads may be carried by the cladding.	
14	Confirm membranes and flashings for deck areas have been installed in accordance with manufacturer's specifications.	
15	Arrange for a pre-cladding inspection by the appropriate local building authority.	
POST-CLADDING CHECKLIST		
1	Confirm all expressed joints have been neatly filled with approved sealant.	
2	Confirm all visible nail heads have been covered with appropriate touch-up paint.	
3	Confirm sealant has been applied to gaps at window jambs.	
4	Confirm all exposed cut edges, such as at window heads, have been protected with primer and two coats of paint.	

CDS EXTERNAL CLADDING SYSTEM – HORIZONTAL PANELS – CLIP-ON-STUD FIXING

OVERVIEW & FEATURES

- Cemintel Designer Series™ horizontal panelling creates an attractive architectural feature.
- Panels have complementary tongue and groove profiles along the long edges (horizontal edges) with an in-built flexible weathertight sealing strip.
- CDS Panel Clips fit over the panel tongue, and accept and retain the groove of the panel above providing invisible fixing.
- The CDS Pre-formed External Corners are easy to install using CDS Corner Clips, and provide an attractive matching finish.
- Pre-finished CDS Panels mean virtually no finishing work is required. Simply fill all vertical joints with colour matched sealant and touch-up any visible nail heads.



COMPONENTS

CEMINTEL DESIGNER SERIES™ PRE-FINISHED PANELS

Cemintel Designer Series™ panel is a cement bonded fibrous wood particle product that is pressed with the required surface texture and cut to length. The long horizontal edges of the panels are machined with complementary tongue and groove profiles and a compressible sealing strip is bonded onto the tongue. Multiple finishing coats are applied to the exterior surface, producing a ready to install and highly durable pre-finished panel.

Supplied in a pack of 2 panels. Refer to Table 5 on page 15 for finishes and order numbers.

MATERIAL PROPERTIES

Specification	Size
Thickness (nominal)	16 ±1.2 mm
Mass (nominal)	18.86 kg/m^2
Panel Length	3030 ±1 mm
Effective Cover (width nominal)	455 ±1 mm
Overall Width (nominal)	470 ±1mm
Diagonals (difference max.)	2 mm
Group Number	1
ASEA	<250m^2/kg
Thermal (R) Value	0.06

COLOURS AND STYLES

Cemintel Designer Series™ pre-finished panels are available in the following range of modern styles, colours and textures. There is also a range of colour matched accessories, including Preformed External Corner profiles, Joint Sealant and Touch-up Paint kits to speed installation and enhance the project finish and appearance.

i-Cube – Quartz

Woodgrain – Teak

i-Cube – Onyx

Woodgrain – Oak

Textured – Ebony

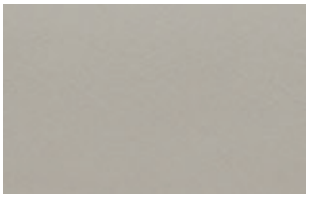
Urban – Grey

Textured – Alpine

Smooth – Cream

Textured – Sandstone

Smooth – Mocha



Slimline – Slate

Smooth – Frappe

Smooth – Latte

Table 5: CDS Panel & Colour Matched Accessories Ordering Details Horizontal Sheeting

Product Description & Colour	Cemintel™ Order N°				
	Panel (Pack of 2)	Touch-up Paint Kit	Joint Sealant (320ml Tube)	Pre-formed Corner (for horizontal panels) 455mm High (Pack of 6)	Pre-formed Corner (for vertical panels) 3030mm High (Pack of 4)
i-Cube – Quartz	122810	105344	105255	122906	N/A
i-Cube – Onyx	122901	105346	105257	122908	N/A
Textured – Ebony	122808	122909	105323	122904	N/A
Textured – Alpine	122809	105342	105324	122905	N/A
Textured – Sandstone	122807	105260	123197	122903	N/A
Slimline – Slate	105305	105343	105254	105314	N/A
Woodgrain – Oak	105567	105586	105584	105582	123599
Woodgrain –Teak	118373	118365	118363	118364	127583
Urban – Grey	118571	118516	118519	118518	127584
Smooth – Cream	105290	105258	105299	105309	127585
Smooth – Mocha	105301	105259	105300	105310	127586
Smooth – Frappe	125874	127142	127143	127141	129025
Smooth – Latte	126929	127145	127146	127144	129026

Table 6: CDS Panel Coverage Calculator

CDS Full Panel = 455mm nominal coverage per row.

CDS Panel Rows (Height or Width)	Coverage for Full Panels (mm nominal)
19	8645
18	8490
17	7735
16	7280
15	6825
14	6370
13	5915
12	5460
11	5005
10	4550
9	4095
8	3640
7	3185
6	2730
5	2275
4	1820
3	1365
2	910
1	455

NOTE: For vertical panels, the panels at external corners and wall junctions must be trimmed to form a square edge joint. This will reduce the coverage of the first and last panels in a wall.

CDS PRE-FORMED EXTERNAL CORNER

Manufactured in designs and colours to match the available panels. Provides a strong, attractive and weathertight finish for external corners.

Internal 70 x 70mm. Cover nom. 86 x 86 x 455mm.

Order N°	Pack Quantity
See Table 5 on page 15	6

CDS PANEL TOUCH-UP PAINT SET

Touch-up paint, colour matched to ensure a perfect finish. Used for nail heads, cut edges at window heads and other visible blemishes. Kit provides up to 3 colours suitable for the raised sections of the pattern (highlights).

As an alternative to sealing exposed cut edges of panels with CDS Touch-up paint, the cut edges may be treated with a preparatory coat and two coats of either Wattyl Solagard™ or Dulux Weathershield™. The paint should be colour matched to the panel; contact CSR for colour formulations.

CDS nails are manufactured from corrosion resistant stainless steel 304 grade. If heads require coating for aesthetic purposes, use a primer suitable for bare steel, such as Dulux™ All Metal Primer, prior to coating with an appropriate colour matched enamel or acrylic coating.

Order N°	Pack Quantity
See Table 5 on page 15	80ml Tins

CDS JOINT SEALANT – COLOUR MATCHED

Colour matched sealant to fill all vertical joints and seal around window and door openings.

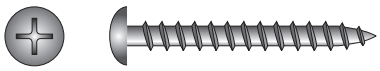
Order N°	Pack Quantity
See Table 5 on page 15	Sealant – 320ml Tubes
111616	Primer – 100ml

CDS FASTENERS

To guarantee performance, only approved fasteners should be used in these systems. Where nominal fasteners are required, Class 3 minimum finish products must be used.

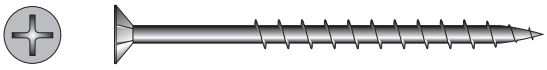
- **CDS Screws for fixing Components to Timber Framing**

For fixing Starter Strip, Clips and other components to timber framing. Stainless steel 410 grade and clear coated. Length 35mm.



Order N°	Desciption	Pack Quantity
105366	For timber frame.	500

For fixing components to timber framing over materials such as bracing sheet or Gyprock Fyrchek™. Galvanised steel. Length 57mm.



Order N°	Desciption	Pack Quantity
117839	For timber frame.	100

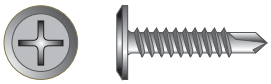
- **Nails for fixing CDS Panels to Timber Framing**

For fixing CDS Panels at soffit line and other locations where required. Ribbed shank, flat head, stainless steel 304 grade, 75mm length. Pre-drill panels for all nails.

Order N°	Quantity
105298	230

- **Screws for fixing components to Steel Framing**

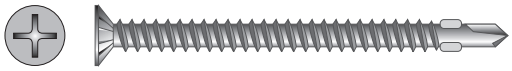
For fixing Starter Strip, Clips and other components to steel framing. Class 3, 8g, Self-drilling, Button Head, Phillips Drive.



Order N°	Desciption	Pack Quantity
113604	20mm for fixing components to steel framing	1000
By others	12mm for fixing Starter Strip and CDS Clips to H515 Top Hat	–

- **Screws for fixing CDS Panels to Steel Framing**

For face fixing CDS Panels at soffit line and other specified locations to steel framing. Class 3, 10g x 55mm, Self-drilling, CSK Self-Embedding Head, Phillips Drive. Suitable for minimum 0.75mm BMT steel framing.



Order N°	Desciption	Pack Quantity
113603	Fixing panels to steel frame.	500

- **Fasteners for general fixing** (supplied by others)

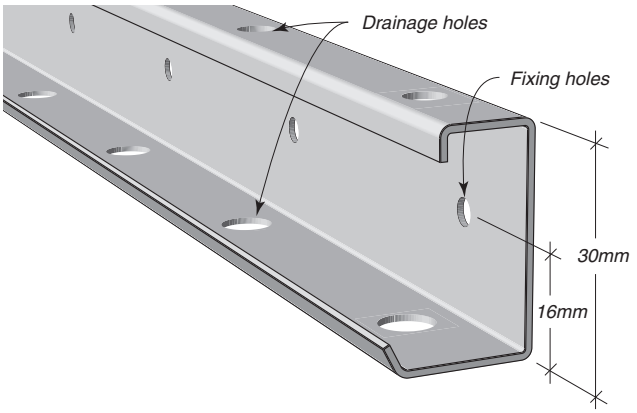
For fixing backing strip and other components to framing.

For timber framing – Galvanised clout, 40 x 1.6mm.

For steel framing – Screws, Class 3, 6g x 40mm self-drilling, button head, Phillips drive.

CDS HORIZONTAL STARTER STRIP

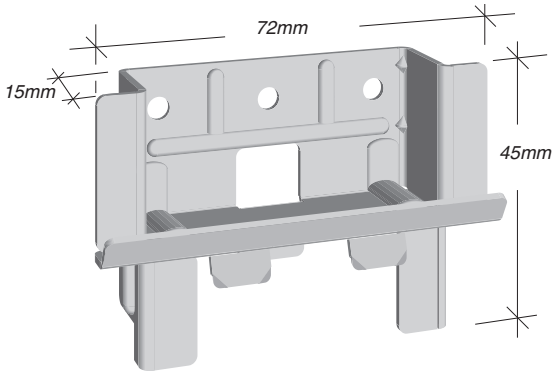
Steel profile used at the base to locate the first row of panels. Provides 15mm offset from face of studs. Manufactured from 1.2 BMT steel with Galvalume AZ150 corrosion resistant coating.



Order N°	Pack Quantity	Length
111503	1	3030mm

CDS 15mm HORIZONTAL PANEL CLIP

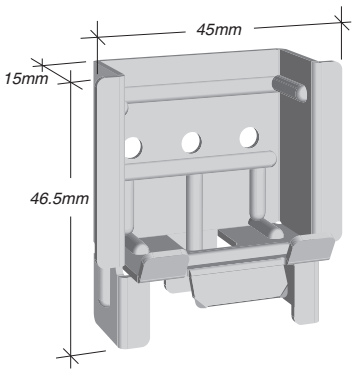
Fixed to the framing to retain the tongue and groove edges of panels. Manufactured from SuperDyma corrosion resistant coated steel.



Order N°	Quantity
105364	50

CDS 15mm CORNER CLIP

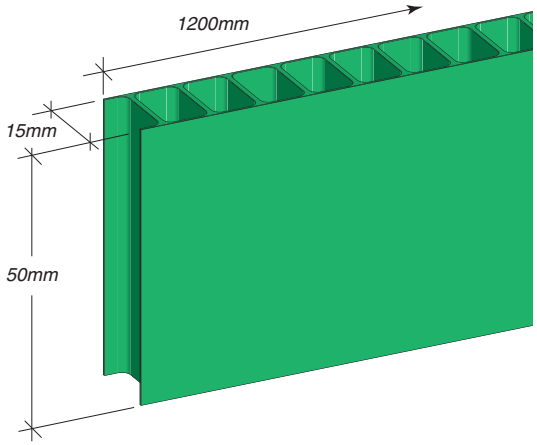
Fixed to the framing to retain the tongue and groove edges of the CDS Pre-formed External Corner. Manufactured from SuperDyma corrosion resistant coated steel.



Order N°	Pack Quantity
105365	24

CDS 50 x 15mm SPACER

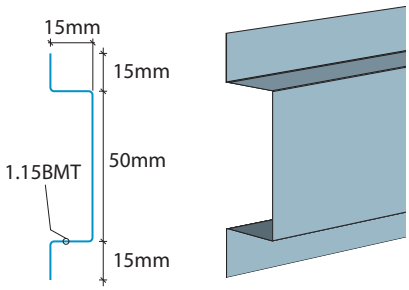
For packing between framing and panels at eaves and other locations wherever face fixing is required. Manufactured in extruded plastic. Size 15 x 50 x 1200mm.



Order N°	Pack Quantity
111502	1

STEEL TOP HAT

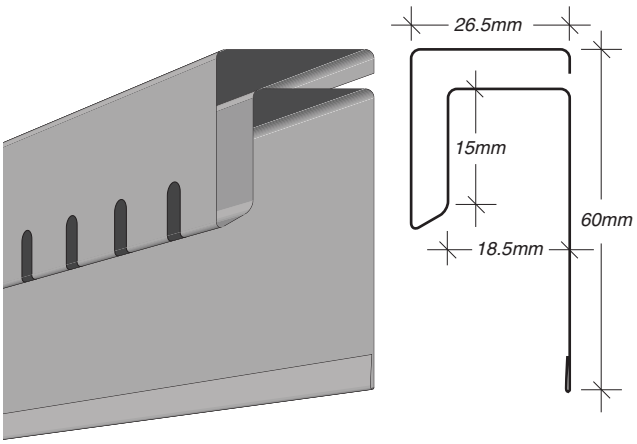
For framing on edge beams. RONDO H515. manufactured from galvanised (Z275) steel.



Order N°	Length (m)	BMT	Mass kg/m
12884	3.6	1.15	0.91
100896	7.2	1.15	0.91

CDS EAVES TRIM

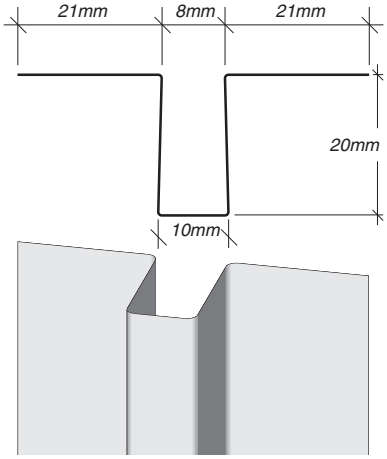
Manufactured in complementary colours to provide a neat and attractive finish at eaves/soffit line. Powder coat finish on 0.35mm BMT steel with Galvalume AZ150 corrosion resistant coating. Length 3030mm.



Order N°	Colour	Pack Quantity
105356	Charcoal	5
105357	Pearl	5
105358	Silver	5

CDS JOINT BACKING STRIP – DOUBLE FLANGE

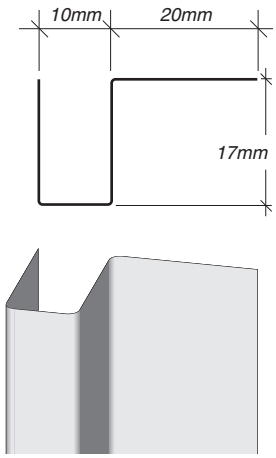
Used at vertical joints to fill cavity and provide a backing for sealant. Manufactured in 0.3mm BMT steel with Galvalume AZ150 corrosion resistant and bond breaker coating. Length 3030mm.



Order N°	Pack Quantity
122804	1

CDS JOINT BACKING STRIP – SINGLE FLANGE

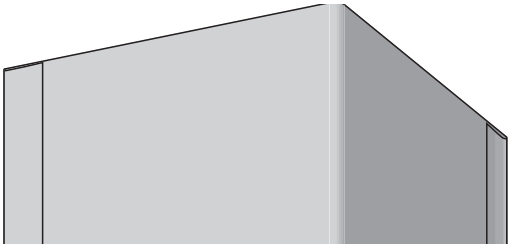
Used at vertical internal corner joints and at openings to fill cavity and provide a backing for sealant. Manufactured in 0.3mm BMT steel with Galvalume AZ150 corrosion resistant and bond breaker coating. Length 2000mm.



Order N°	Pack Quantity
111500	1

CDS INTERNAL CORNER BACKING

Metal angle flashing used at internal corners. Manufactured from steel with Galvalume AZ150 corrosion resistant coating. Size 50 x 50 x 3030mm.

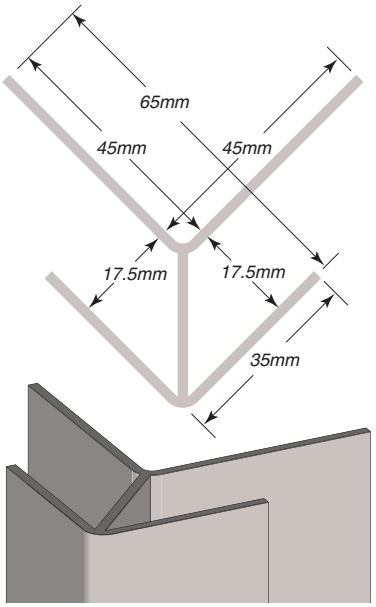


Order N°	Pack Quantity
111498	1

CDS EXTERNAL CORNER TRIM

Anodised aluminium extrusion used to dress and finish external corners.

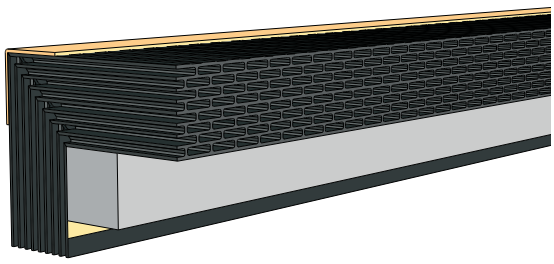
Size 65 x 65 x 3030mm.



Order N°	Colour	Pack Quantity
105295	Charcoal	4
105296	Pearl	4
105297	Silver	4

L-FORM CAVITY VENT

Used at parapet and horizontal control joints to provide air flow while maintaining vermin proofing. Has self adhesive EPDM tape for fixing into flashing/capping and a compressible foam filler attached internally. 1200mm lengths.



Order N°	Pack Quantity
129750	1

WALL WRAP/SARKING

Order N°	Bradford Product	Classification	Water Classification	Quantity
13462 10576	Thermoseal™ Wall Wrap	Non-permeable Reflective	High	1350mm x 20m roll 1350mm x 60m roll
108879 108004 120121	Thermoseal™ Resiwrap	Non-permeable Reflective	High	1350mm x 30m roll 1350mm x 60m roll 1500mm x 30m roll
120923	Enviroseal ProctorWrap™ Residential (RW)	Permeability High	High	1500mm x 50m roll
118593	Environseal ProctorWrap™ Commercial (CW)	Permeability High	High	1500mm x 50m roll
81333	Thermoseal™ 733	Non-permeable Reflective	High	1350mm x 60m roll

INSULATION

Quality Bradford™ glasswool insulation to meet regulatory requirements and environmental and cost efficiency energy targets

Order N°	Bradford™ Product	Size (mm)	Quantity Batts per Pack
105209	Gold Wall Batts R2.1 (70mm)	1160 x 430	6
105206	Gold Wall Batts R2.1 (70mm)	1160 x 580	6
105203	Gold Wall Batts R2.5 (90mm)	1160 x 430	8
105202	Gold Wall Batts R2.5 (90mm)	1160 x 580	8
105205	Gold Wall Batts R2.7 (90mm)	1160 x 430	5
105204	Gold Wall Batts R2.7 (90mm	1160 x 580	5

BOND BREAKER TAPE

Used at some sealed joints. Tesa Multiform Tape N°7492, 48 x 3mm polyethylene closed cell foam tape.

Order N°	Pack Quantity
13172	1 x 25m

FLASHING TAPE

Used to seal wall wrap/sarking and flashing at various locations. (Supplied by others).

INSTALLATION

APPLICATIONS

Cemintel Designer Series™ Horizontal Panel system incorporates horizontal CDS Panels fixed to structural timber or steel stud framing using proprietary clips and fasteners. Framing layout is generally to industry standard practice with the addition of double studs at expressed vertical joints (aligned ends of panels).

INSTALLATION METHODS

Prior to delivery of components and installation, installers and supervisors should be familiar with the recommended installation methods. Please refer to page 9.

DRAINED & VENTILATED CAVITY

Cemintel Designer Series™ uses a drained and ventilated cavity system which provides an effective alternative to manage the migration of water vapour through stud framed wall systems. The cavity is created by fixing Designer Series™ panels to the face of framing, over a layer of suitable wall wrap/sarking, with proprietary Designer Series™ Fixing Clips and Spacer Strips. Ventilation must be maintained at the top and base of each wall section. Refer to detail drawings.

BASE FLASHING

Base flashing is required to exclude vermin and draughts from the cavity, while allowing moisture to freely escape. At corners of the building, the flashing must be mitred and/or sealed to prevent wind and water from being driven behind the panels. Refer to FIG 5 and FIG 6.

TAPING OF WALL WRAP/SARKING AND FLASHING JUNCTIONS

For optimum insulation performance, CSR recommends taping all joints in wall wrap/sarking and junctions between wall wrap/sarking and flashings. Refer to FIG 3 and FIG 4.

SEALING VERTICAL PANEL JOINTS

Please refer to page 11

CUT EDGES & TOUCH-UP

Please refer to page 11.

FRAMING & PANEL SET-OUT – TIMBER FRAMING

All framing must be in accordance with the following AS1684 – Residential Timber-Framed Construction.

Standard framing techniques are appropriate for the horizontal panel system with the addition of double studs at all vertical panel joints to allow for fixing clips each side of the panel joint.

FIG 8: Typical Framing Set-Out with 90mm Timber Framing and CDS Pre-formed Corners – Plan View

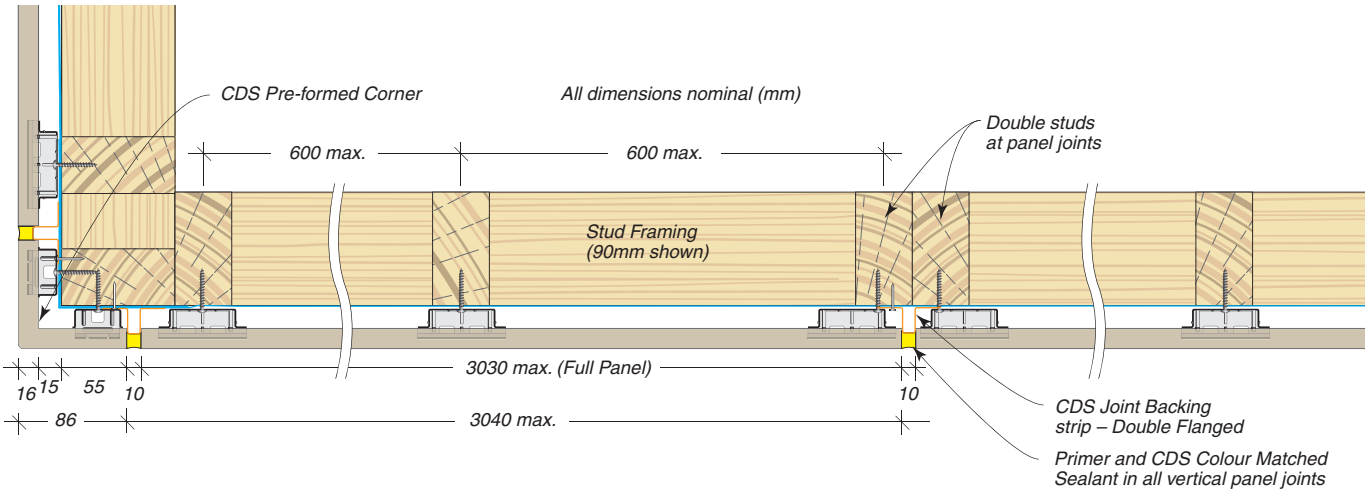


FIG 9: Typical Framing Set-Out with 70mm Timber Framing and CDS Pre-formed Corners – Plan View

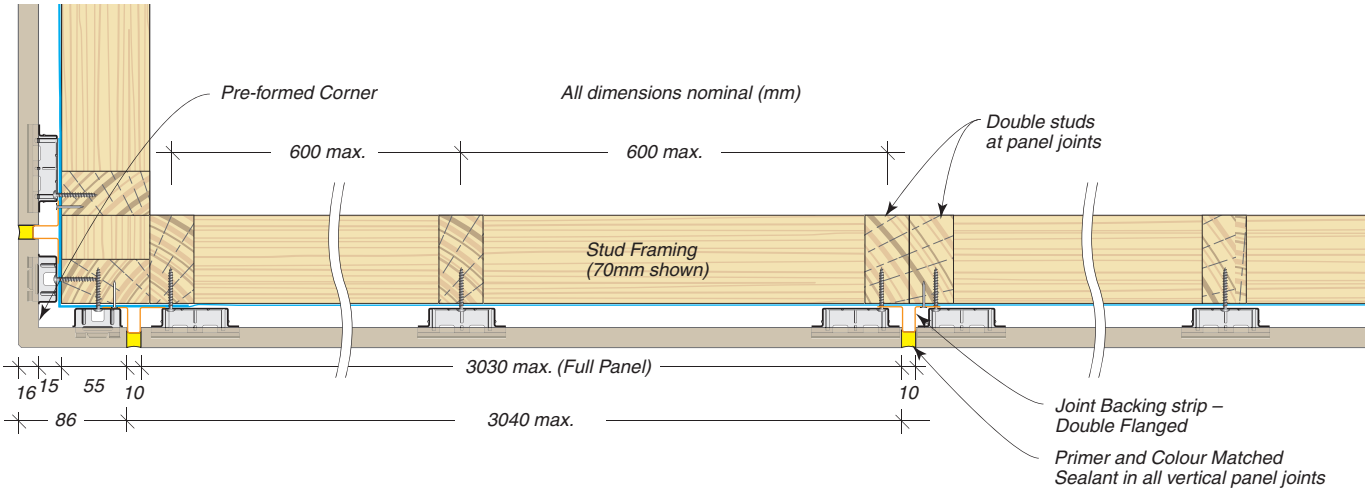
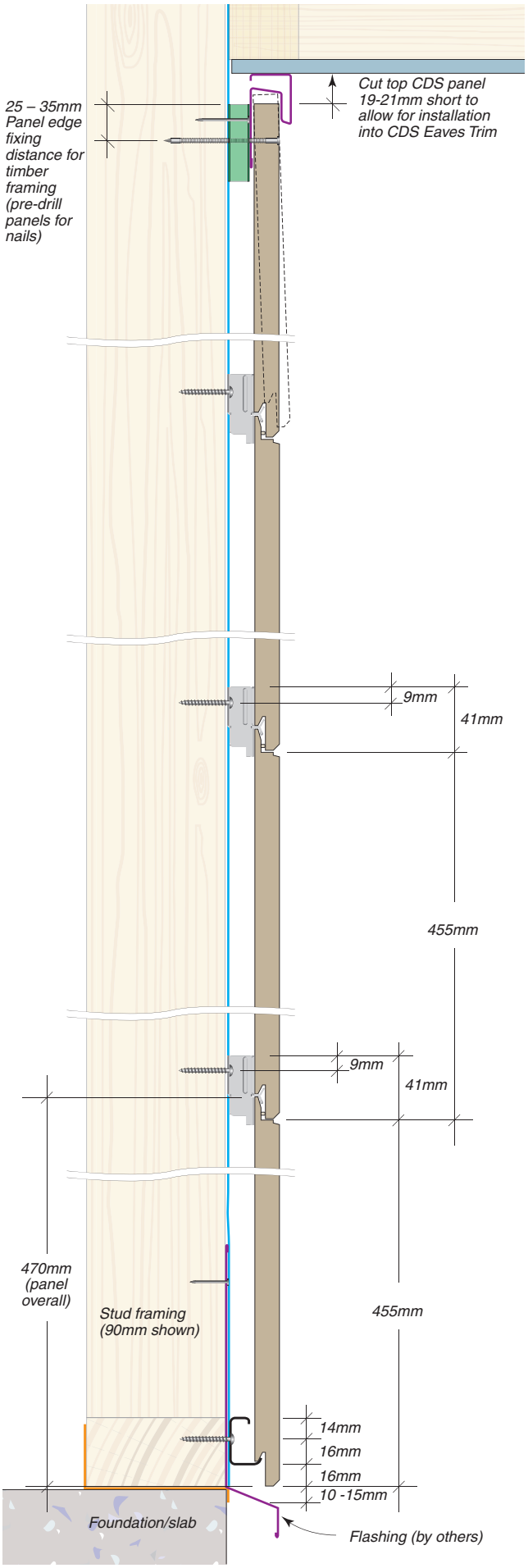


Table 7: CDS Fixing Requirements for Timber Framing – Based on Wind Classification – Studs at 600mm max. centres

Wind Classification (AS4055)	PANEL ZONE Minimum Fixing Requirements for areas greater than 1200mm from an External Building Corner	CORNER ZONE Minimum Fixing Requirements for areas less than 1200mm from an External Building Corner
N1	CDS Clip @ 600mm cts	CDS Clip @ 600mm cts
N2	CDS Clip @ 600mm cts	CDS Clip @ 600mm cts
N3	CDS Clip @ 600mm cts	CDS Clip @ 600mm cts + 1 Face Nail
N4	CDS Clip @ 600mm cts + 1 Face Nail	CDS Clip @ 600mm cts + 1 Face Nail
N5	CDS Clip @ 600mm cts + 1 Face Nail	CDS Clip @ 600mm cts + 1 Face Nail
N6	CDS Clip @ 600mm cts + 1 Face Nail	CDS Clip @ 600mm cts + 2 Face Nails
C1	CDS Clip @ 600mm cts	CDS Clip @ 600mm cts
C2	CDS Clip @ 600mm cts	CDS Clip @ 600mm cts + 1 Face Nail
C3	CDS Clip @ 600mm cts + 1 Face Nail	CDS Clip @ 600mm cts + 2 Face Nails

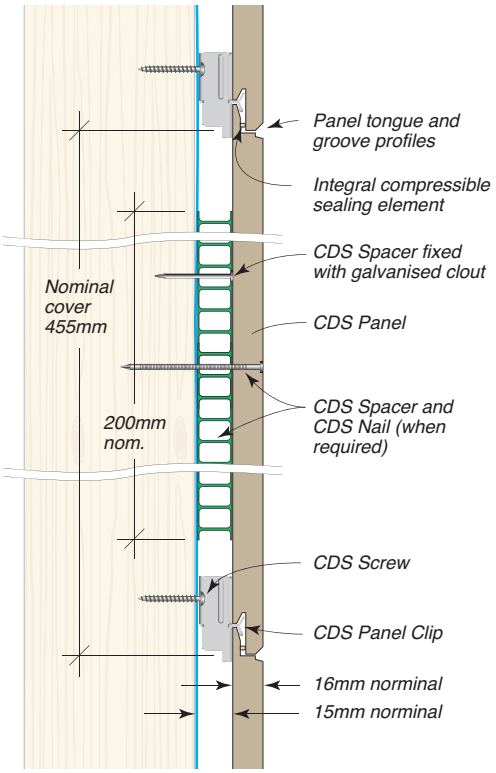
NOTE: System performance relies on the use of CDS approved fasteners.

FIG 10: Typical CDS System Cross Section – Elevation



All measurements nominal

FIG 11: Typical CDS System Cross Sectional Detail where Face Nailing is required – Elevation



FRAMING & PANEL SET-OUT – STEEL FRAMING

Steel framing must be in accordance with AS/NZS4600 – Cold-Formed Steel Structures.

Standard framing techniques are appropriate for the horizontal panel system with the addition of double studs at all vertical panel joints to allow for fixing clips each side of the panel joint.

FIG 12: Typical Framing Set-Out with 90mm Steel Framing and CDS Pre-formed Corners – Plan View

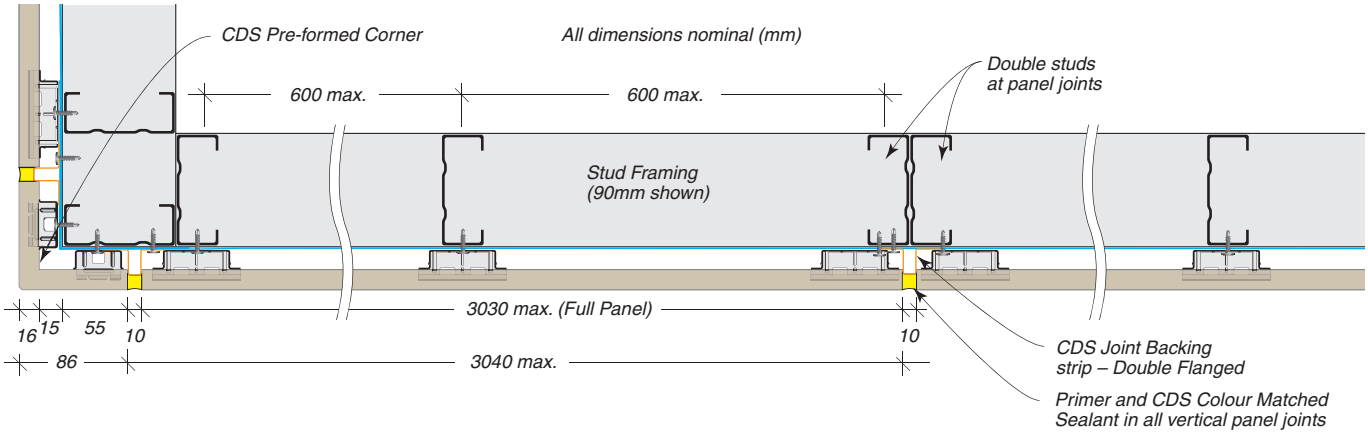


FIG 13: Typical Framing Set-Out with 75mm Steel Framing and CDS Pre-formed Corners – Plan View

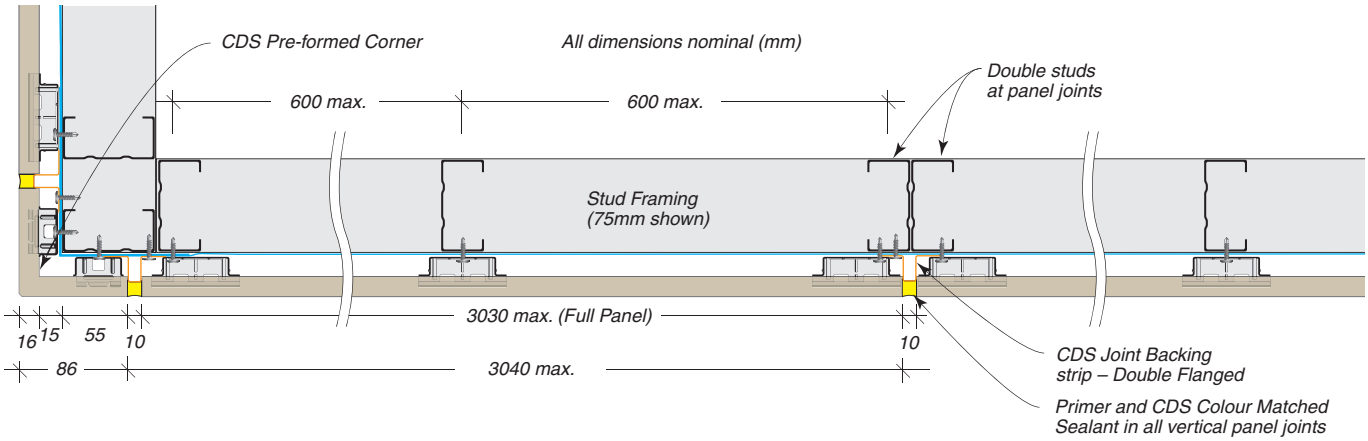


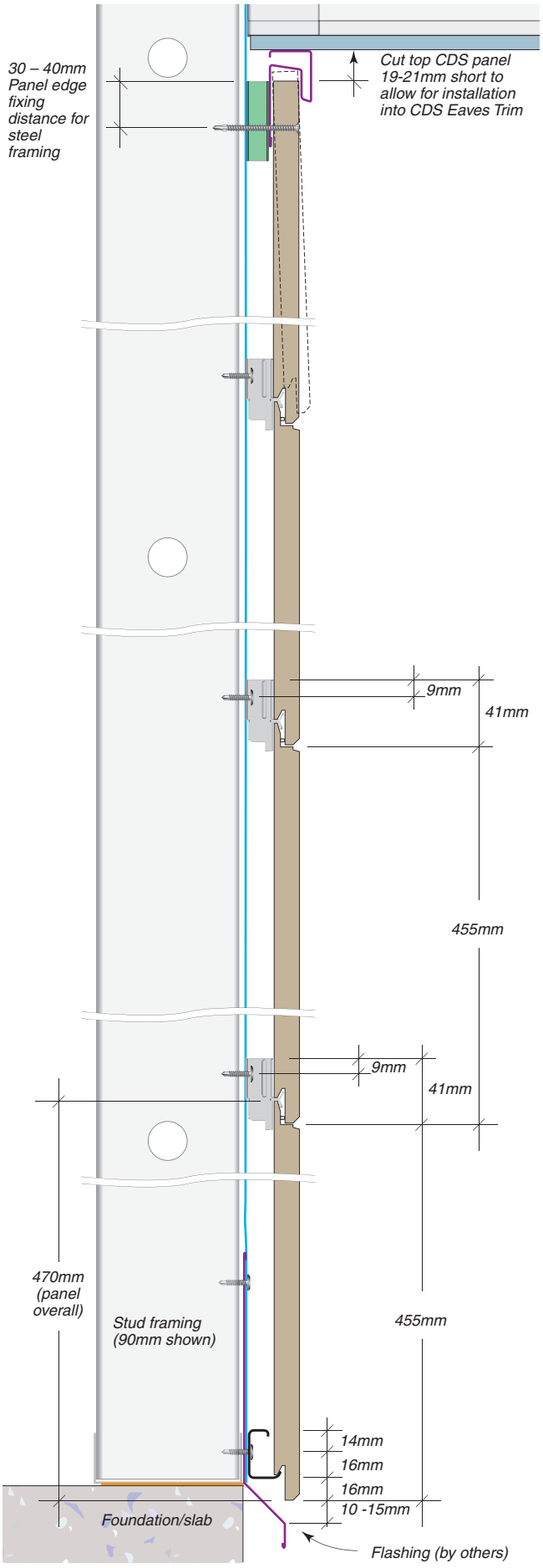
Table 8: CDS Fixing Requirements for Steel Framing – Based on Wind Classification – Studs at 600mm max. centres

Wind Classification (AS4055)	PANEL ZONE – Minimum Fixing Requirements for areas greater than 1200mm from an External Building Corner		
	Steel Frame Metal Thickness		
	0.5mm	0.75mm	1.2mm
N1	CDS Clip @ 600 cts	CDS Clip @ 600 cts	CDS Clip @ 600 cts
N2	CDS Clip @ 600 cts	CDS Clip @ 600 cts	CDS Clip @ 600 cts
N3/C1	CDS Clip @ 600 cts	CDS Clip @ 600 cts	CDS Clip @ 600 cts
N4/C2	CDS Clip @ 600 cts + 1 Face Screw	CDS Clip @ 600 cts	CDS Clip @ 600 cts
N5/C3	N/A	CDS Clip @ 600 cts + 1 Face Screw	CDS Clip @ 600 cts
N6/C4	N/A	CDS Clip @ 600 cts + 1 Face Screw	CDS Clip @ 600 cts + 1 Face Screw

Wind Classification (AS4055)	CORNER ZONE – Minimum Fixing Requirements for areas less than 1200mm from an External Building Corner		
	Steel Frame Metal Thickness		
	0.5mm	0.75mm	1.2mm
N1	CDS Clip @ 600 cts	CDS Clip @ 600 cts	CDS Clip @ 600 cts
N2	CDS Clip @ 600 cts + 1 Face Screw	CDS Clip @ 600 cts	CDS Clip @ 600 cts
N3/C1	CDS Clip @ 600 cts + 1 Face Screw	CDS Clip @ 600 cts	CDS Clip @ 600 cts
N4/C2	CDS Clip @ 600 cts + 2 Face Screws	CDS Clip @ 600 cts + 1 Face Screw	CDS Clip @ 600 cts + 1 Face Screw
N5/C3	N/A	CDS Clip @ 600 cts + 2 Face Screws	CDS Clip @ 600 cts + 1 Face Screw
N6/C4	N/A	CDS Clip @ 600 cts + 2 Face Screws	CDS Clip @ 600 cts + 1 Face Screw

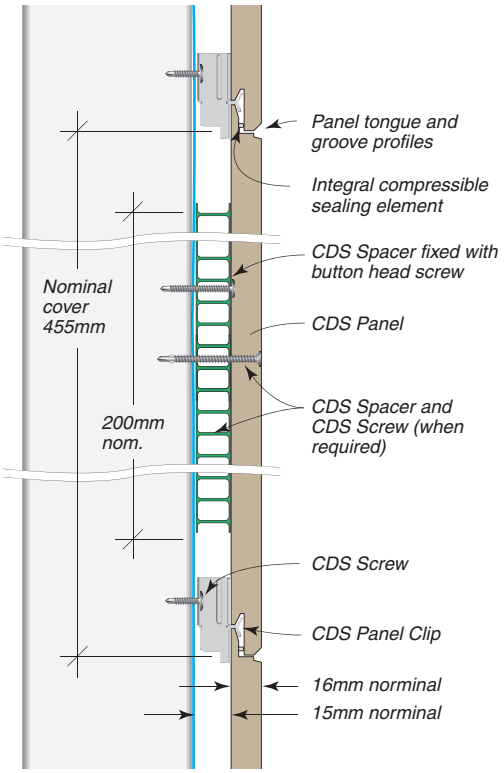
NOTE: System performance relies on the use of CDS approved fasteners.
Table based on external pressures only, with internal linings designed to resist internal pressures.

FIG 14: Typical CDS System Cross Section – Elevation



All measurements nominal

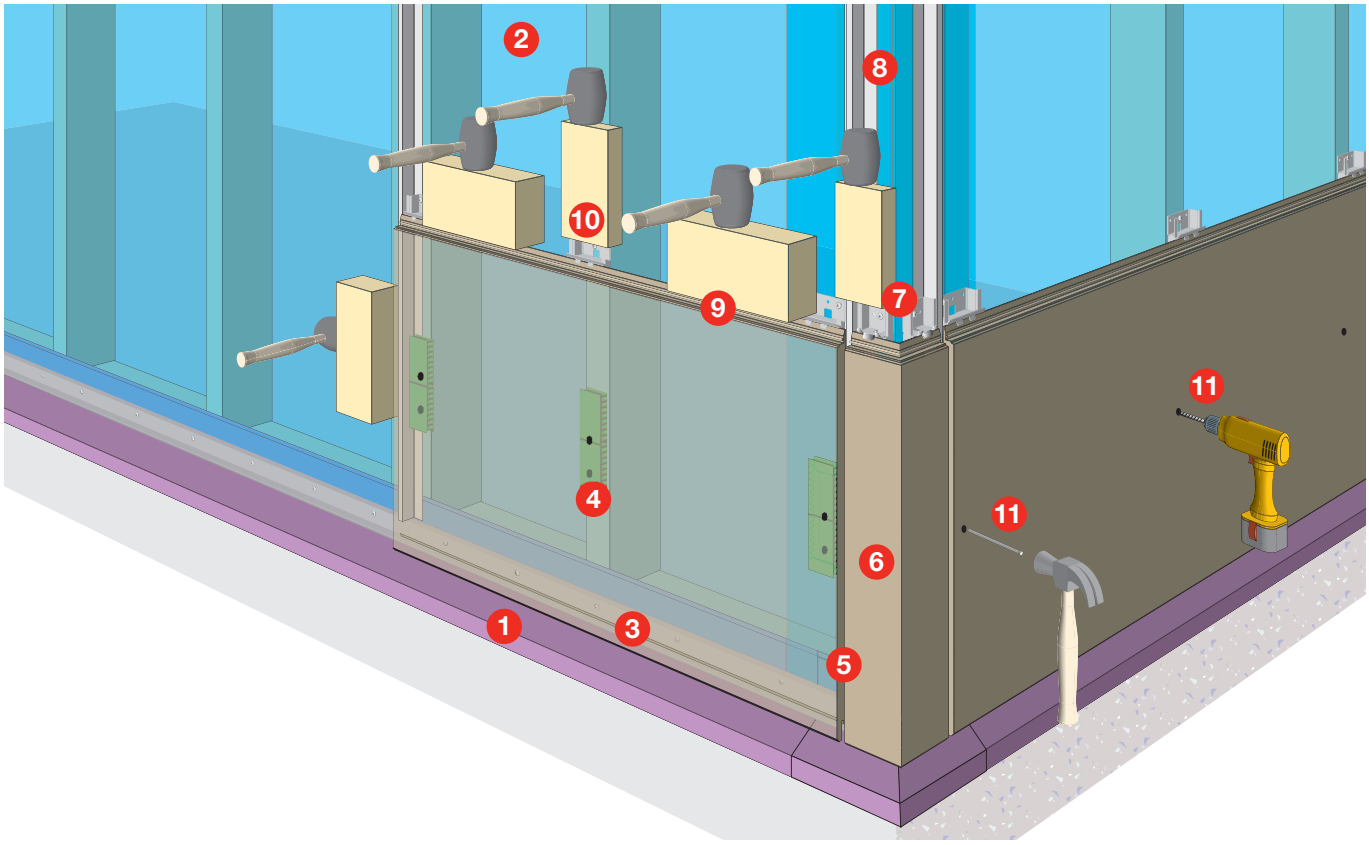
FIG 15: Typical CDS System Cross Sectional Detail where Face Fixing is required – Elevation



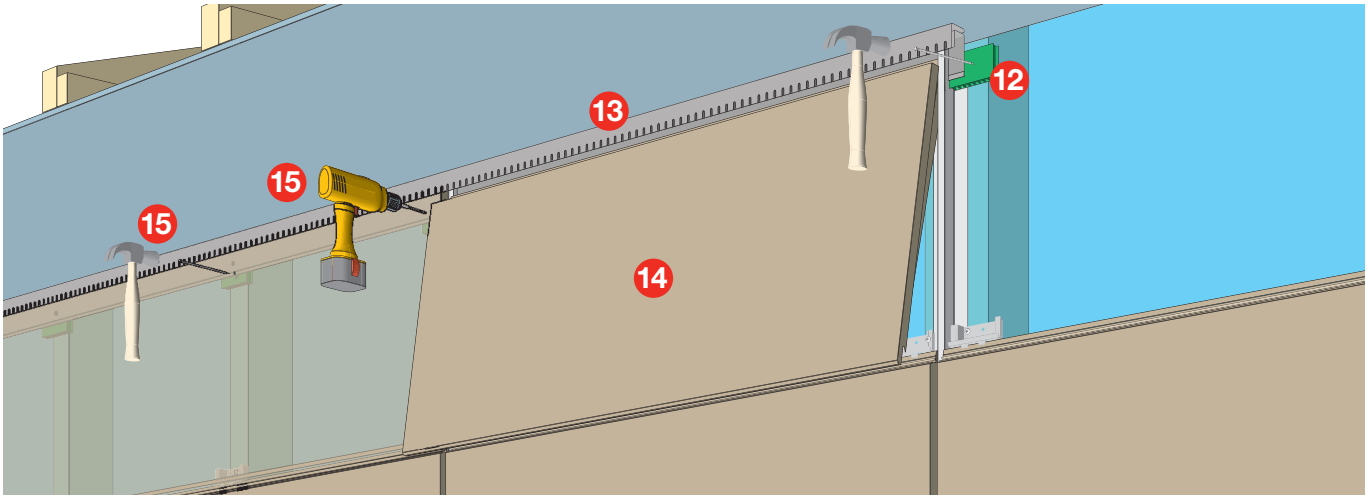
INSTALLATION PROCEDURE

STEP BY STEP INSTALLATION PROCEDURE

❶ Install base flashing and fix to framing. ❷ Install wall wrap/sarking. ❸ Install CDS Starter Strip at wall base and screw fix at 250mm max. centres. Ensure there will be 10-15mm clearance between flashing and bottom of panels. ❹ Where face fixing is required, fastener fix 200mm section of CDS Spacer Strip to framing. ❺ Install CDS Joint Backing Strip at joint location. ❻ Install CDS Preformed Corner and firmly tap corner onto the starter strip. ❼ Install CDS Corner Clips, firmly tap into place and screw fix to framing. ❽ Adjust joint backing strip and fix to framing. ❾ Install CDS Panel and firmly tap into place. ❿ Install CDS Panel Clips, firmly tap into place and fastener fix to framing. ⓫ Where face fixing is required, fastener fix panel at 20-35mm from panel edges for timber frame or 30-40mm for steel frame. Pre-drill holes through panel for nails. Repeat step 1 to step 11 for adjacent panels and rows.



⓬ Fastener fix CDS Spacer Strip on each stud. (If additional face fixing is required, install 200mm sections of backing strip). ⓭ Install CDS Eaves Trim hard against eaves sheet and fix through spacer with Class 3 fastener at each stud. Notch the back of the eaves trim to allow for the CDS Joint Backing Strip. ⓮ Tilt CDS Panel out at the bottom, insert top into CDS Eaves Trim, lift panel up and locate bottom of panel onto CDS Clips. ⓯ Face fix panel with CDS fastener through CDS Spacer Strip at each stud and 20-35mm from panel edges for timber frame or 30-40mm for steel frame. Pre-drill holes through panels for nails



INSTALLATION DETAILS

BASE DETAILS

FIG 16: Base Detail – 90mm Framing Shown

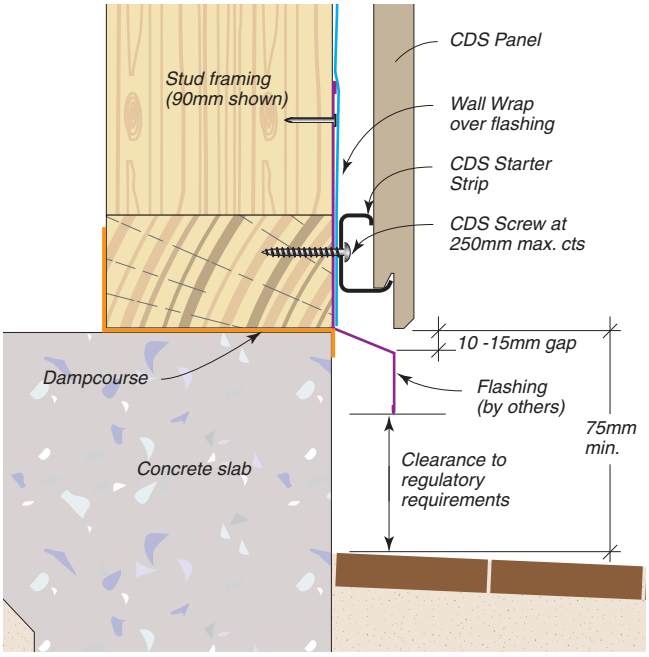


FIG 17: Base Detail – 70mm Framing Shown

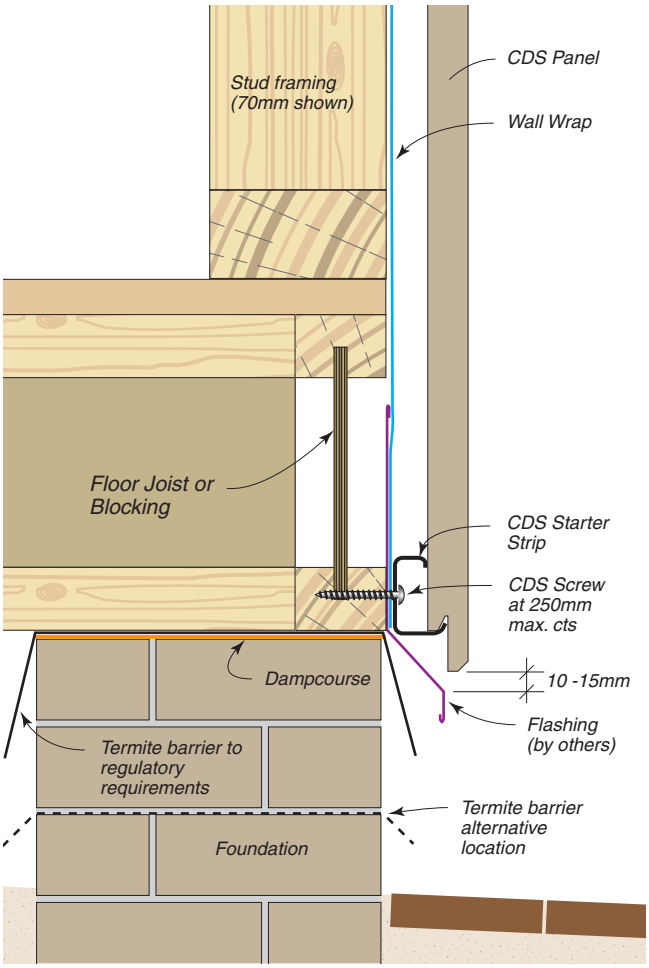


FIG 18: CDS Second Storey Junction with Hebel Panels, Brick Veneer or Masonry Wall – Cantilevered Framing

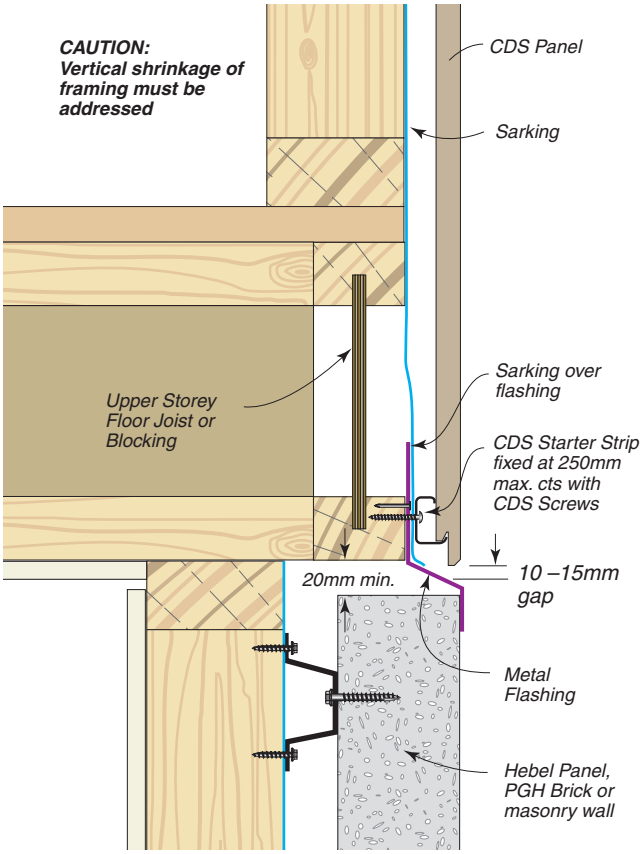
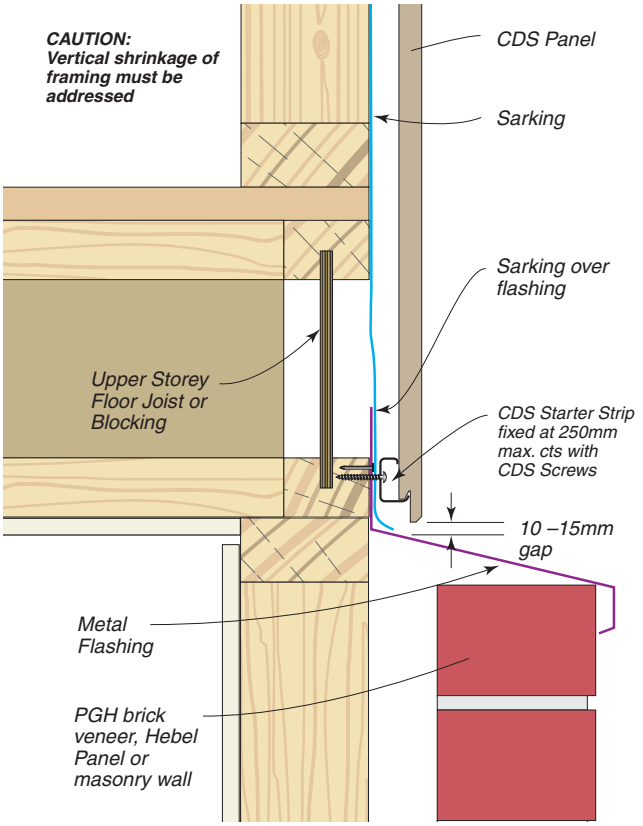


FIG 19: CDS Second Storey Junction with Masonry, Brick Veneer or Hebel Panels – In-line Framing



CORNER DETAILS

Additional studs may be required at corners to allow for fixing CDS Panel Clips and other components.

FIG 20: External Corner Detail – With Preformed Corner – Plan View

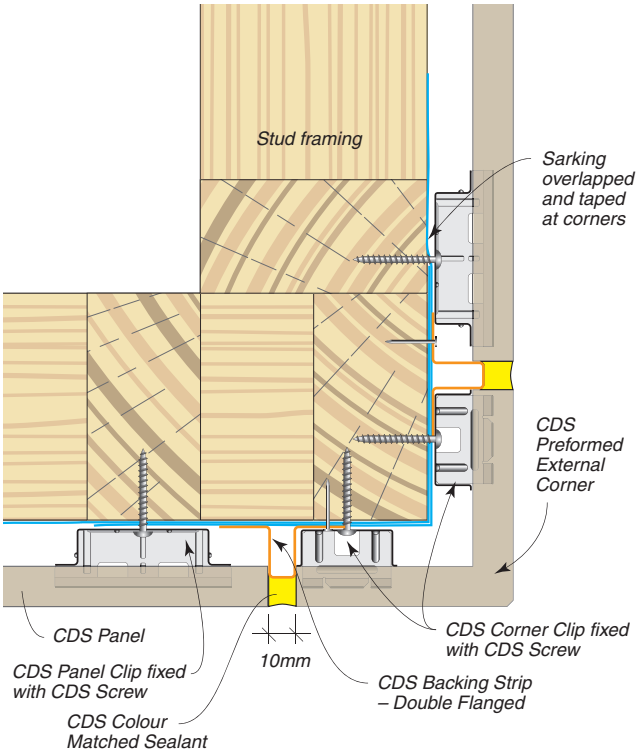


FIG 21: External Corner Detail – With Coloured External Corner Trim – Plan View

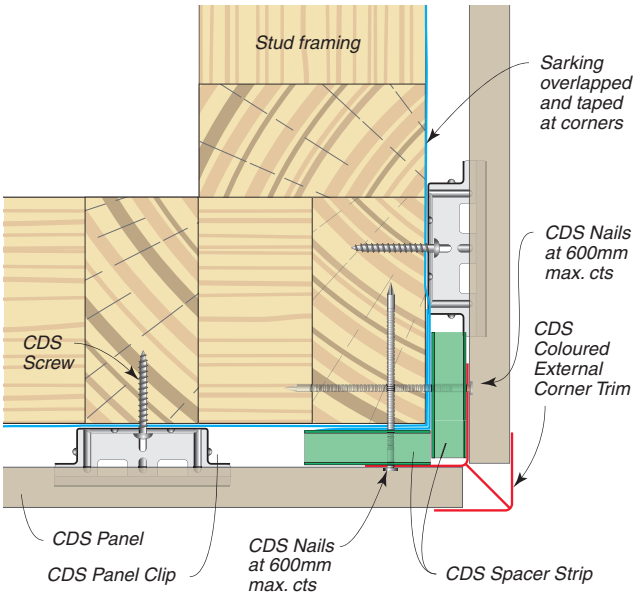


FIG 22: Internal Corner Detail – With Backing Strip and Colour Matched Sealant – Plan View

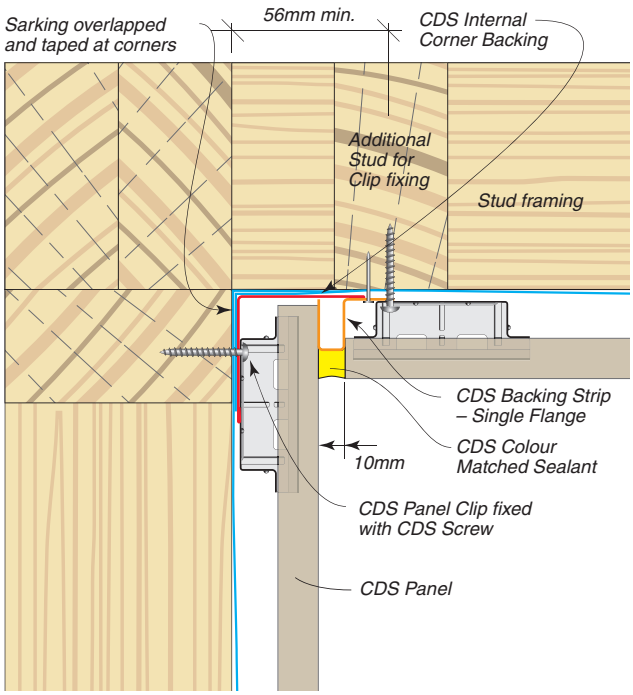
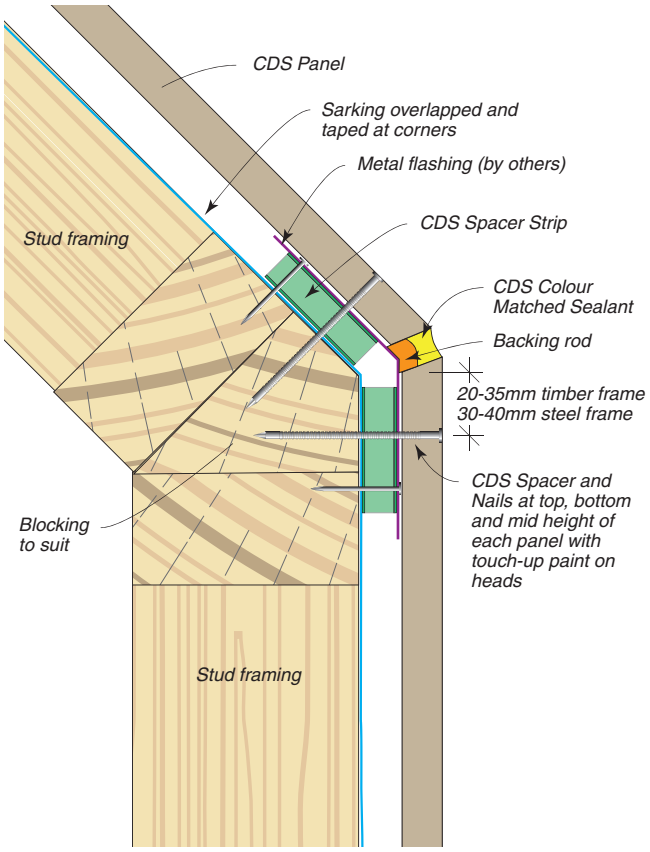


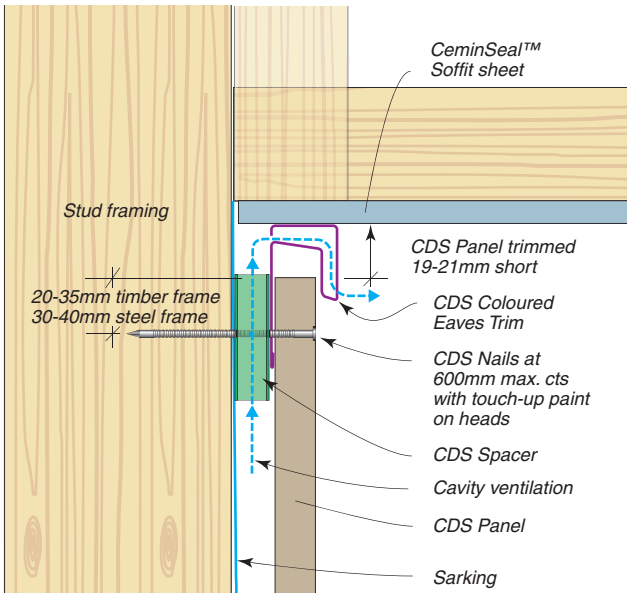
FIG 23: Obtuse Angle Corner Detail – With Metal Flashing and Colour Matched Sealant – Plan View



JUNCTION DETAILS

At eaves line the CDS system must be provided with cavity ventilation. CDS Panels are trimmed to appropriate height and face fixed through the CDS Spacer into the framing. Refer to the following detail options.

FIG 24: Soffit Detail – With CDS Coloured Eaves Trim – Elevation



NOTE: Notch the back of CDS Coloured Eaves Trim at intersections with Joint Backing Strip

FIG 25: Soffit Detail – With Timber Trim – Elevation

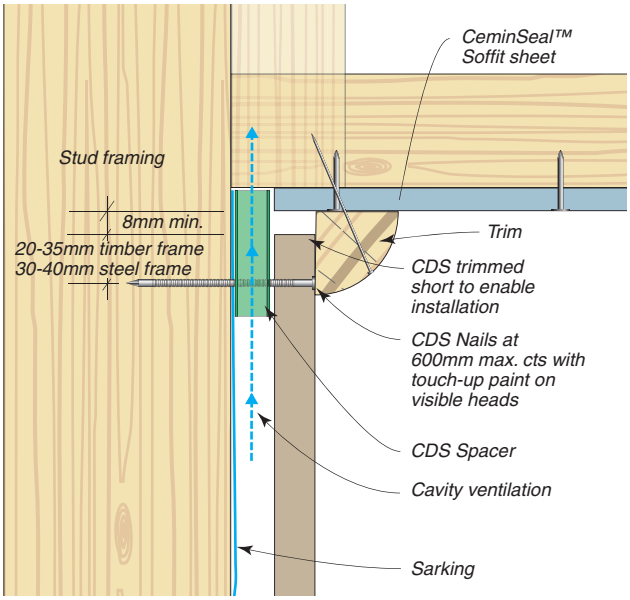


FIG 26: Soffit Detail – With Sealant – Elevation

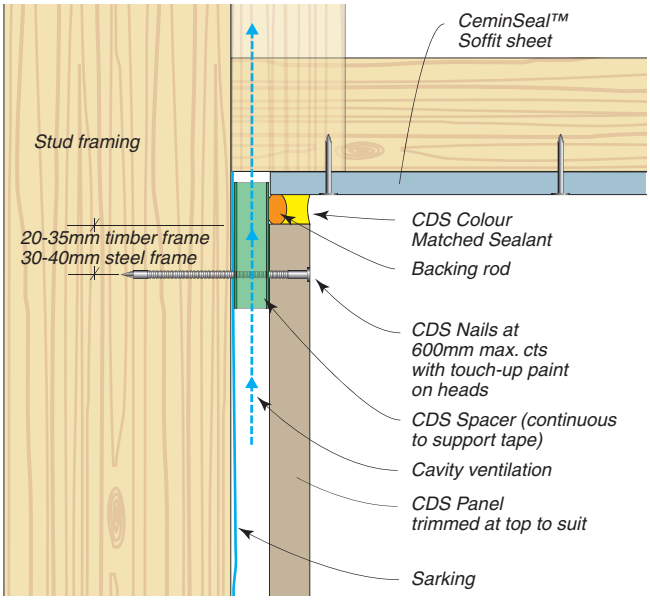
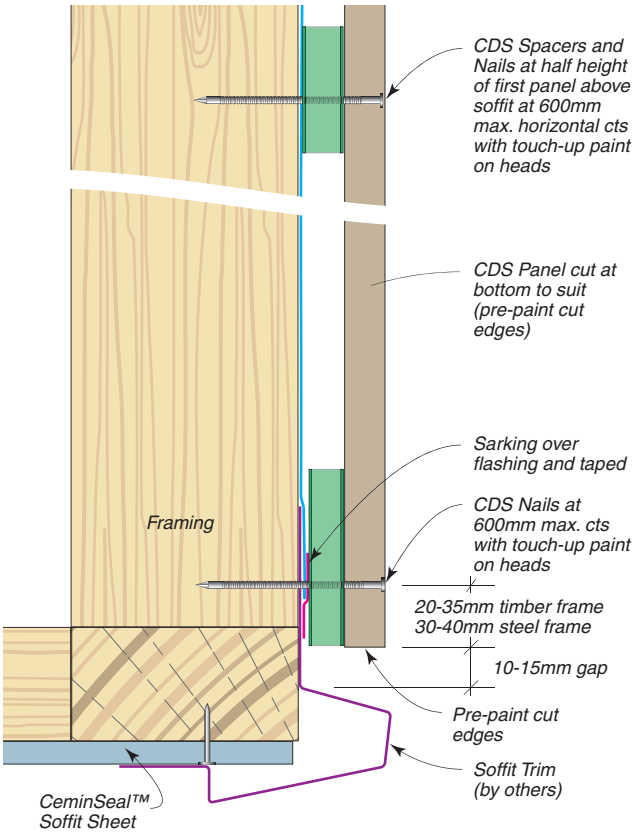


FIG 27: Soffit Detail – With Soffit Trim – Elevation



Typical dimensions for Soffit Trim (supplied by others)

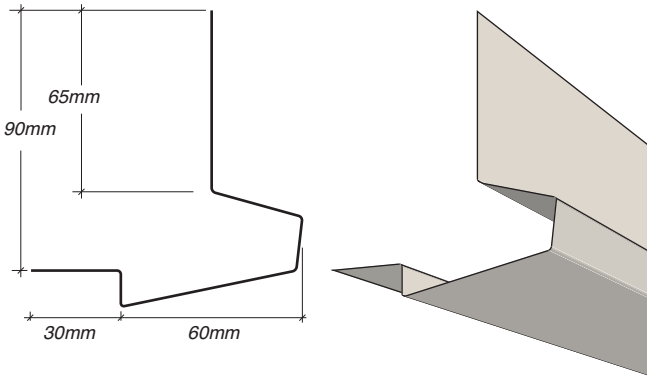


FIG 28: Horizontal Control Joint – Elevation

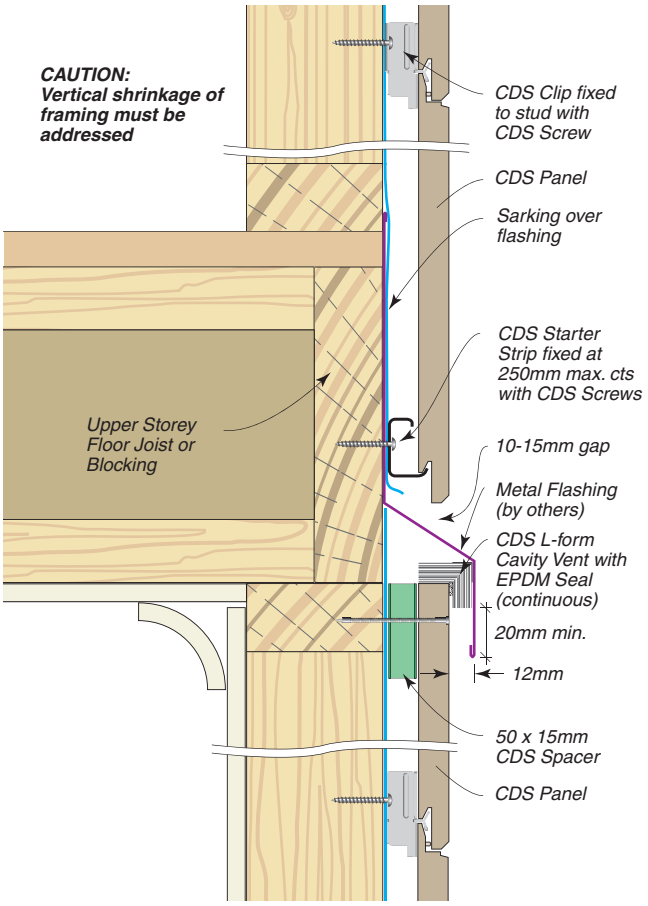


FIG 29: Horizontal Parapet – Elevation

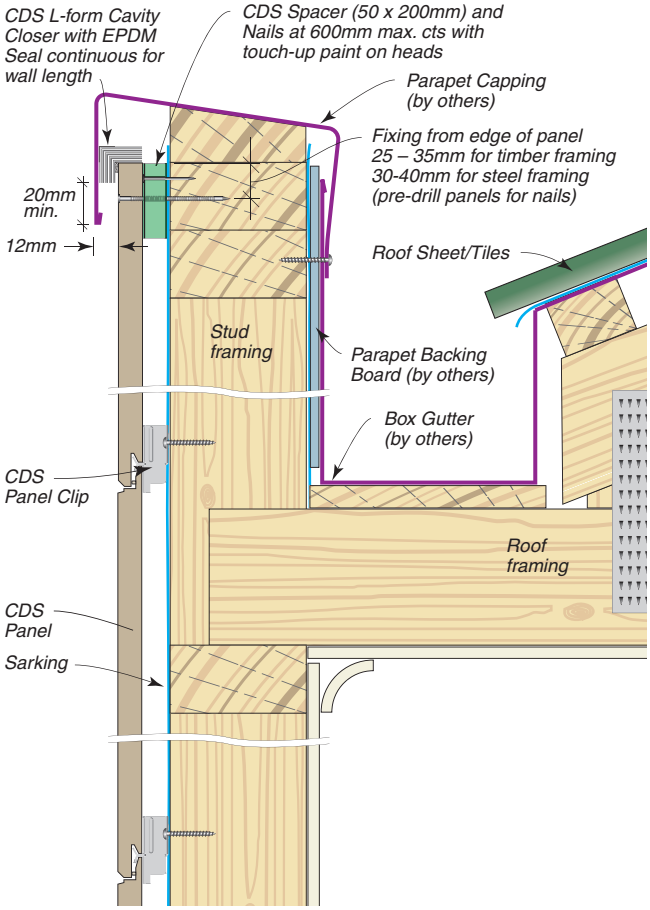


FIG 30: Junction of CDS with External Roofing

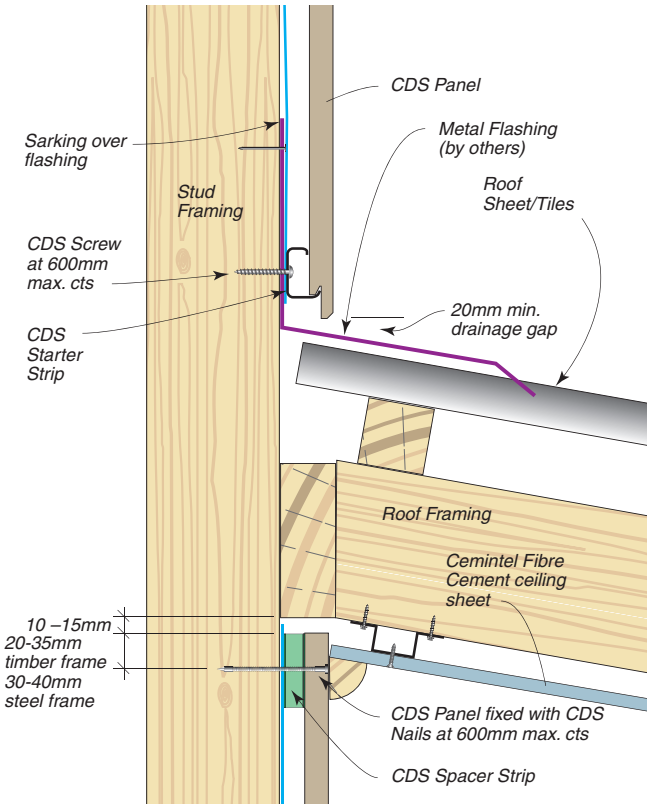


FIG 31: Junction of CDS with External Roofing

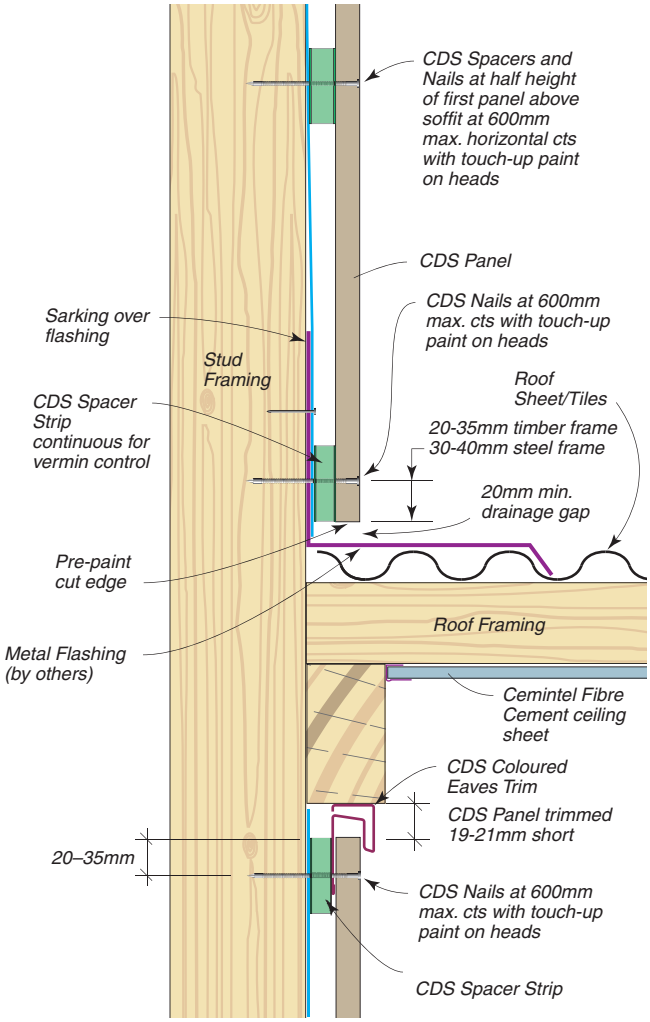


FIG 32: CDS Framing and Control Joint Detail at Edge Beam – Edge Beam height less than approx. 450mm {Continuous Wall Wrap/Sarking method shown)

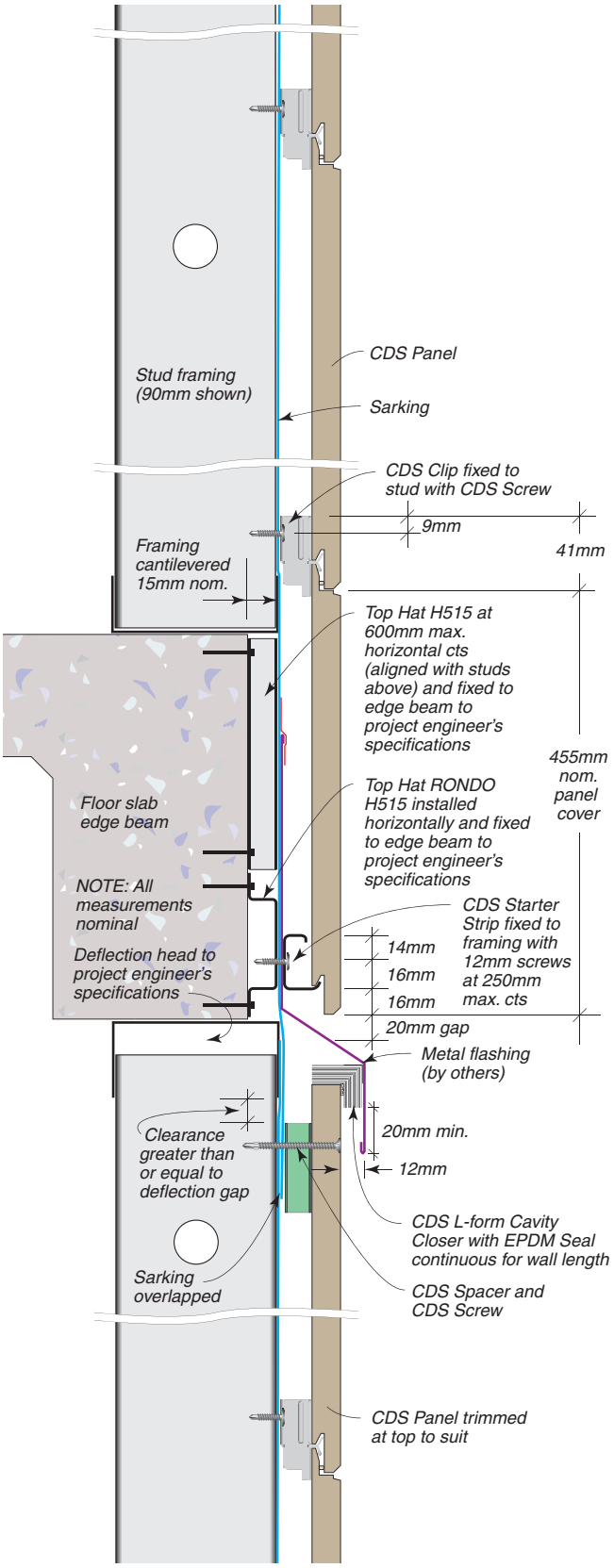
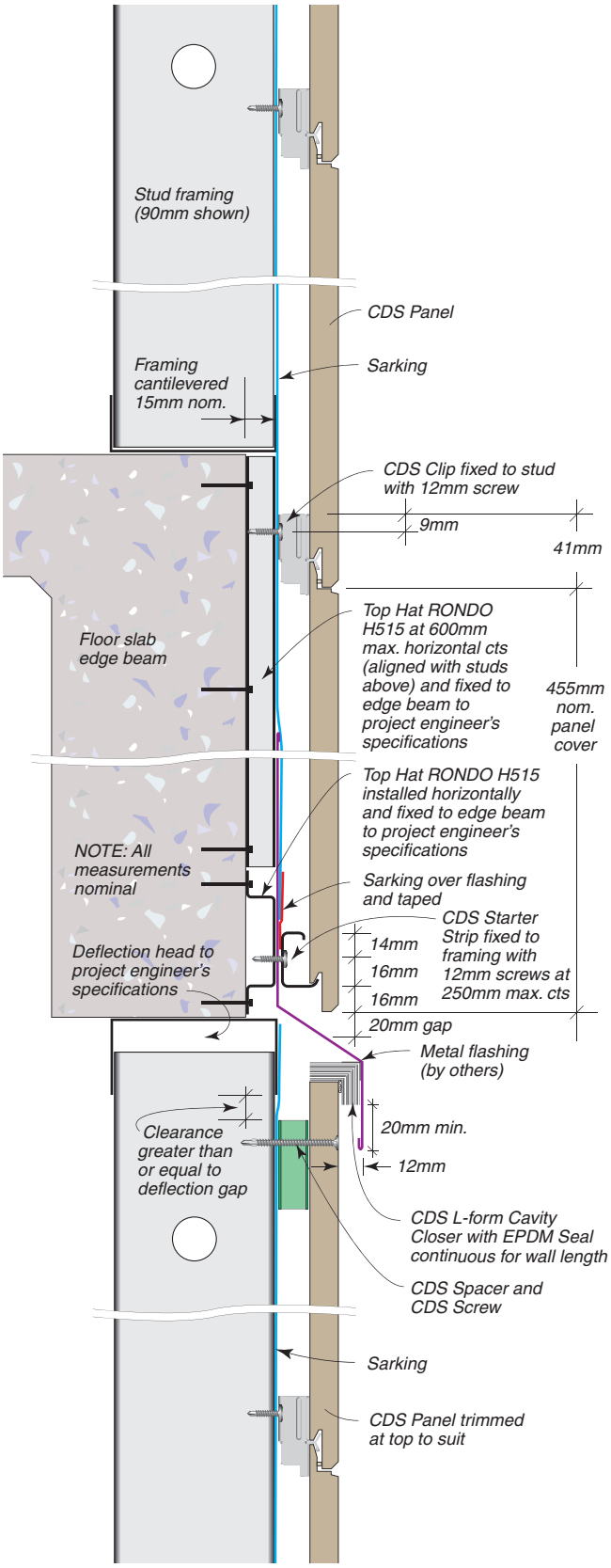


FIG 33: CDS Framing and Control Joint Detail at Edge Beam – Edge Beam height greater than 500mm (Discontinuous Wall Wrap/Sarking method shown)



NOTE: For edge beams between 450mm and 500mm height, the junction of the upper framing and the slab may interfere with adequate support and fixing of the first row of panel clips. In these cases, adjustment of the starter strip and associated components upward may be required.

FIG 34: Junction of CDS with In-line Masonry Wall – Plan View

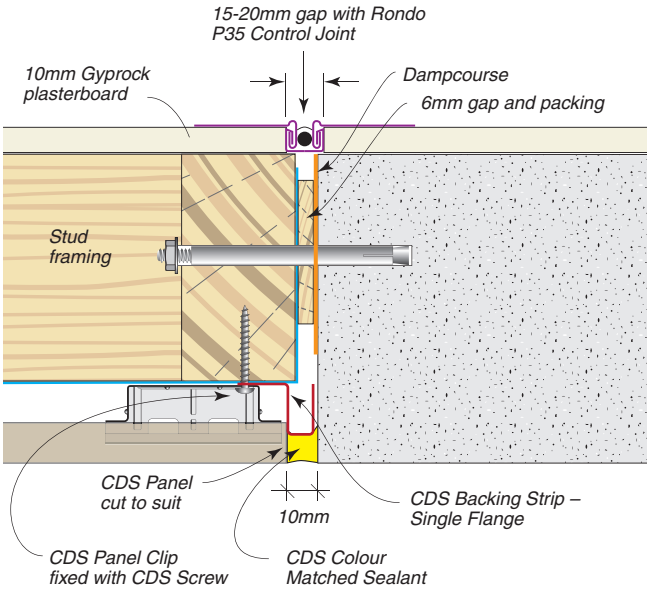


FIG 35: Junction of CDS with Offset Masonry Wall – Plan View

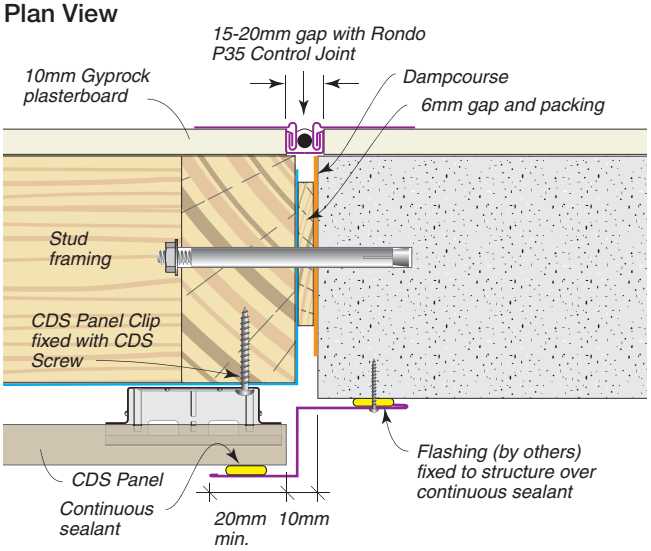


FIG 36: Typical Detail Junction with Fibre Cement Cladding System – Plan View

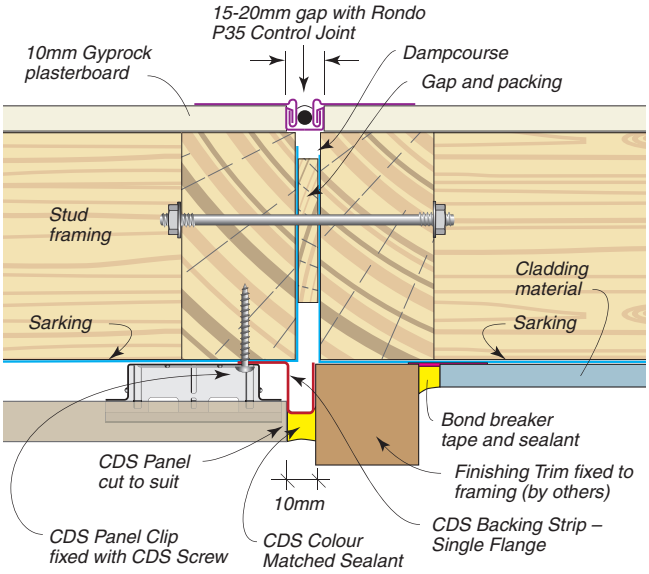
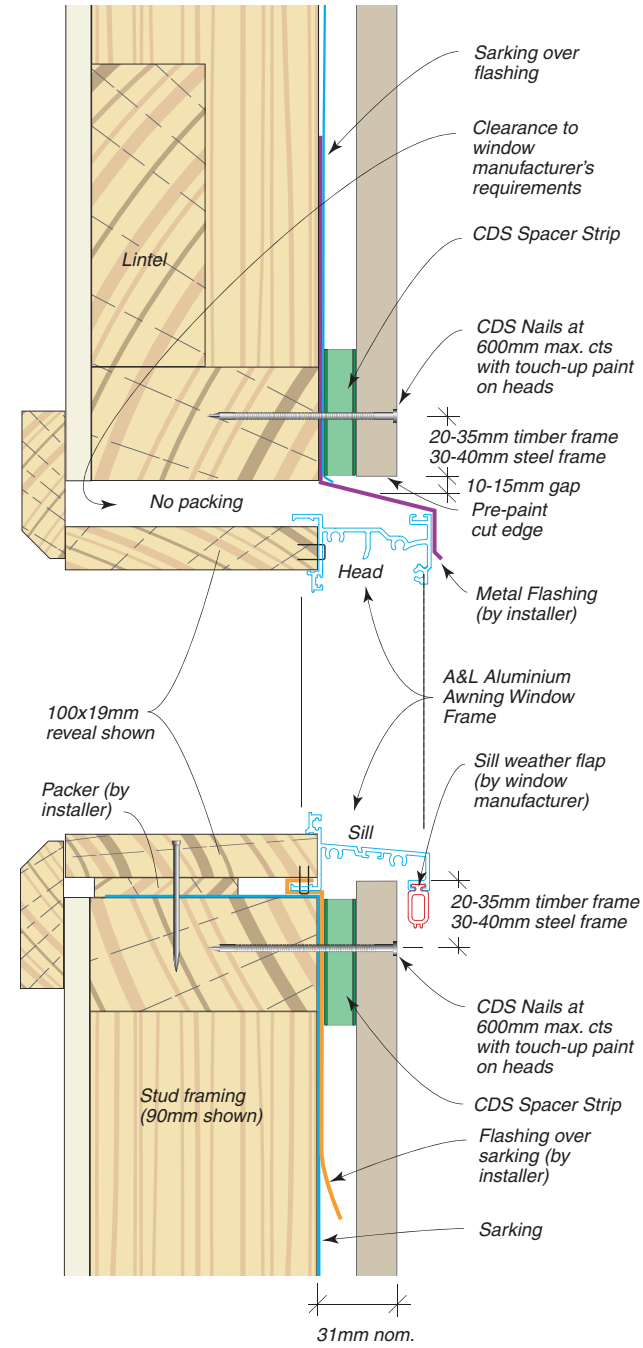


FIG 37: Window Detail – A&L Aluminium Awning Window with Weatherboard Trim



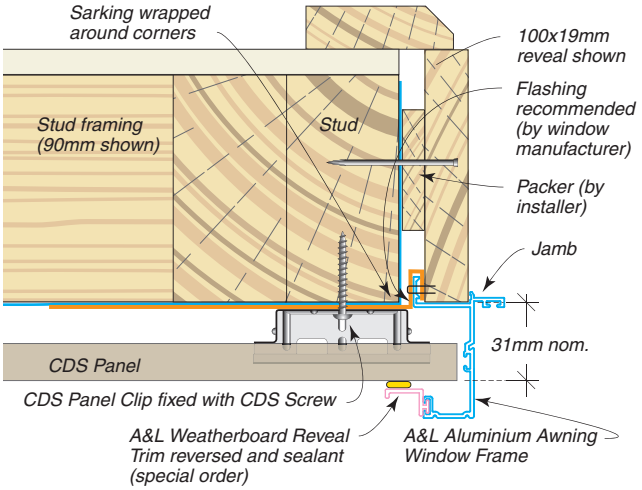
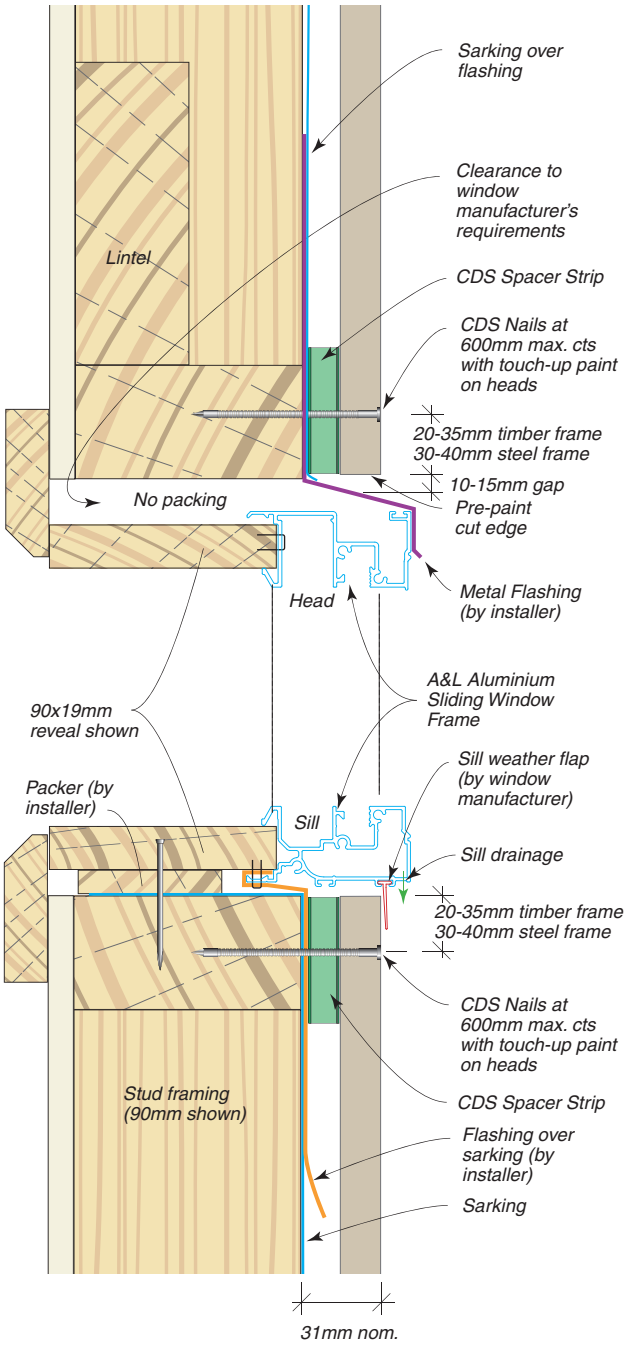


FIG 38: Window Detail – A&L Aluminium Sliding Window with Weatherboard Trim



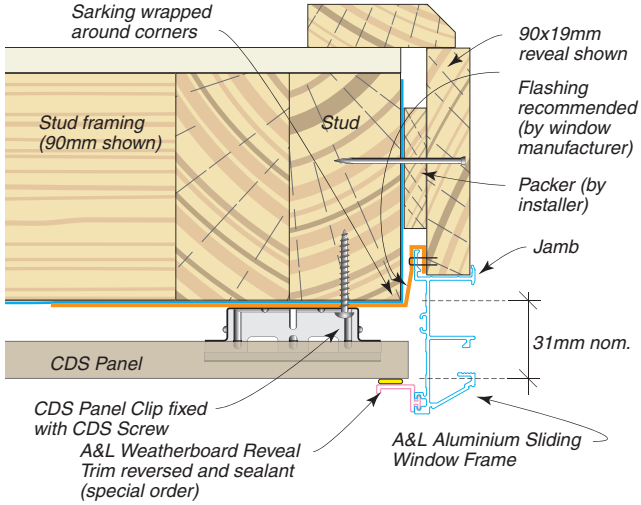
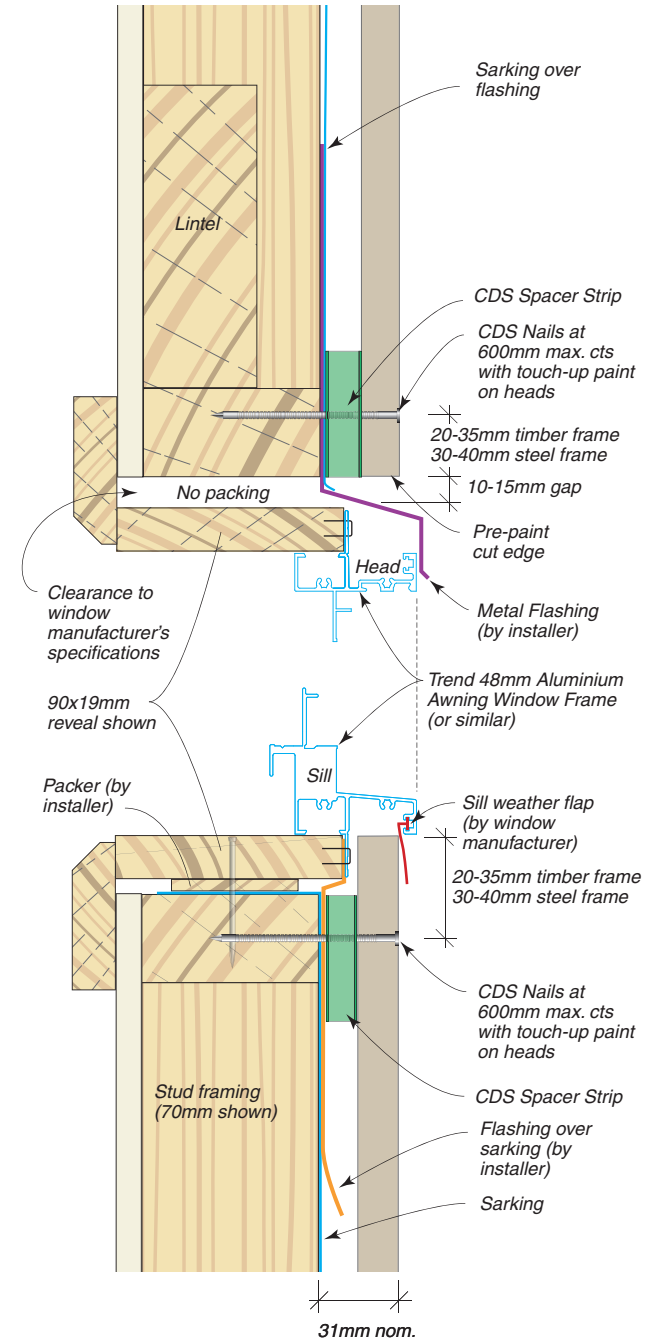


FIG 39: Window Detail – Trend 48mm Aluminium Awning Window



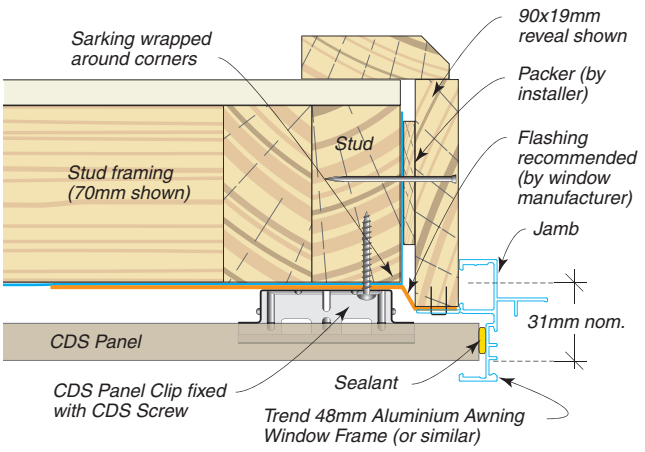
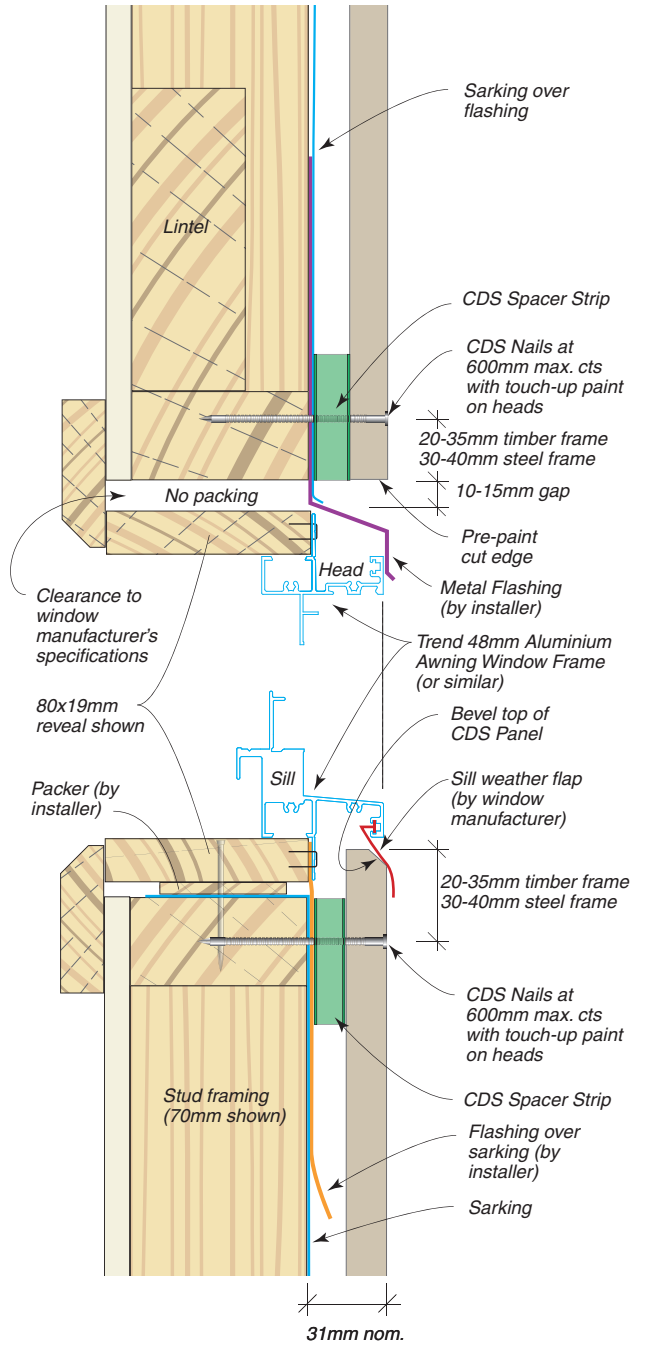


FIG 40: Window Detail – Trend 48mm Aluminium Awning Window with Weatherboard Reveal Clip A327



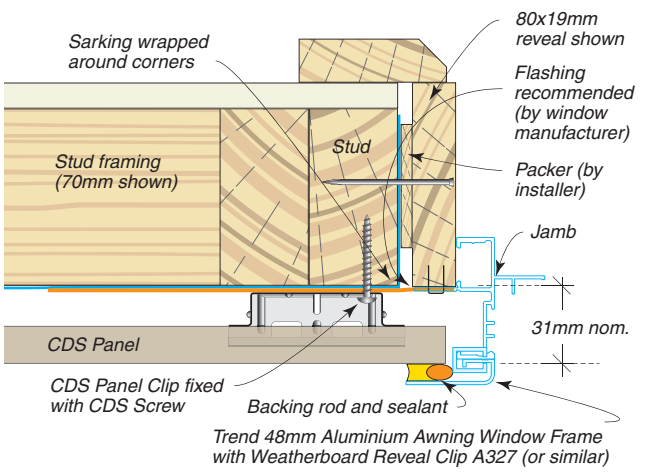
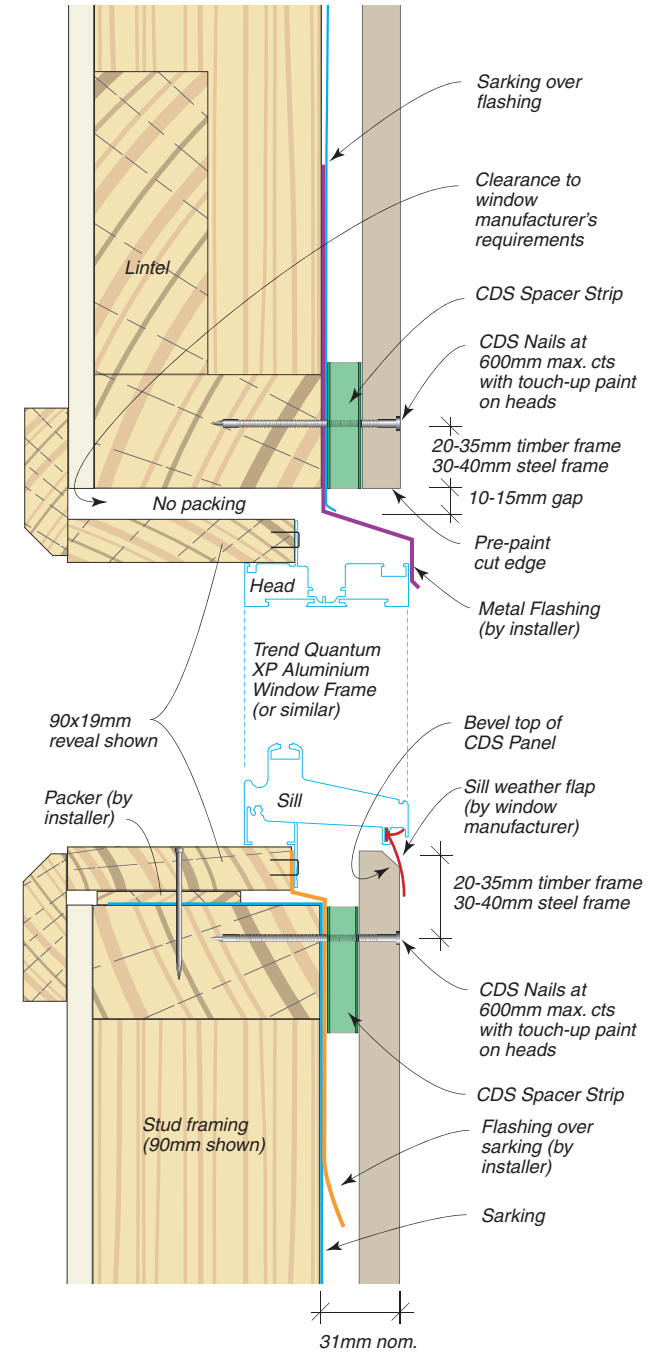


FIG 41: Window Detail – Trend Quantum XP Aluminium Sliding Window with Weatherboard Reveal Clip E482



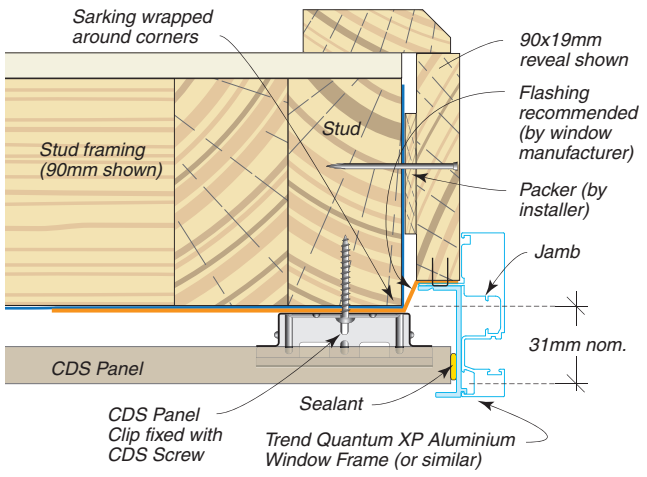
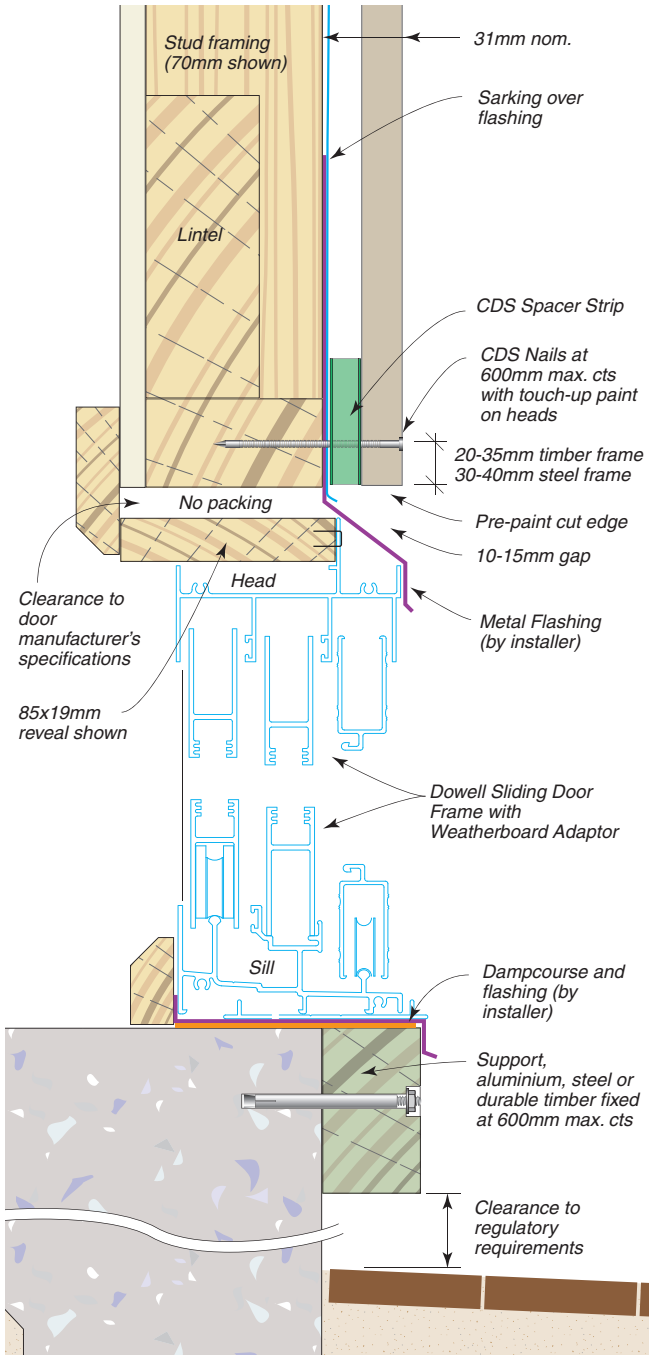


FIG 42: Dowell Sliding Door Installation – 70mm Framing and 85mm Reveal Shown



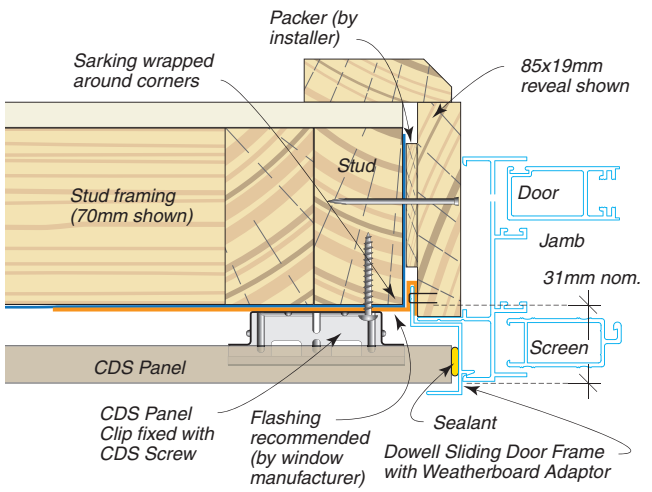


FIG 43: Window Detail – Typical Stegbar Cedar Window

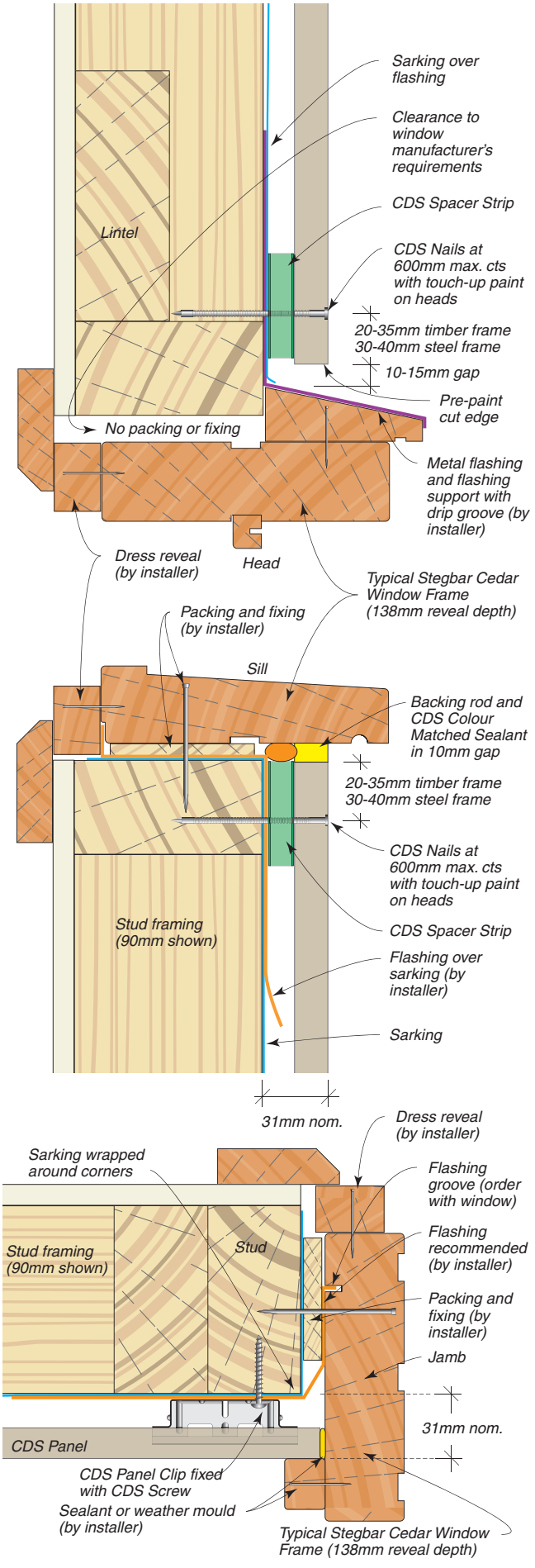


FIG 44: Door Detail – Typical Stegbar Cedar Sliding or Entry Door

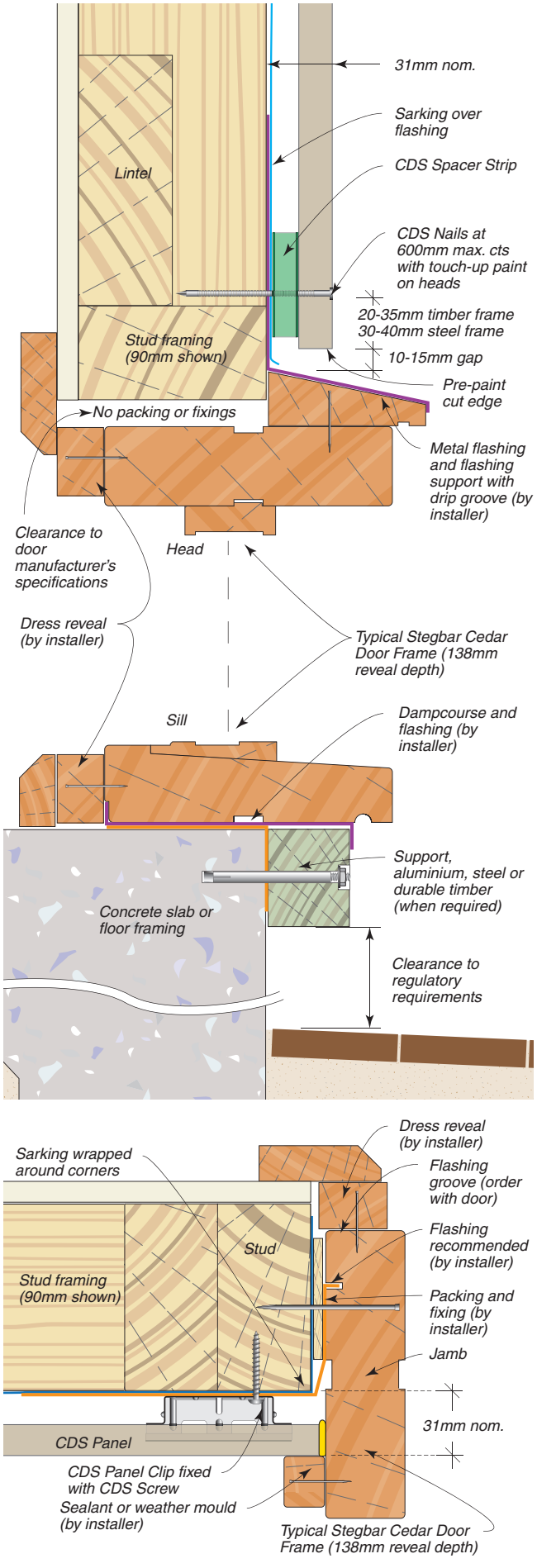
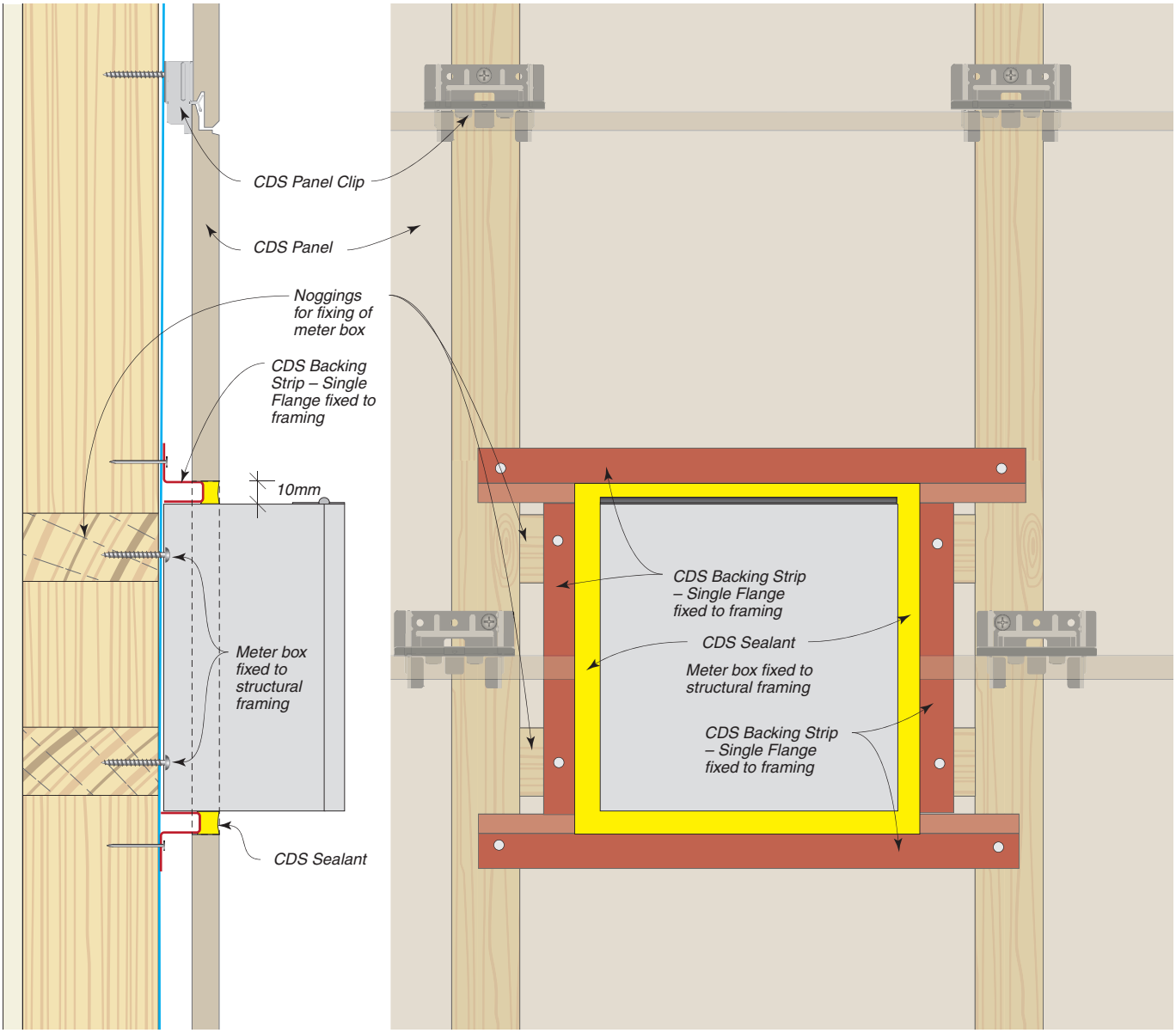


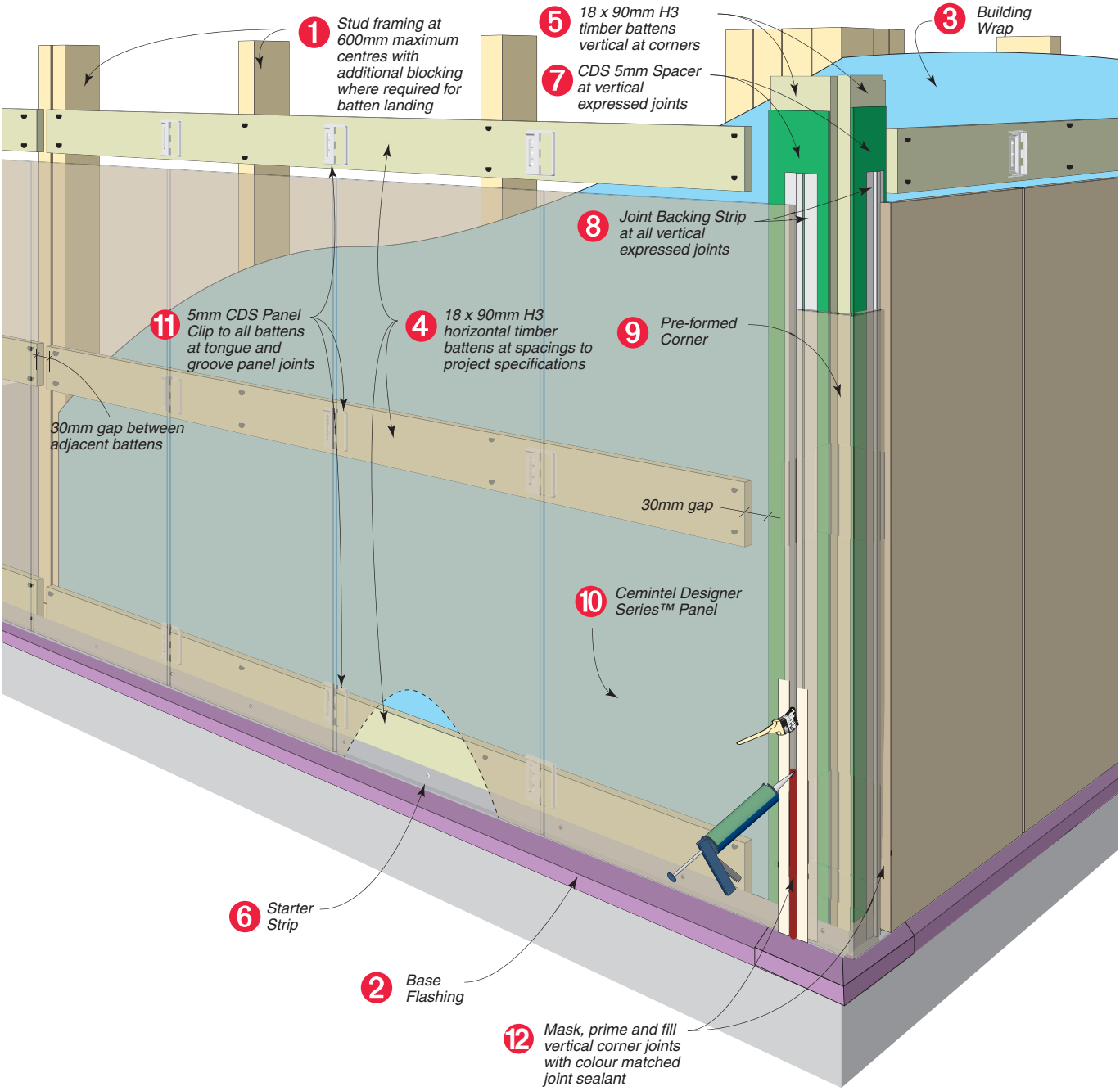
FIG 45: Typical Power Meter Box Installation – Elevation



CDS EXTERNAL CLADDING SYSTEM – VERTICAL PANEL – CLIP-ON-BATTEN FIXING

OVERVIEW & FEATURES

- Horizontal timber battens fixed to standard timber stud structural framing makes this system particularly suitable for retro-fit to existing timber stud framing.
- Fixing over battens produces a drained and ventilated cavity system, and when combined with a vapour permeable building wrap provides a highly effective means of moisture control.
- CDS Panels have complementary tongue and groove profiles along the long edges with an in-built flexible weathertight sealing strip.
- CDS Panel Clips fit over the panel tongue, and accept and retain the groove of the adjacent panel providing invisible fixing.
- The CDS Pre-formed External Corners are easy to install and provide an attractive matching finish.
- Pre-finished CDS Panels mean virtually no finishing work is required. Simply fill all vertical joints with colour matched sealant and touch-up any visible nail heads.



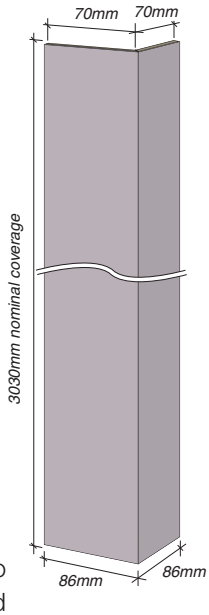
COMPONENTS

Components listed here are unique to the Vertical Panel on Batten system. For additional components please refer to 'COMPONENTS' on page 14 of this guide.

CDS PRE-FORMED EXTERNAL CORNER

Manufactured in designs and colours to match many available panels. Provides a strong, attractive and weathertight finish for external corners.

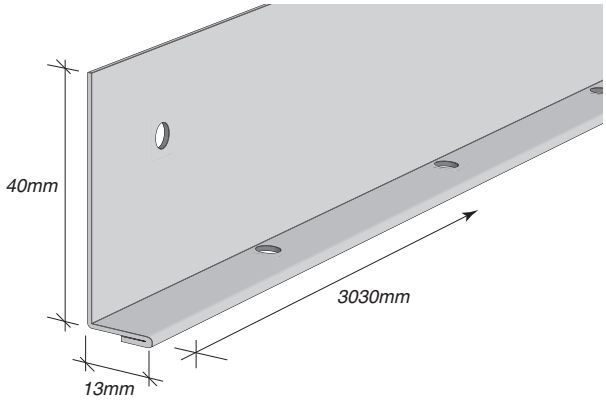
Size 86mm x 86mm x 3030mm.



Order N°	Pack Quantity
See Table 5 on page 15	4

CDS STARTER STRIP

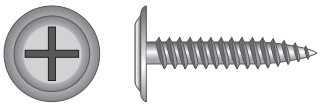
Steel profile used at the wall base to support the panels. Manufactured from 1.2 BMT steel with Galvalume AZ150 corrosion resistant coating.



Order N°	Pack Quantity	Length
128963	1	3030mm

FIXINGS

Button Head Screw
(supplied by others)



Used for fixing CDS Panel Clips, Eaves Trim and other components to timber battens. Size #8 - 20mm x 15-18TPI Button Head, Class 3 finish.

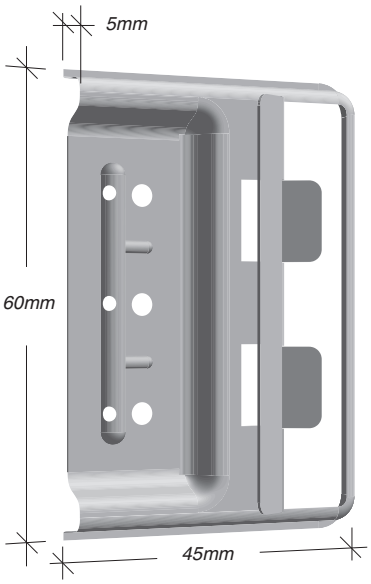
Nails for fixing Battens to timber framing

- Machine driven D-head nails, 2.80 x 50mm, galvanised.

Order N°	Qty
127799	3000

CDS 5mm VERTICAL PANEL CLIP

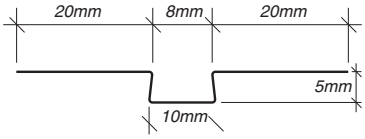
Fixed to the framing to retain the tongue and groove edges of panels. Provides 5mm offset from face of battens. Manufactured from SuperDyma corrosion resistant coated steel.

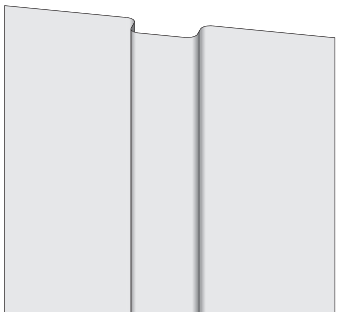


Order N°	Quantity
114913	50

CDS JOINT BACKING STRIP – DOUBLE FLANGE

Used at vertical joints to fill cavity and provide a backing for sealant. Manufactured in 0.3mm BMT steel with Galvalume AZ150 corrosion resistant and bond breaker coating. Length 3030mm.

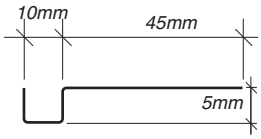


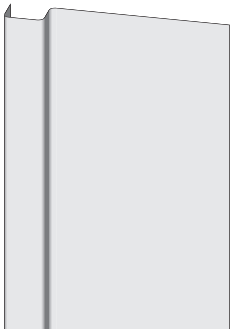


Order N°	Pack Quantity	Length
123596	1	3030mm

CDS JOINT BACKING STRIP – SINGLE FLANGE

Used at vertical internal corner joints and at openings to fill cavity and provide a backing for sealant. Manufactured in 0.3mm BMT steel with Galvalume AZ150 corrosion resistant and bond breaker coating. Length 2000mm.

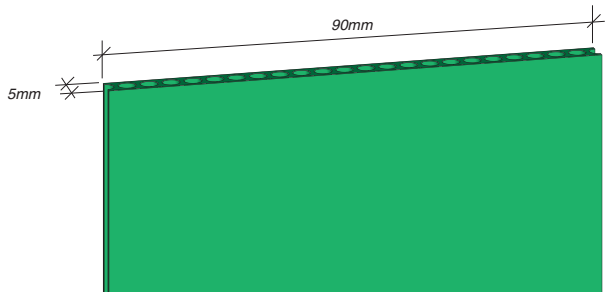




Order N°	Pack Quantity	Length
123597	1	2000mm

CDS 90 x 5mm VERTICAL SPACER

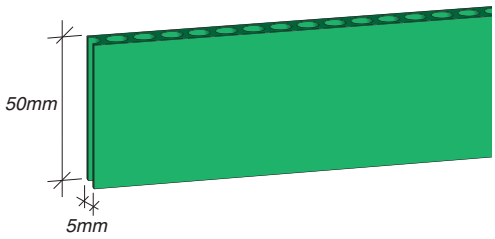
Used at vertical joins for backing the Joint strip.



Order N°	Pack Quantity	Length
128996	1	2000mm

CDS 50 x 5mm HORIZONTAL SPACER

Used at the top to back the eaves trim.

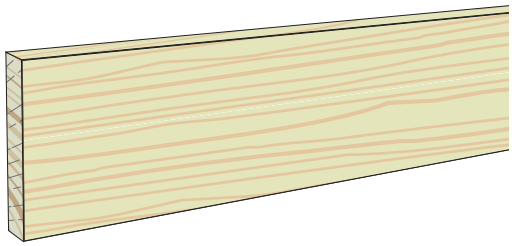


Order N°	Pack Quantity	Length
129266	1	1200mm

TIMBER BATTENS (supplied by others)

Timber battens are fixed over structural framing to form a drained cavity.

- Design Pine 90 x 18mm H3 timber battens for use at all locations.



INSTALLATION

APPLICATIONS

Cemintel Designer Series™ Vertical Panel on Batten system incorporates horizontal timber battens fixed to standard timber stud structural framing. This makes it particularly suitable for applications with existing structural timber stud framing.

For new structures, CSR recommends consideration of the Vertical Panel Clip-On-Stud construction method, detailed elsewhere in this guide.

INSTALLATION METHODS

Prior to delivery of components and installation, installers and supervisors should be familiar with the recommended installation methods. Please refer to page 9.

DRAINED & VENTILATED CAVITY

The Vertical Panel on Batten system utilises a drained and ventilated cavity system which provides an effective alternative to manage the migration of water vapour through stud framed wall systems. The cavity is created by fixing battens to the face of studs, over a layer of suitable wall wrap/sarking, and then fixing the Designer Series™ panels to the face of the battens with proprietary Designer Series™ 5mm Fixing Clips. Ventilation must be maintained at the head and base of each wall section. Refer to "Framing & Batten Set-out" and the Installation Details section.

BASE FLASHING

Base flashing is required to exclude vermin and draughts from the cavity, while allowing moisture to freely escape. At corners of the building, the flashing must be mitred and/or sealed to prevent wind and water from being driven behind the panels. Refer to FIG 5 and FIG 6.

TAPING OF WALL WRAP/SARKING AND FLASHING JUNCTIONS

For optimum insulation performance, CSR recommends taping all joints in wall wrap/sarking and junctions between wall wrap/sarking and flashings. Refer to FIG 3 and FIG 4.

FRAMING & BATTEN SET-OUT – ON TIMBER FRAMING

All framing must be in accordance with AS1684 – Residential Timber-Framed Construction.

Battens must be spaced and fixed in accordance with Table 9.

Battens must be discontinuous at 1800mm maximum centres. Battens at the head and base must be aligned with a minimum 30mm gap between adjacent battens. Other battens may be aligned or offset with a minimum 30mm gap between adjacent battens.

Aligned battens require additional blocking or studs to allow landing and fixing of batten ends while ensuring a 30mm gap is maintained between adjacent battens. Refer to the FIG 48 and the Installation Details section.

PANEL LAYOUT & FIXING

Vertical panel installation requires a square edge to the panel at junctions with a CDS Pre-formed External Corner or External Corner Trim, at internal corners and at junctions with masonry or other wall systems. This requires removal of the tongue or groove from one edge of the end panels. These panels can be trimmed to between 200mm and 430mm nominal cover. These panel widths should be considered

when panel joint location is important for aesthetics. Refer to FIG 46 and FIG 47.

Panels must be fixed to the structural framing along these trimmed edges with CDS 75mm nails at 20-35mm from the panel edge and at spacings aligned with adjacent battens. Refer to FIG 52.

All other panel joints require the factory finished tongue and groove for fixing with CDS Panel Clips. CDS Clips are to be fixed to battens with 20mm Button Head Screws. One screw may be used in the clips at the wall head and base. Two screws must be used in all other panel clips. Refer to the appropriate Installation Details.

SEALING VERTICAL PANEL JOINTS

Please refer to page 11

CUT EDGES & TOUCH-UP

Please refer to page 11.

FIG 46: Non-symmetrical Panel Set-Out

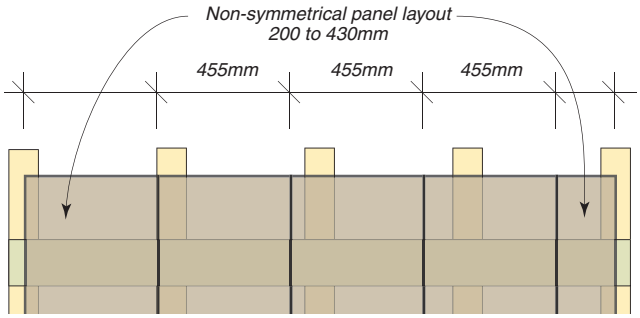


FIG 47: Symmetrical Panel Set-Out

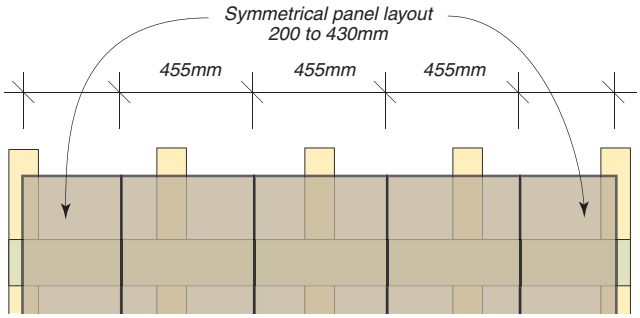


FIG 48: Horizontal Batten & Vertical Panel Set-out

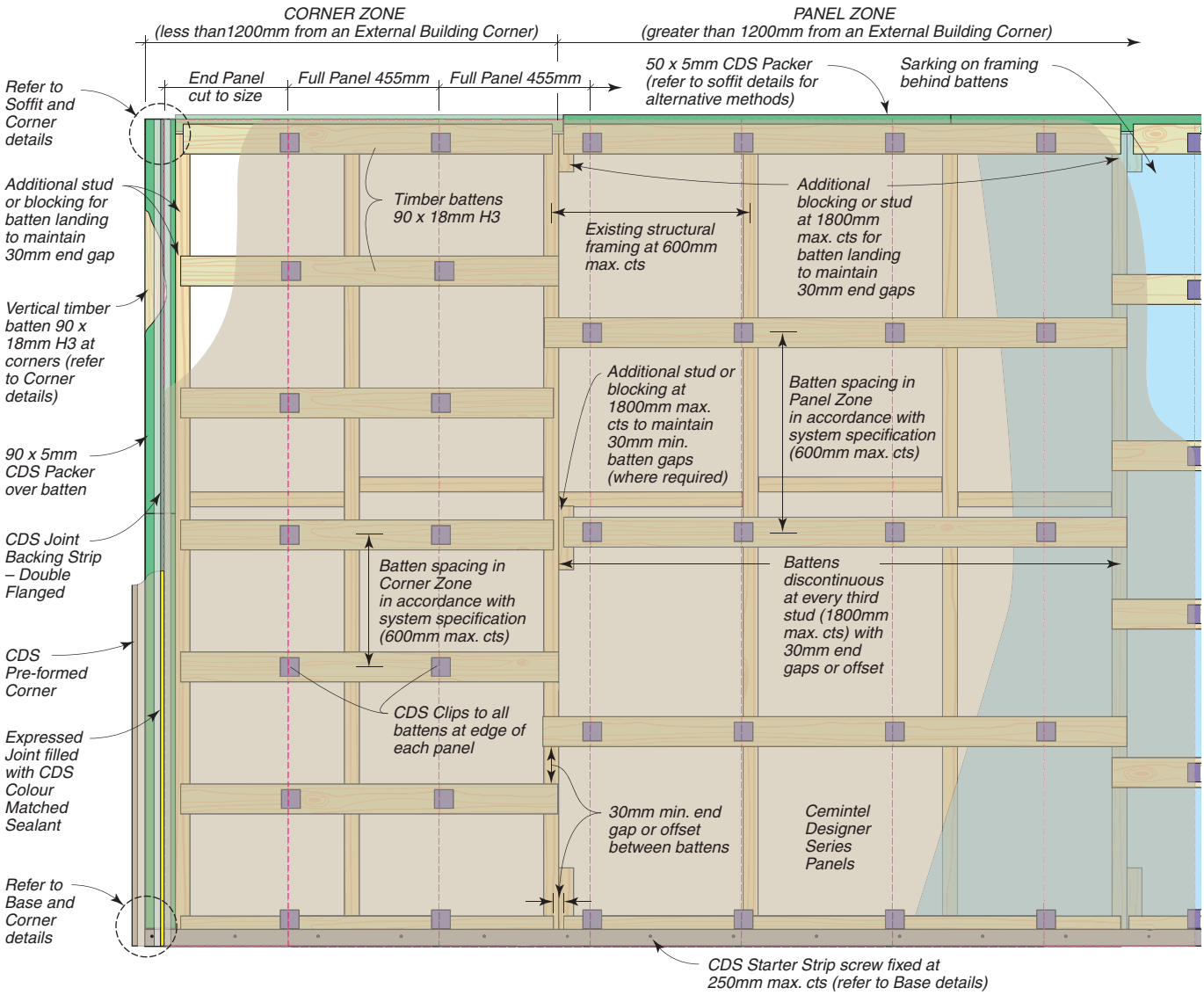


FIG 49: Typical Framing Set-Out with 90mm Timber Framing and CDS Pre-formed Corners – Plan View

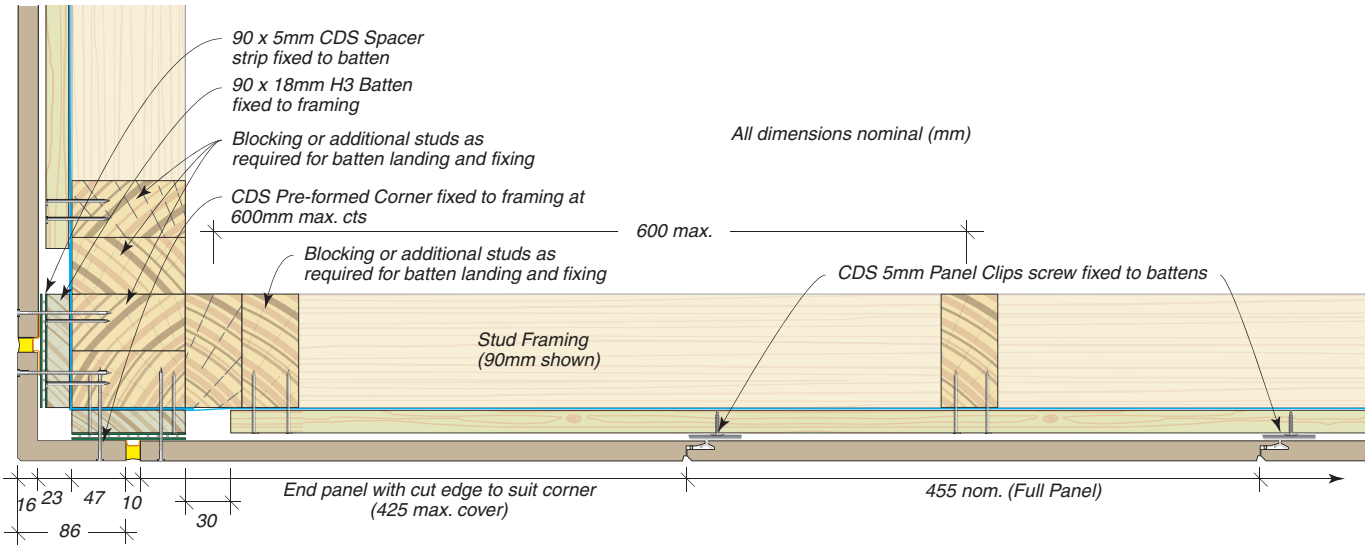


FIG 50: Typical Framing Set-Out with 70mm Timber Framing and CDS Pre-formed Corners – Plan View

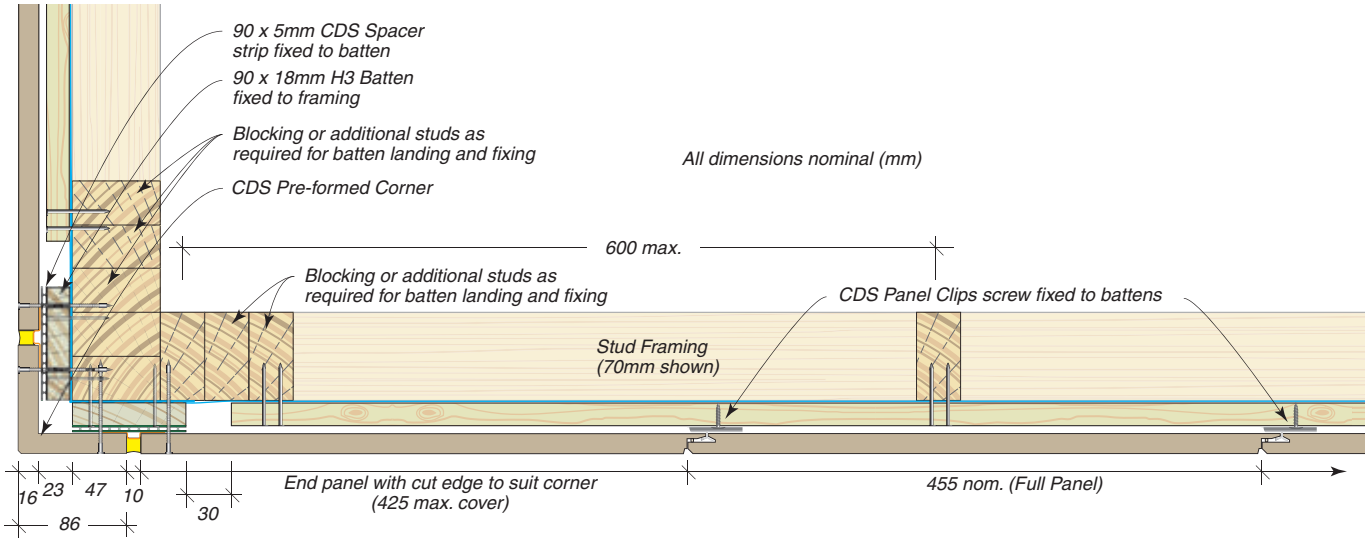
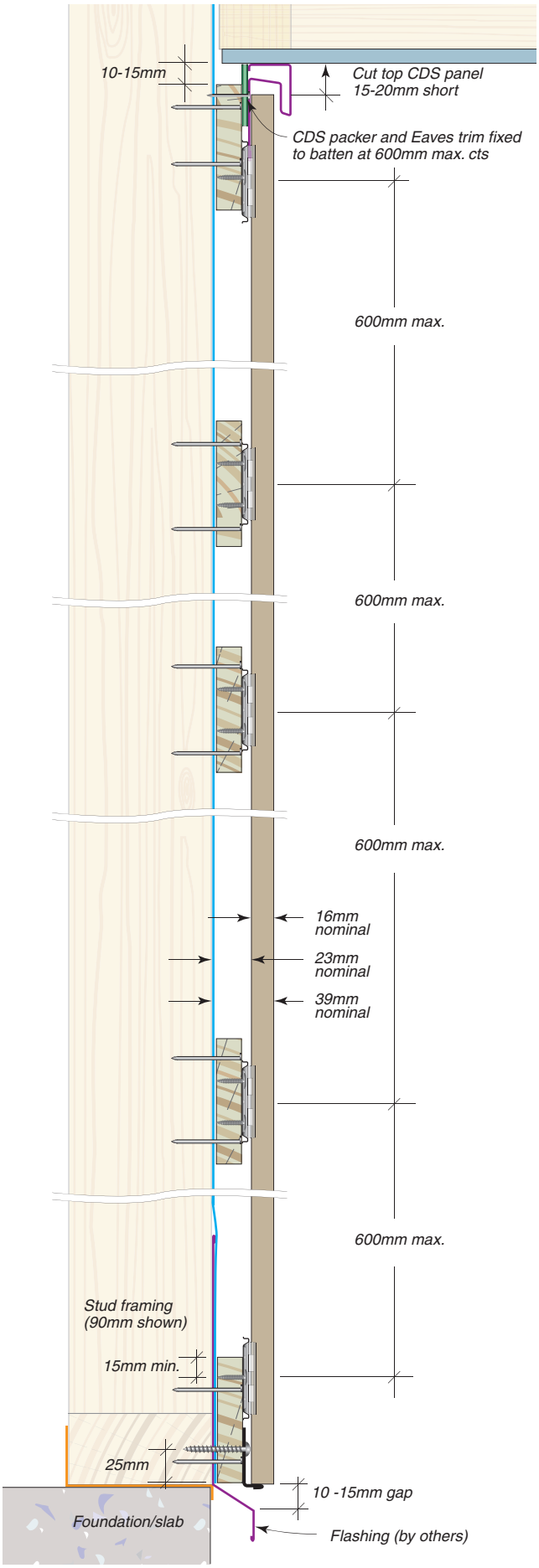


Table 9: Maximum Spacing of Battens and Batten Fixings – Timber Framing – Vertical Panels

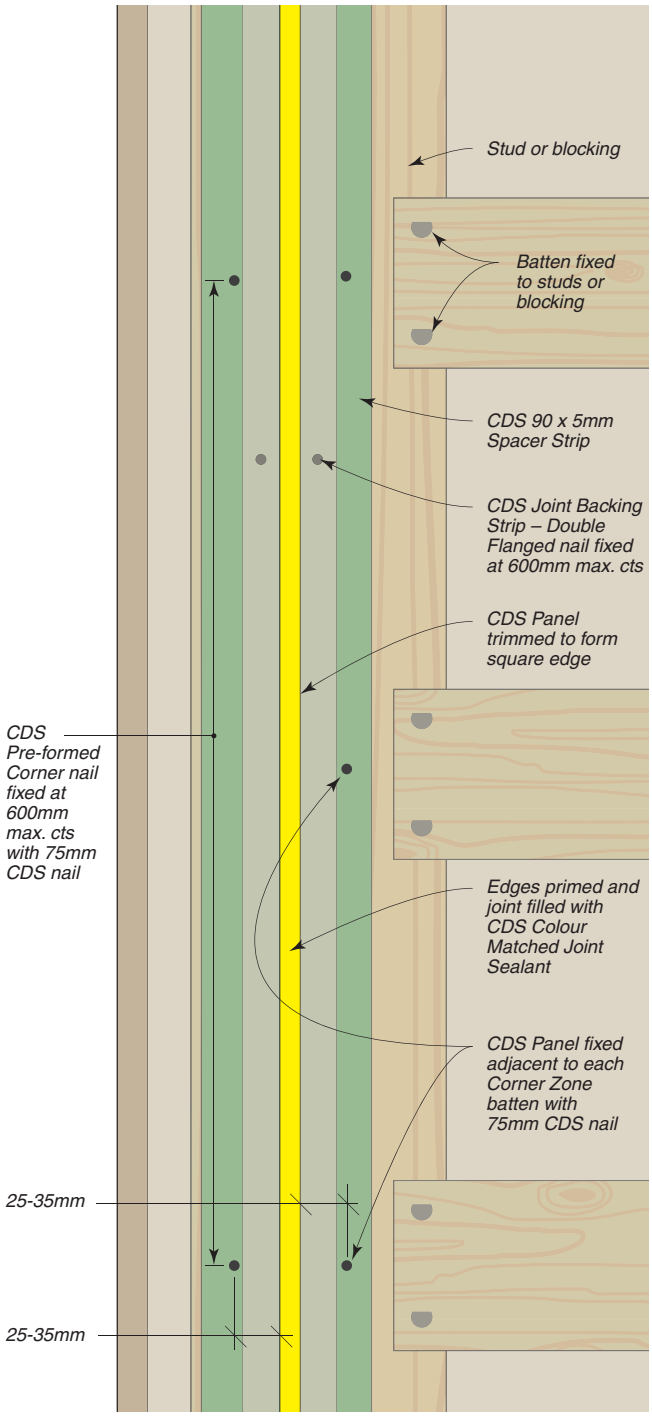
PANEL ZONE – Maximum Batten Spacing for areas greater than 1200mm from an External Building Corner				
Wind Classification (AS4055)	Studs at 450mm cts.		Studs at 600mm cts.	
	2 x Nails @ each stud	1 x Screw @ each stud	2 x Nails @ each stud	1 x Screw @ each stud
N1	Battens @ 600 cts max.	Battens @ 600 cts max.	Battens @ 600 cts max.	Battens @ 600 cts max.
N2	Battens @ 600 cts max.	Battens @ 600 cts max.	Battens @ 600 cts max.	Battens @ 600 cts max.
N3/C1	Battens @ 600 cts max.	Battens @ 600 cts max.	Battens @ 450 cts max.	Battens @ 600 cts max.
N4/C2	Battens @ 450 cts max.	Battens @ 450 cts max.	Battens @ 300 cts max.	Battens @ 450 cts max.
CORNER ZONE – Maximum Batten Spacing for areas less than 1200mm from an External Building Corner				
Wind Classification (AS4055)	Studs at 450mm cts.		Studs at 600mm cts.	
	2 x Nails @ each stud	1 x Screw @ each stud	2 x Nails @ each stud	1 x Screw @ each stud
N1	Battens @ 600 cts max.	Battens @ 600 cts max.	Battens @ 600 cts max.	Battens @ 600 cts max.
N2	Battens @ 450 cts max.	Battens @ 600 cts max.	Battens @ 450 cts max.	Battens @ 600 cts max.
N3/C1	Battens @ 300 cts max.	Battens @ 450 cts max.	Battens @ 300 cts max.	Battens @ 300 cts max.
N4/C2	N/A	Battens @ 300 cts max.	N/A	N/A

FIG 51: Typical CDS System Cross Section – Elevation



All measurements nominal

FIG 52: Typical Face Nailing at Square Edge Joint – Elevation

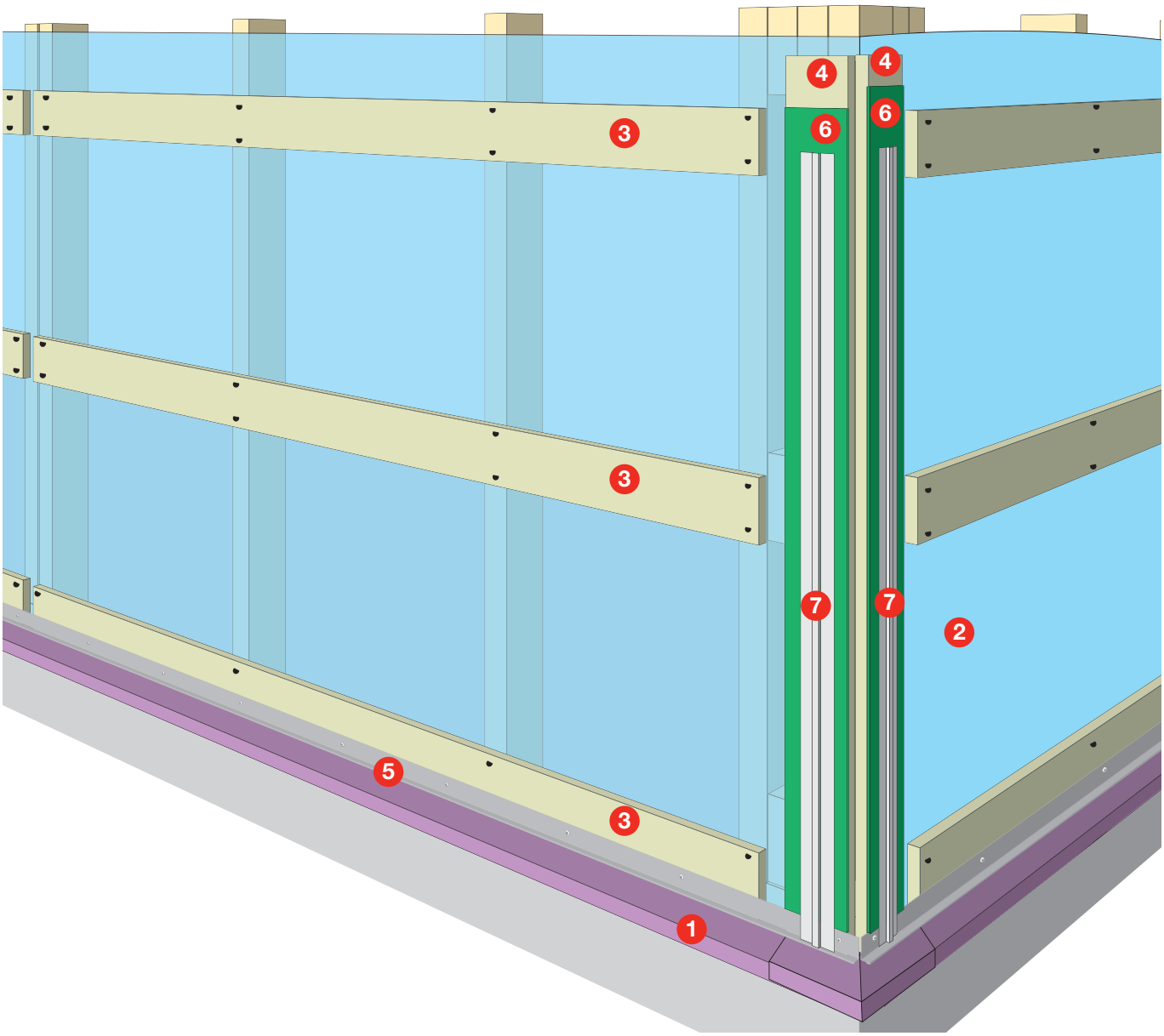


INSTALLATION PROCEDURE

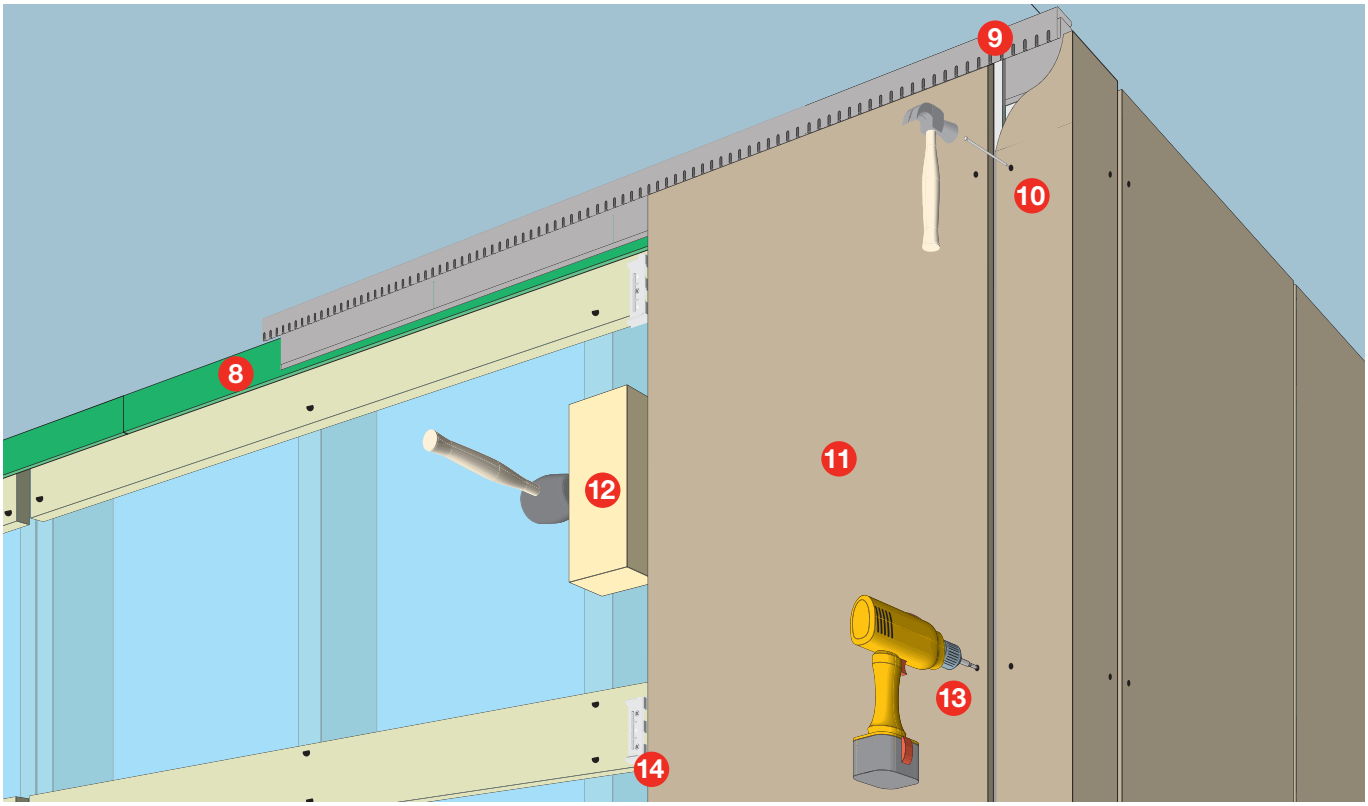
STEP BY STEP INSTALLATION PROCEDURE

(Refer to specification tables and detail illustrations for specific fixing information)

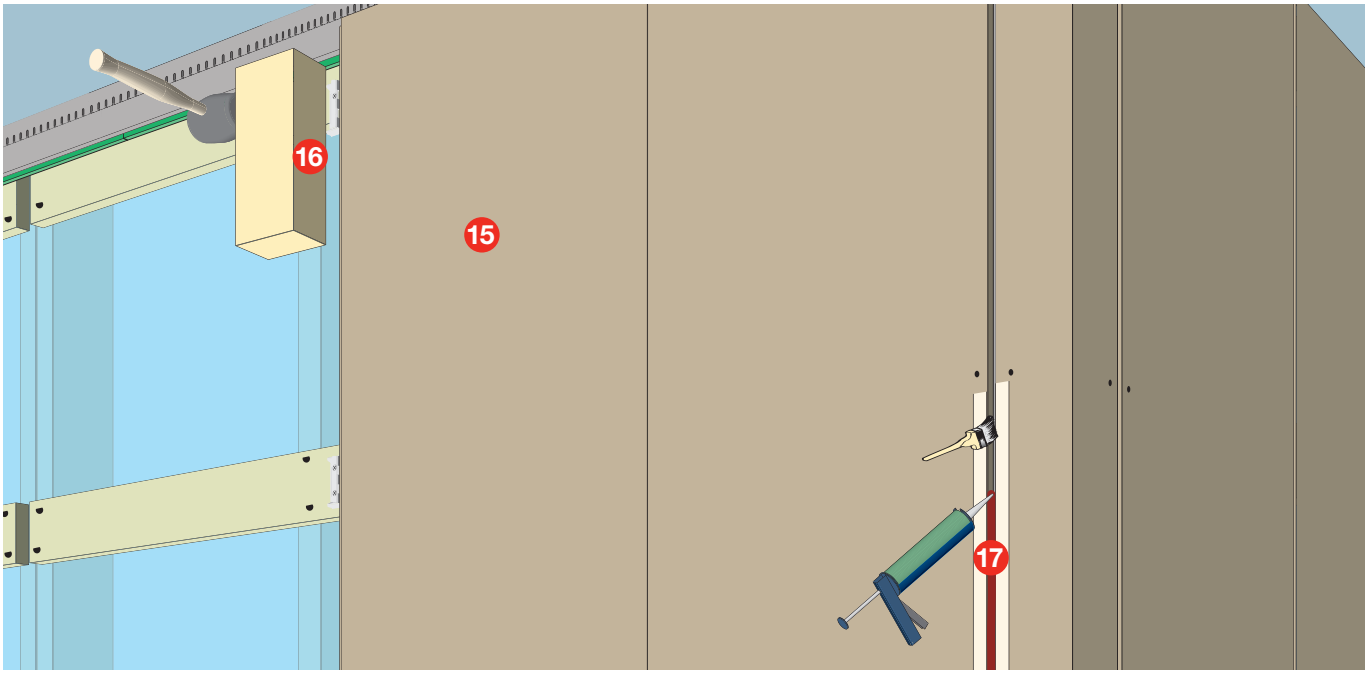
❶ Install base flashing and fix to framing. ❷ Install wall wrap/sarking. ❸ Install and fix horizontal battens to system specifications. Refer to Batten Spacing Tables. Ensure 30mm gaps between adjacent battens and at batten ends. Additional blocking/studs may be required. ❹ Install vertical battens at all corners and where CDS wall abuts other wall types. ❺ Install CDS Starter Strip and screw fix to bottom plate at 250mm max. centres with CDS 35mm Screws. Ensure there will be 10-15mm clearance between flashing and bottom of panels. ❻ Install continuous 5mm CDS Spacer to vertical battens. ❼ Install Joint Backing Strip for vertical joints.



❽ Install continuous 5mm CDS Spacer at the head of the wall. (Refer to head and alternative soffit details.) ❾ Install CDS Eaves Trim hard against eaves sheet and fix through spacer with Class 3 fastener. Notch the back of the eaves trim to allow for the CDS Joint Backing Strip. (Note: Eaves trim may need to be in-place on both wall faces prior to fitting of pre-formed corner.) ❿ Install CDS Preformed Corner and fix at 600mm max. cts and 20-35mm from edges with 75mm CDS nails. Pre-drill holes through panel for nails. ⓫ Trim panel width to project specification and form square edge. Tilt CDS Panel out at the bottom, insert top into CDS Eaves Trim, lift panel up and locate bottom of panel onto CDS Starter Strip. ⓬ Tap panel firmly into position ⓭ Fix panel with a 75mm CDS nail to each batten at 20-35mm from edge. Pre-drill holes through panel for nails. ⓮ Install panel clips to tongue and groove edge on all battens, tap firmly into place and fix with 20mm button head screws. Use 1 screw for head and base clips and 2 screws for all other clips.



⓯ Lift next panel into position onto the starter strip and slide panel into the existing clips. Firmly tap panel into position. ⓰ Fit and fix panel clips to all battens as for previous clips. Repeat steps 15 and 16 for additional panels. ⓱ Mask, prime edges of expressed joint and fill joint with CDS colour matched sealant. Prime and touch-up visible nail heads. (Refer to Joint Finishing details).



INSTALLATION DETAILS

BASE DETAILS

FIG 53: Base Detail – 90mm Framing Shown

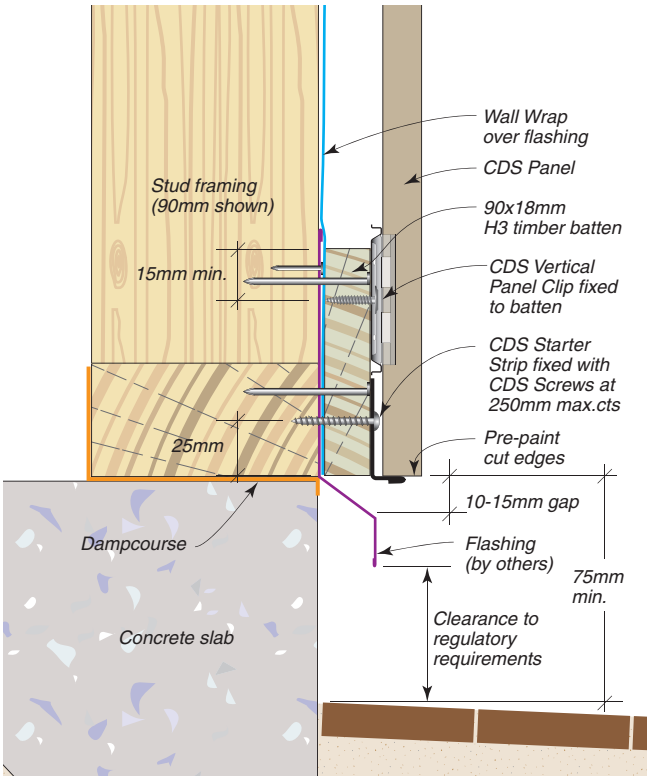


FIG 54: Base Detail – 70mm Framing Shown

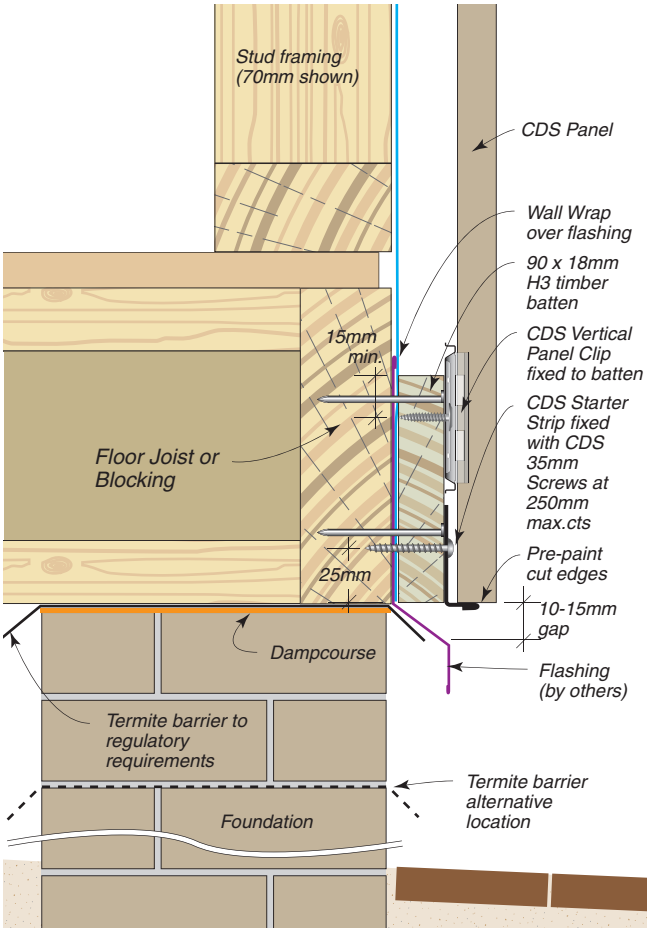


FIG 55: CDS Second Storey Junction with Hebel Panels, Brick Veneer or Masonry Wall – Cantilevered Framing

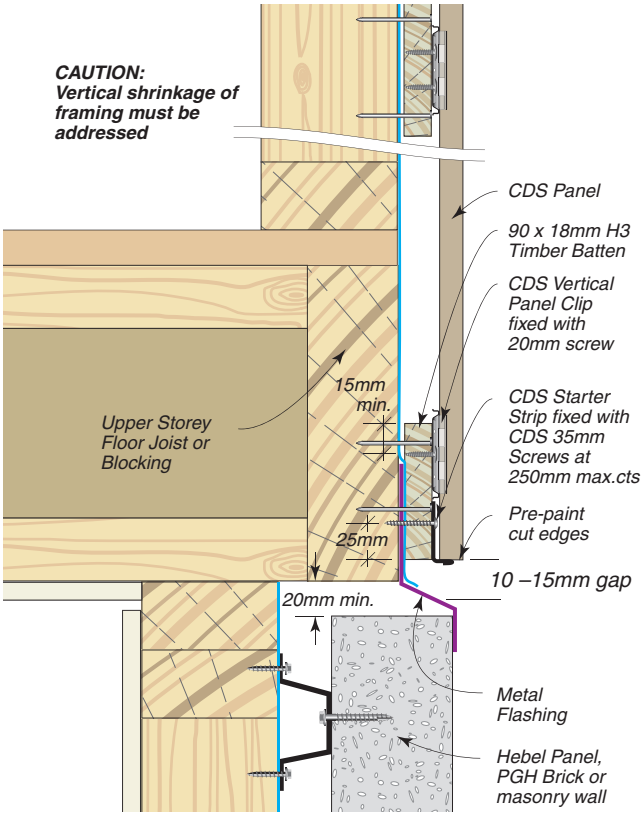
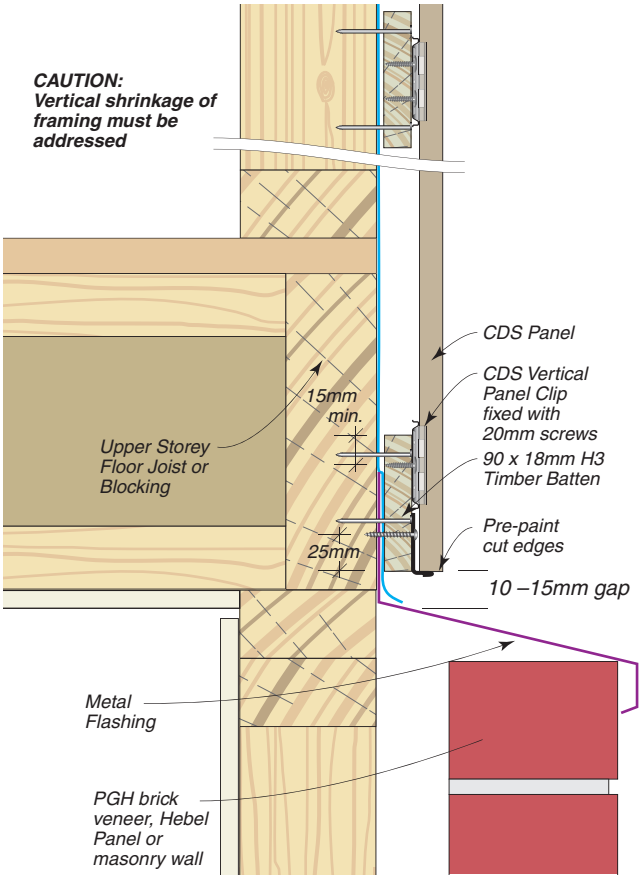


FIG 56: CDS Second Storey Junction with Masonry, Brick Veneer or Hebel Panels – In-line Framing



CORNER DETAILS

Additional studs may be required at corners to allow for fixing of battens, CDS Panel Clips and other components.

FIG 57: External Corner Detail – With Preformed Corner – Plan View

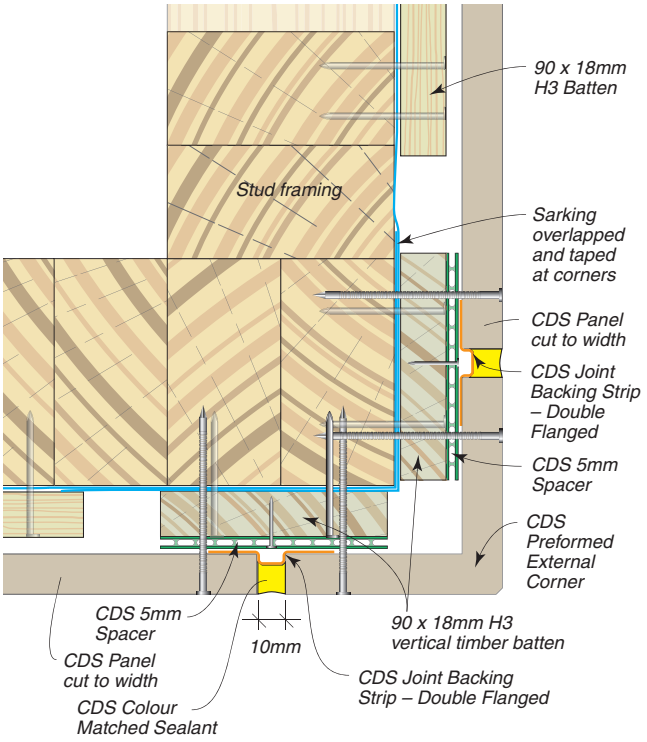


FIG 58: External Corner Detail – With Coloured External Corner Trim – Plan View

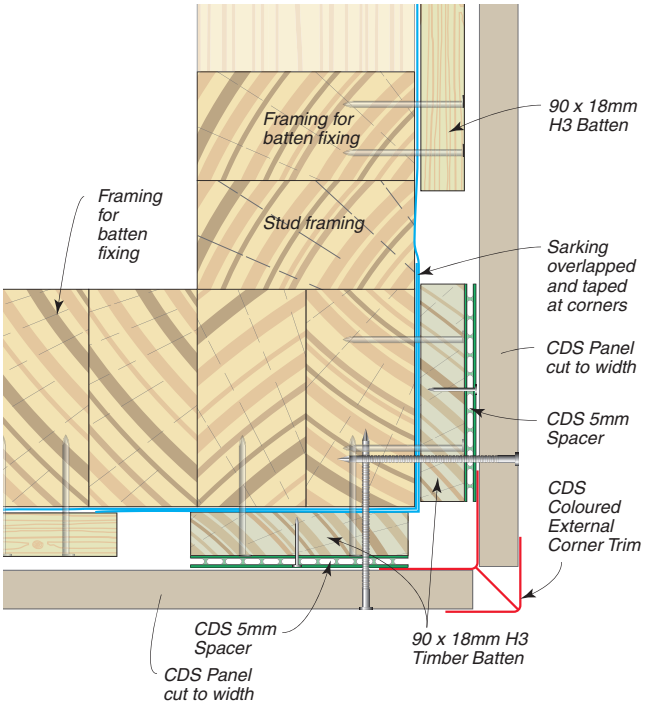


FIG 59: Internal Corner Detail – With Backing Strip and Colour Matched Sealant – Plan View

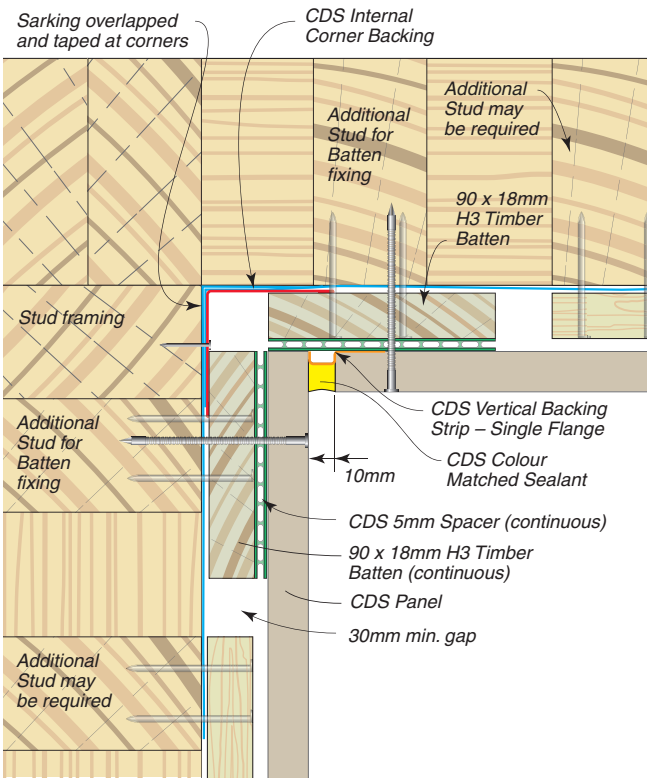
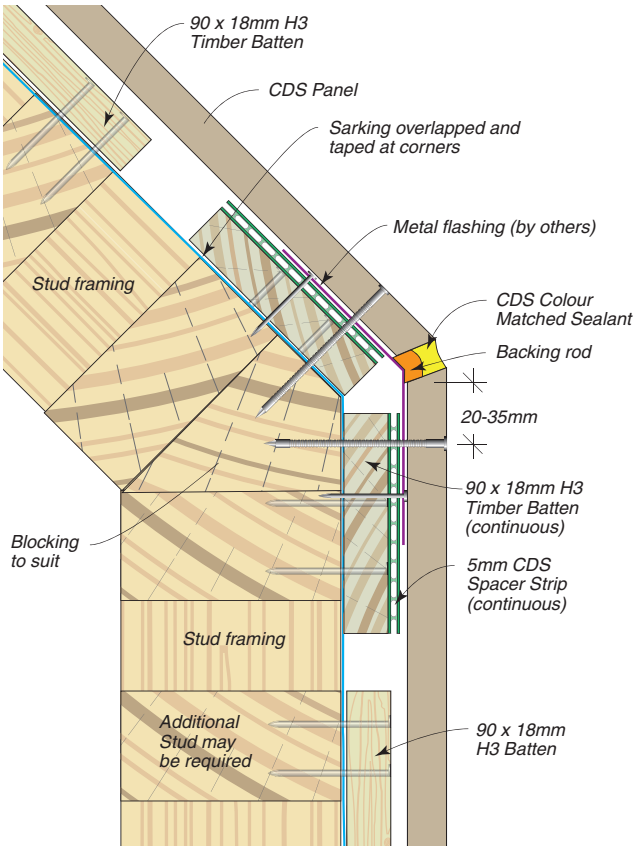


FIG 60: Obtuse Angle Corner Detail – With Metal Flashing and Colour Matched Sealant – Plan View



JUNCTION DETAILS

At eaves line the CDS system must be provided with cavity ventilation. CDS Panels are trimmed to appropriate height. Refer to the following detail options.

FIG 61: Soffit Detail – With CDS Coloured Eaves Trim – Elevation

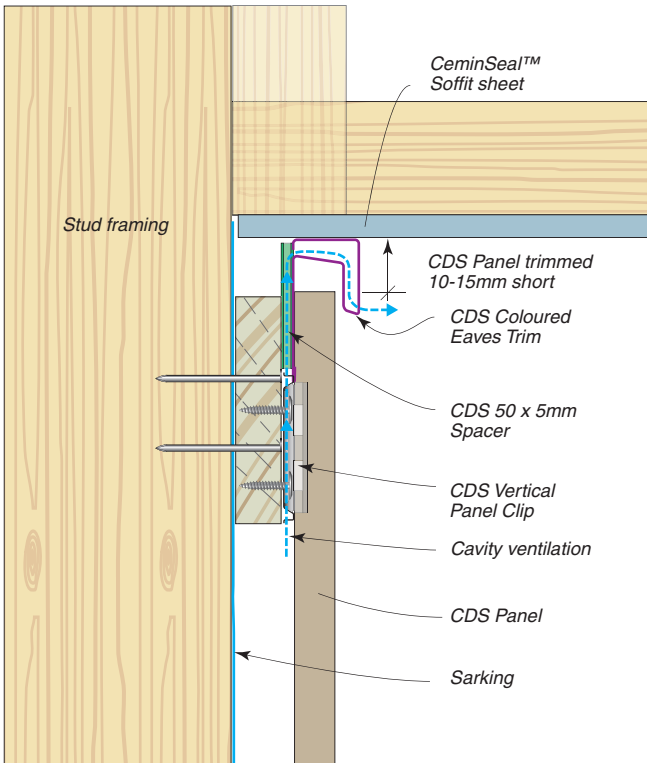


FIG 62: Soffit Detail – With Timber Trim – Elevation

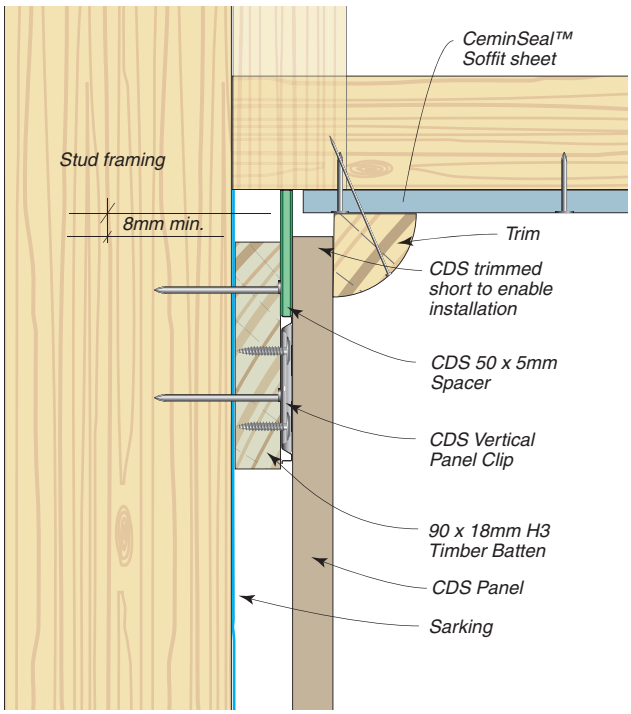


FIG 63: Soffit Detail – With Sealant – Elevation

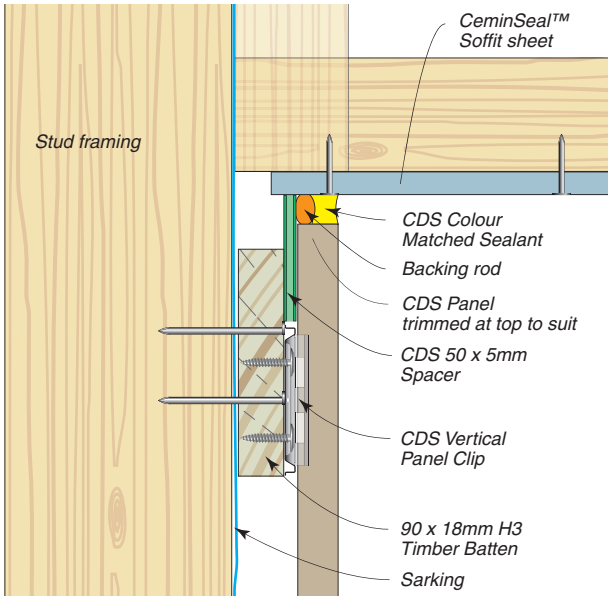
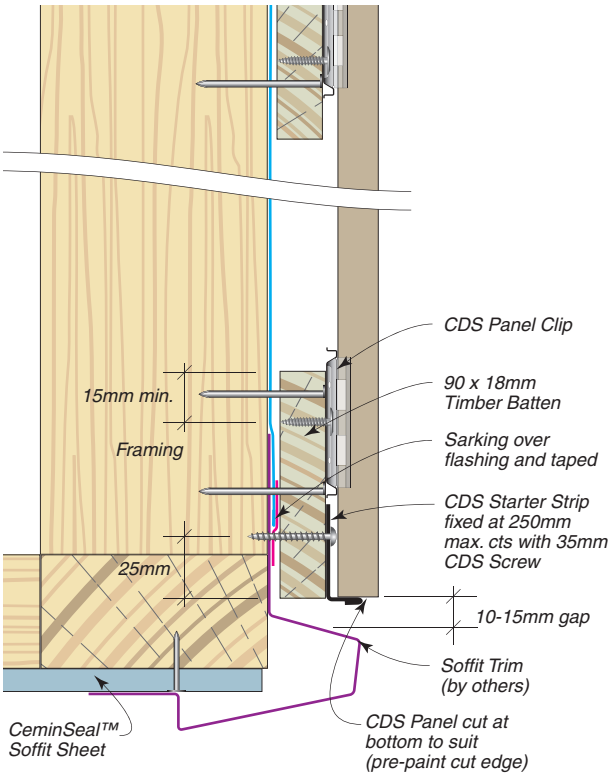


FIG 64: Soffit Detail – With Soffit Trim – Elevation



Typical dimensions for Soffit Trim (supplied by others)

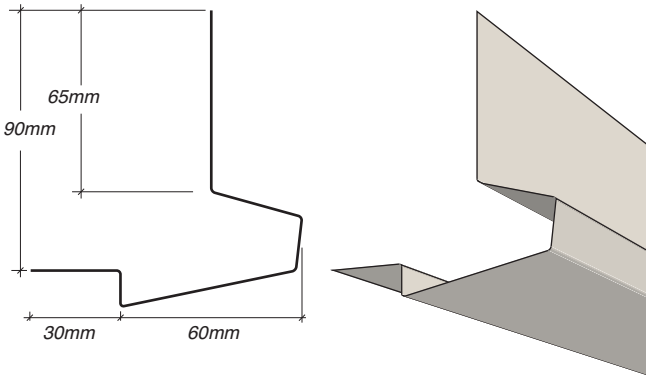


FIG 65: Horizontal Control Joint – Elevation

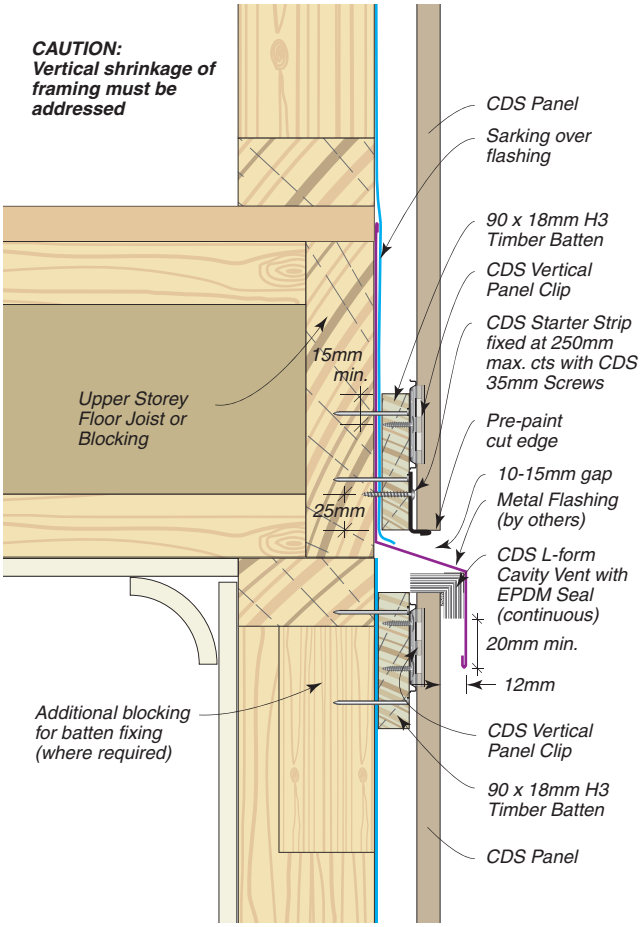


FIG 66: Horizontal Parapet – Elevation

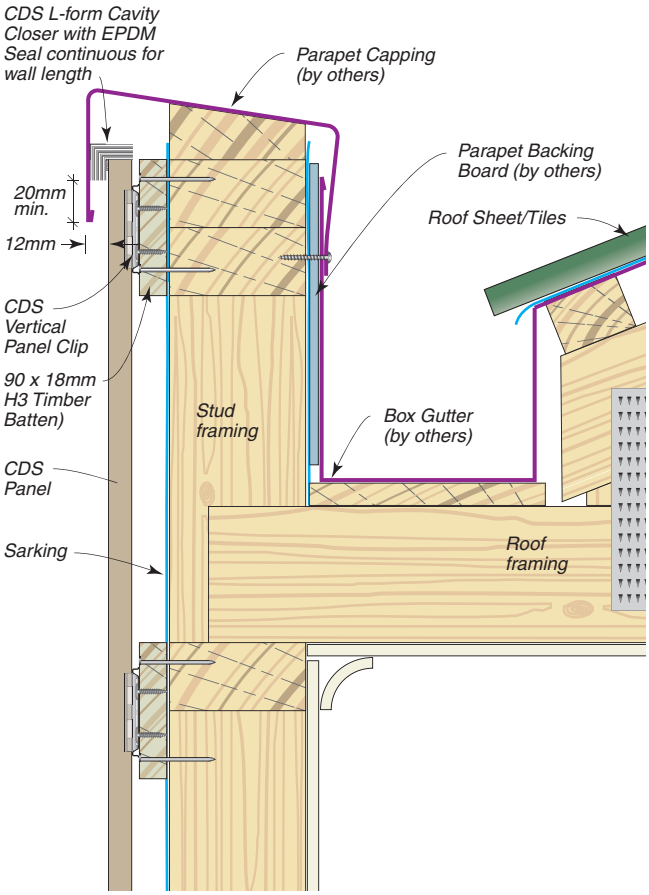


FIG 67: Junction of CDS with External Roofing

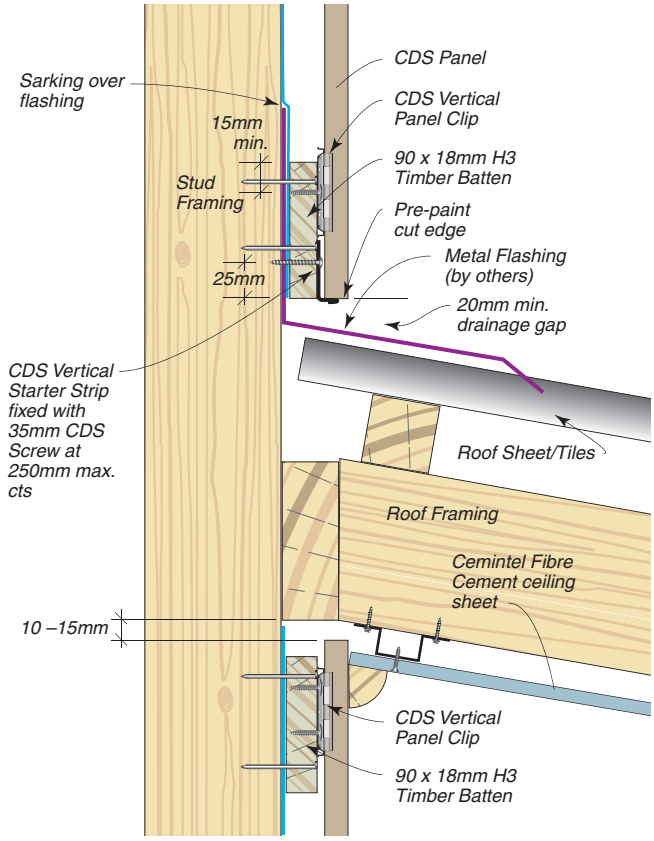


FIG 68: Junction of CDS with External Roofing

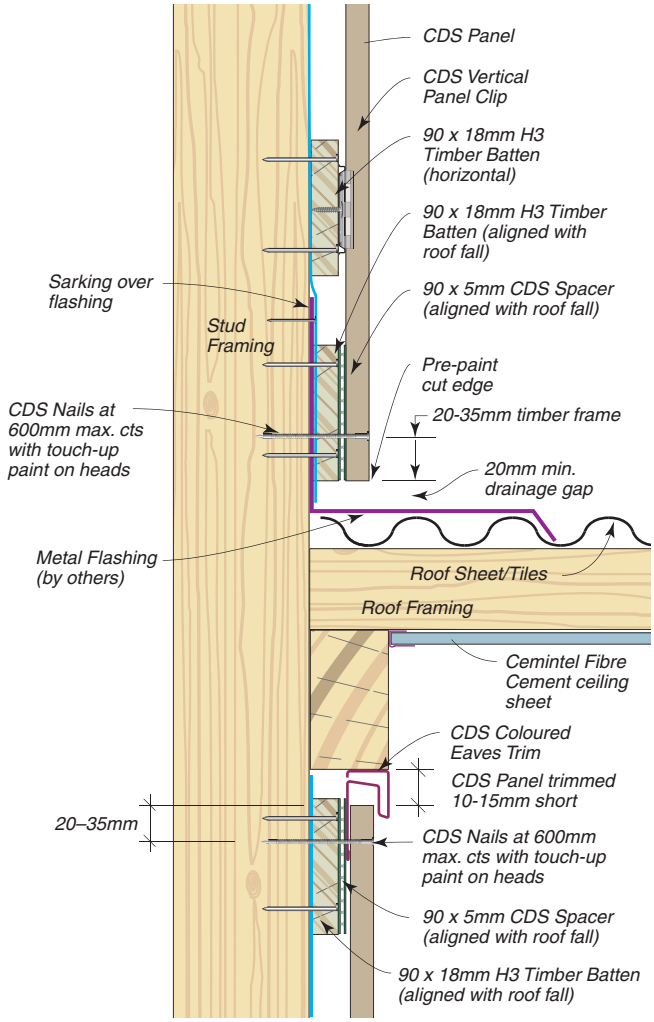


FIG 69: Junction of CDS with In-line Masonry Wall – Plan View

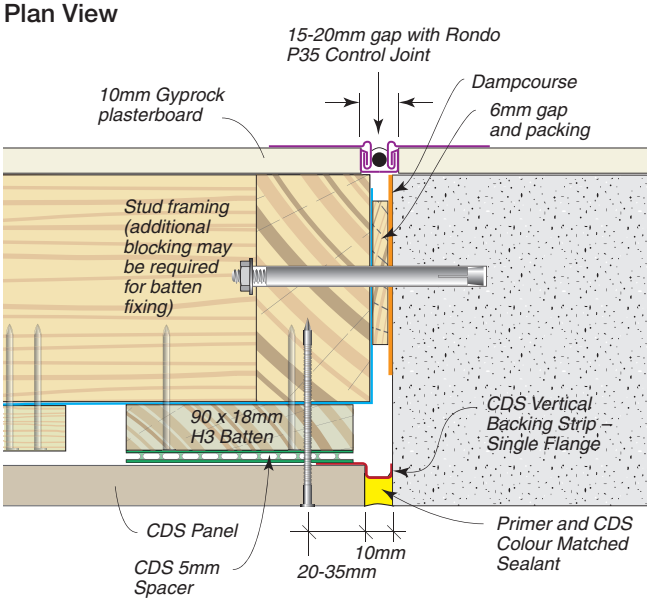


FIG 70: Junction of CDS with Offset Masonry Wall – Plan View

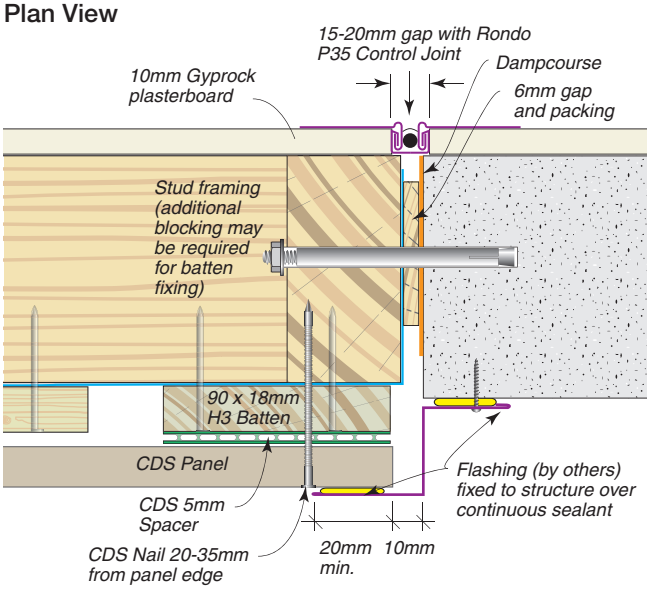


FIG 71: Typical Detail Junction with Fibre Cement Cladding System – Plan View

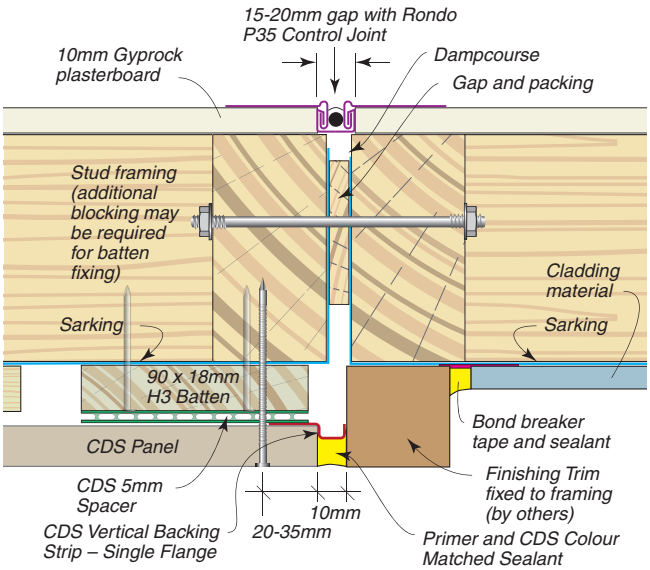
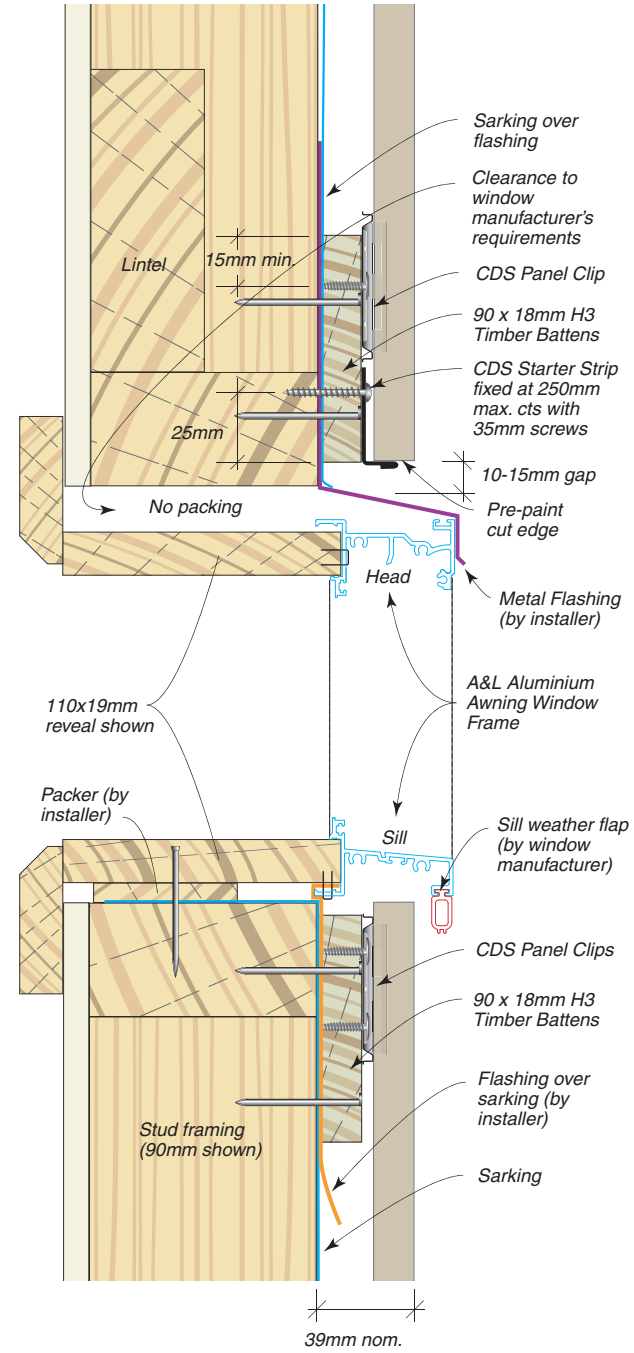


FIG 72: Window Detail – A&L Aluminium Awning Window with Weatherboard Trim



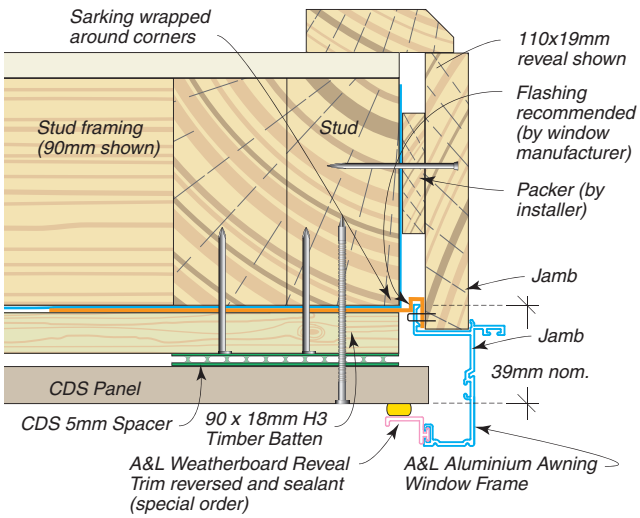
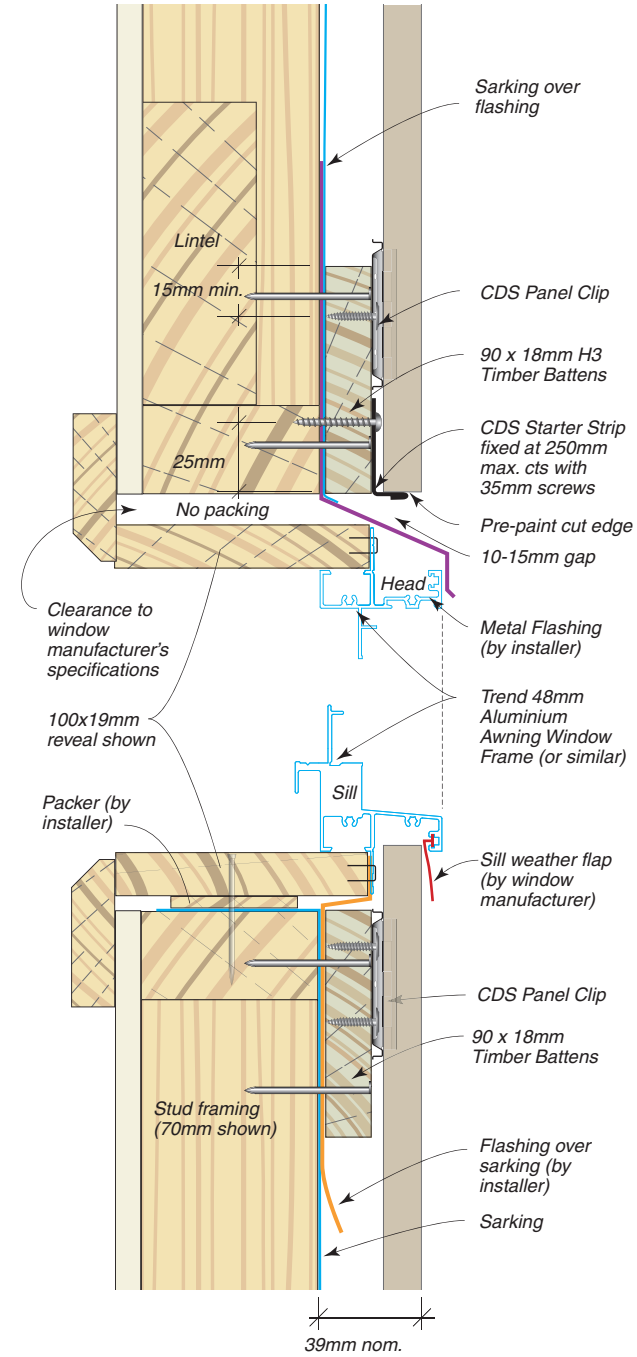


FIG 73: Window Detail – Trend 48mm Aluminium Awning Window



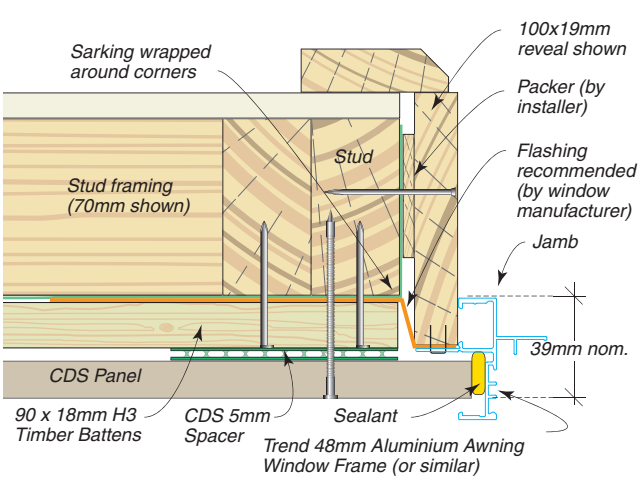
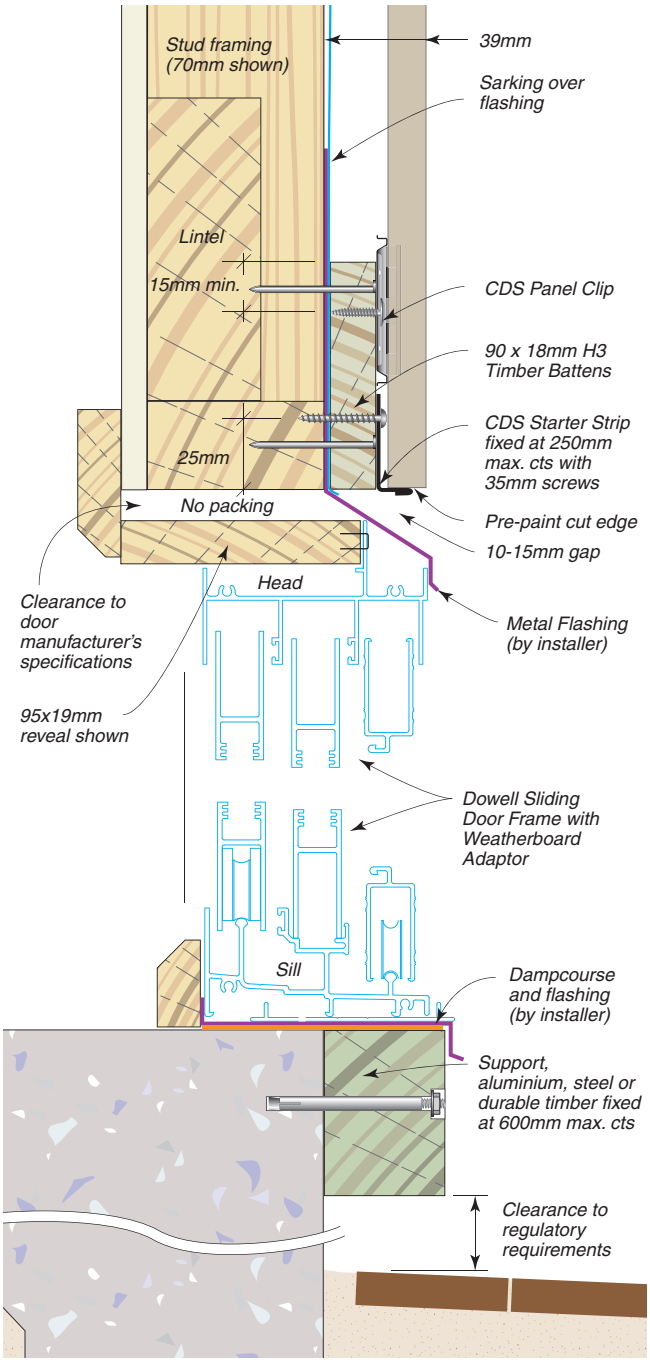
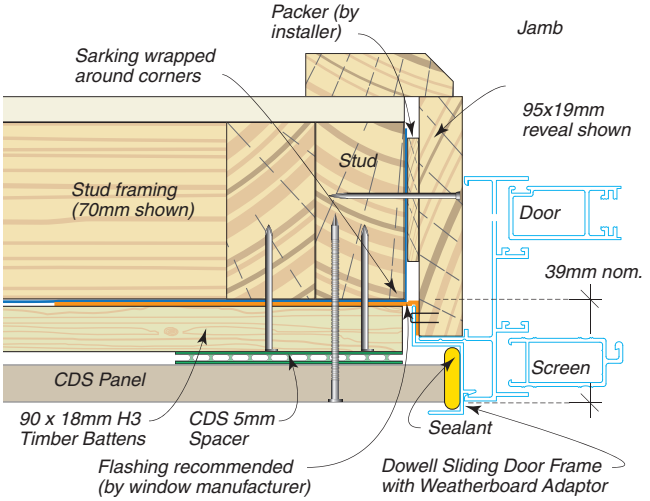


FIG 74: Dowell Sliding Door Installation – 70mm Framing and 85mm Reveal Shown

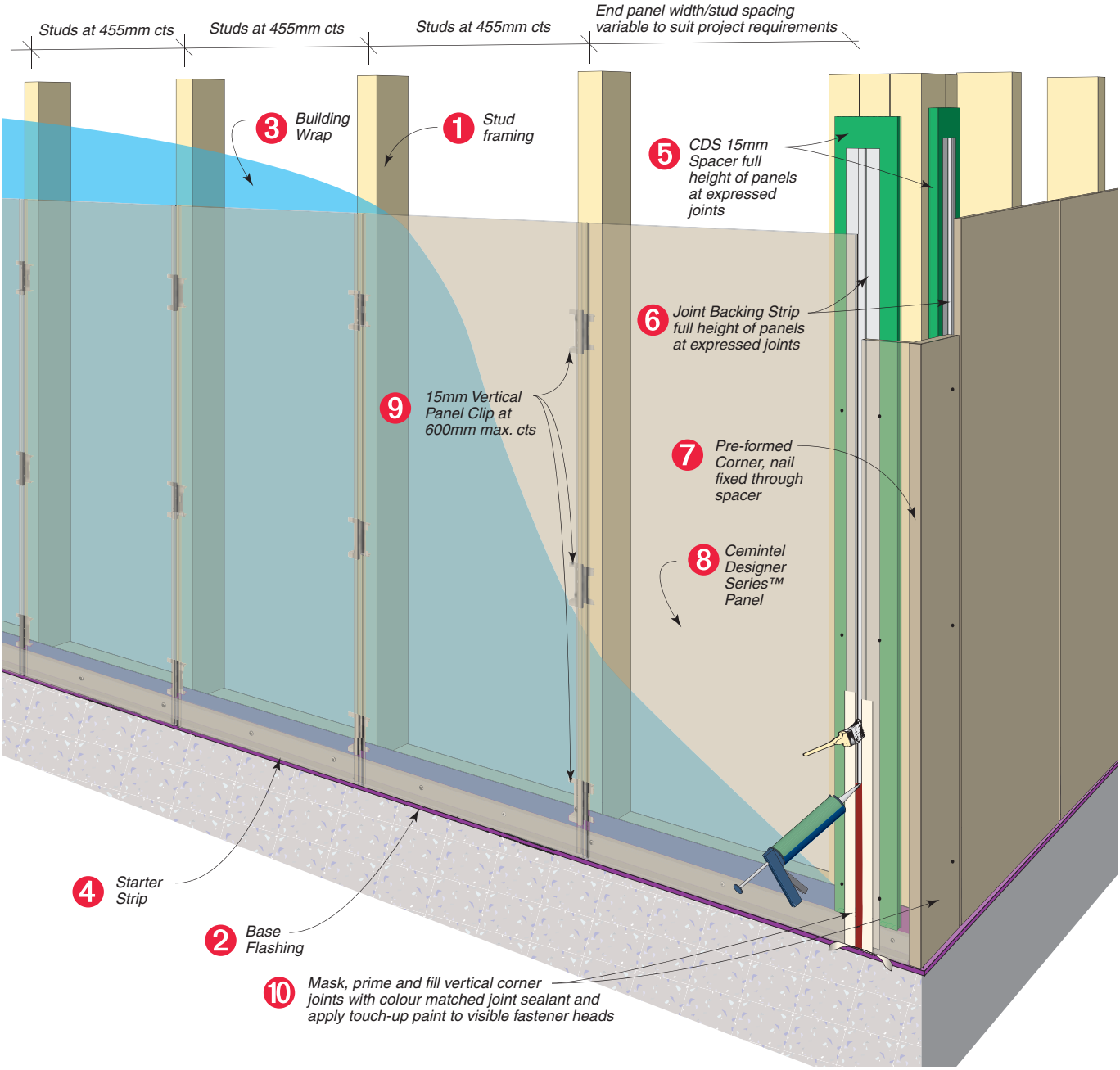




CDS EXTERNAL CLADDING SYSTEM VERTICAL PANEL – CLIP-ON-STUD FIXING

OVERVIEW & FEATURES

- Cemintel Designer Series™ panels installed vertically provide dynamic architectural styling.
- Ideal for new structures where simplified fixing is achieved through early planning of stud layout to match panel dimensions.
- CDS Panels have complementary tongue and groove profiles along the long edges with an in-built flexible weathertight sealing strip.
- CDS Panel Clips are fixed directly to the studs, and fit over the vertical panel tongue, and accept and retain the groove of the adjacent panel providing invisible fixing.
- The CDS Pre-formed External Corners are easy to install and provide an attractive matching finish.
- Pre-finished CDS Panels mean virtually no finishing work is required. Simply fill expressed corner joints with colour matched sealant and finish off with the matching touch-up kits.



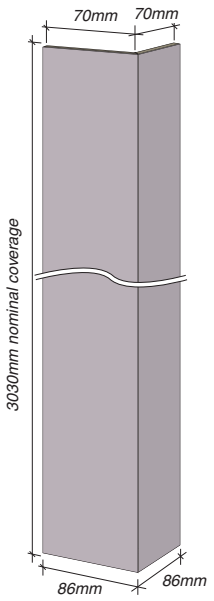
COMPONENTS

Components listed here are unique to the Vertical Cladding system with Clip-On-Stud fixing. For additional components please refer to 'COMPONENTS' on page 14 of this guide.

CDS PRE-FORMED EXTERNAL CORNER

Manufactured in designs and colours to match the available panels. Provides a strong, attractive and weathertight finish for external corners.

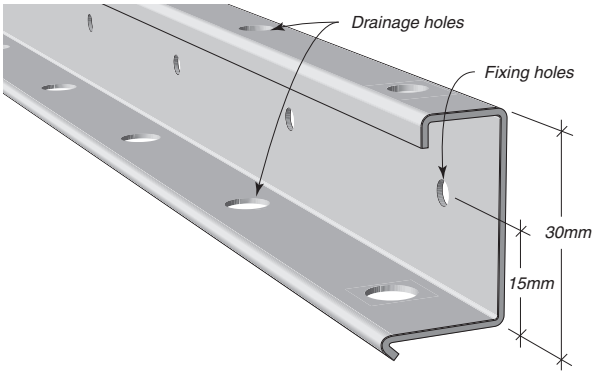
Size 86 x 86 x 3030mm.



Order N°	Pack Quantity
See Table 5 on page 15	4

CDS STARTER STRIP

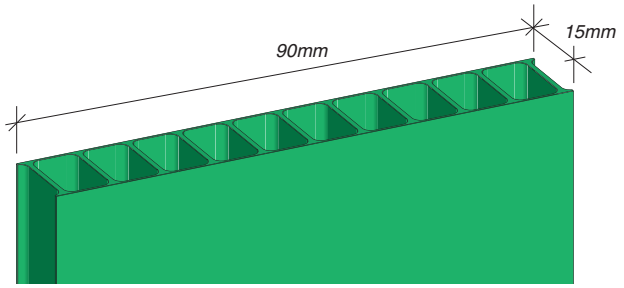
Steel profile used at the base to support panels. Provides 15mm offset from face of the studs. Manufactured from 1.2 BMT steel with Galvalume AZ150 corrosion resistant coating.



Order N°	Pack Quantity	Length
123593	1	3030mm

CDS 90 x 15mm SPACER

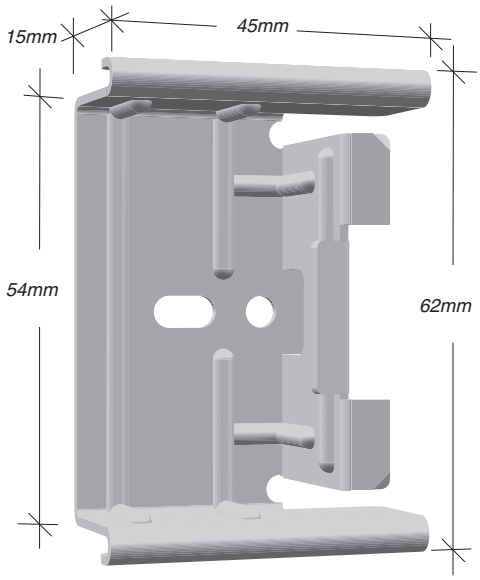
Fixed to the framing to provide backing for joint backing strip and at face fixing locations.



Order N°	Pack Quantity	Length
128956	1	2000mm

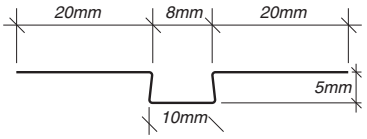
CDS 15mm VERTICAL PANEL CLIP

Fixed to the framing to retain the tongue and groove edges of panels. Provides a 15mm offset from the face of the studs. Manufactured from SuperDyma corrosion resistant coated steel.

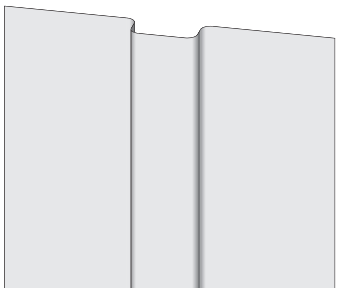


Order N°	Quantity
123594	50

CDS JOINT BACKING STRIP – DOUBLE FLANGE

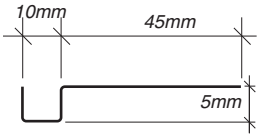


Used at vertical joints to fill cavity and provide a backing for sealant. Manufactured in 0.3mm BMT steel with Galvalume AZ150 corrosion resistant and bond breaker coating. Length 3030mm.

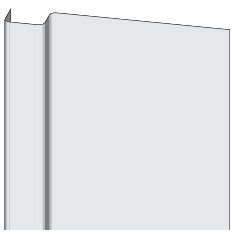


Order N°	Pack Quantity	Length
123596	1	3030mm

CDS JOINT BACKING STRIP – SINGLE FLANGE



Used at vertical internal corner joints and at openings to fill cavity and provide a backing for sealant. Manufactured in 0.3mm BMT steel with Galvalume AZ150 corrosion resistant and bond breaker coating. Length 2000mm.



Order N°	Pack Quantity	Length
123597	1	2000mm

INSTALLATION

APPLICATIONS

Cemintel Designer Series™ Vertical Panel with clip-on-stud system is intended for new applications where structural stud framing can be designed and installed to specific dimensions that suit Designer Series Panel sizes and locations.

For existing structures, CSR recommends consideration of the Vertical Panel on Batten, or Horizontal Panel installation methods detailed elsewhere in this guide.

INSTALLATION METHODS

Prior to delivery of components and installation, installers and supervisors should be familiar with the recommended installation methods. Please refer to page 9.

DRAINED & VENTILATED CAVITY

Cemintel Designer Series™ uses a drained and ventilated cavity system which provides an effective alternative to manage the migration of water vapour through stud framed wall systems. The cavity is created by fixing Designer Series™ panels to the face of framing, over a layer of suitable wall wrap/sarking, with proprietary Designer Series™ Fixing Clips and Spacer Strips. Ventilation must be maintained at the top and base of each wall section. Refer to detail drawings.

BASE FLASHING

Base flashing is required to exclude vermin and draughts from the cavity, while allowing moisture to freely escape. At corners of the building, the flashing must be mitred and/or sealed to prevent wind and water from being driven behind the panels. Refer to FIG 5 and FIG 6.

TAPING OF WALL WRAP/SARKING AND FLASHING JUNCTIONS

For optimum insulation performance, CSR recommends taping all joints in wall wrap/sarking and junctions between wall wrap/sarking and flashings. Refer to FIG 3 and FIG 4.

FRAMING SET-OUT

All framing must be in accordance with the following standards appropriate for the framing used:

- AS1684 – Residential Timber-Framed Construction.
- AS/NZS4600 – Cold-Formed Steel Structures.

Stud framing must be carefully planned and accurately installed to ensure the panels can be installed using CDS Panel Clips fixed to the face of studs. Full width panels have a nominal cover of 455mm, and the frame layout is generally based on this module.

Additional studs or blocking may be required for support and fixing of CDS Spacer strips at corners and junctions. Refer to the following Panel Layout & Fixing section and detailed illustrations for further information.

PANEL LAYOUT

Vertical panel installation requires a square vertical edge to the panel at junctions with a CDS Pre-formed External Corner or External Corner Trim, at internal corners and at junctions with masonry or other wall systems. This requires removal of the tongue or groove from one edge of the end panels. These panels can be trimmed to between 200mm and 430mm nominal cover. These panel widths should be considered when panel joint location is important for aesthetics. Refer to FIG 75 and FIG 76.

PANEL FIXING

All face fixings must be backed and supported by CDS 15mm Spacer.

Panels must be fixed to the structural framing along trimmed panel edges with CDS 75mm nails at 20-35mm from the panel edge for timber framing, or with CDS 55mm Screws at 30-40mm from the panel edge. Fasteners are to placed at the same maximum spacings as specified for clips. Refer to Table 10 or Table 11.

All other panel joints require the factory finished tongue and groove for fixing with CDS Panel Clips. CDS Clips are to be fixed to studs with one CDS 35mm Screw for timber framing or one CDS 20mm Button Head Screw for steel framing. Refer to Table 10 or Table 11 and appropriate drawings.

SEALING VERTICAL PANEL JOINTS

Please refer to page 11

CUT EDGES & TOUCH-UP

Please refer to page 11.

FIG 75: Non-symmetrical Panel Set-Out

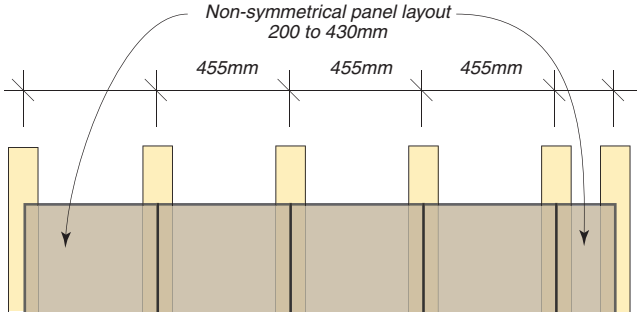
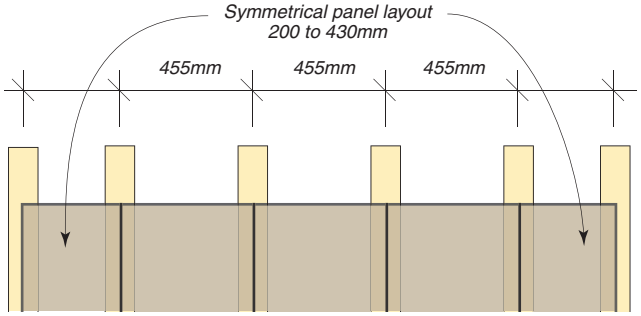


FIG 76: Symmetrical Panel Set-Out



FRAMING & PANEL SET-OUT – TIMBER FRAMING

All framing must be in accordance with the following AS1684 – Residential Timber-Framed Construction.

FIG 77: Typical Framing Set-Out with 90mm Timber Framing and CDS Pre-formed Corners – Plan View

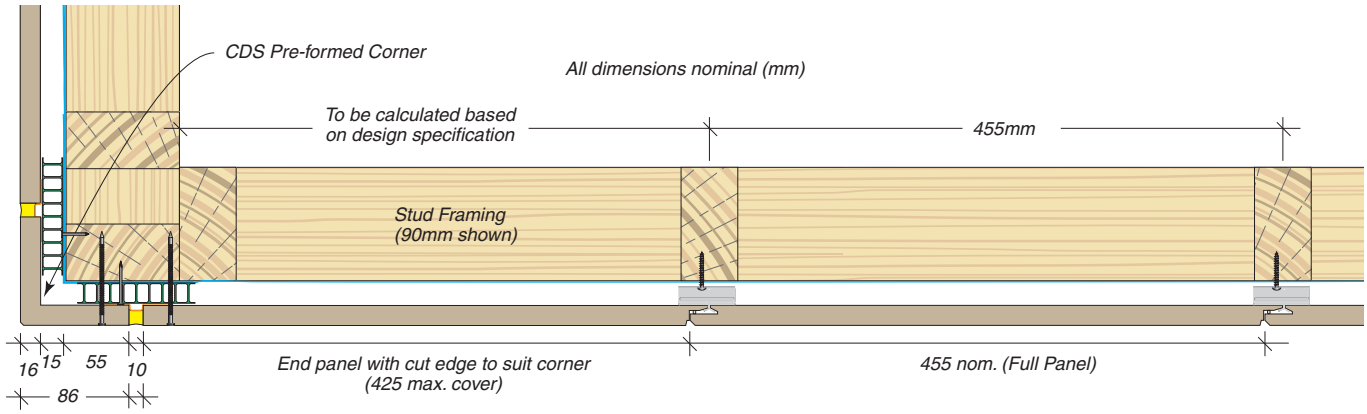


FIG 78: Typical Framing Set-Out with 70mm Timber Framing and CDS Pre-formed Corners – Plan View

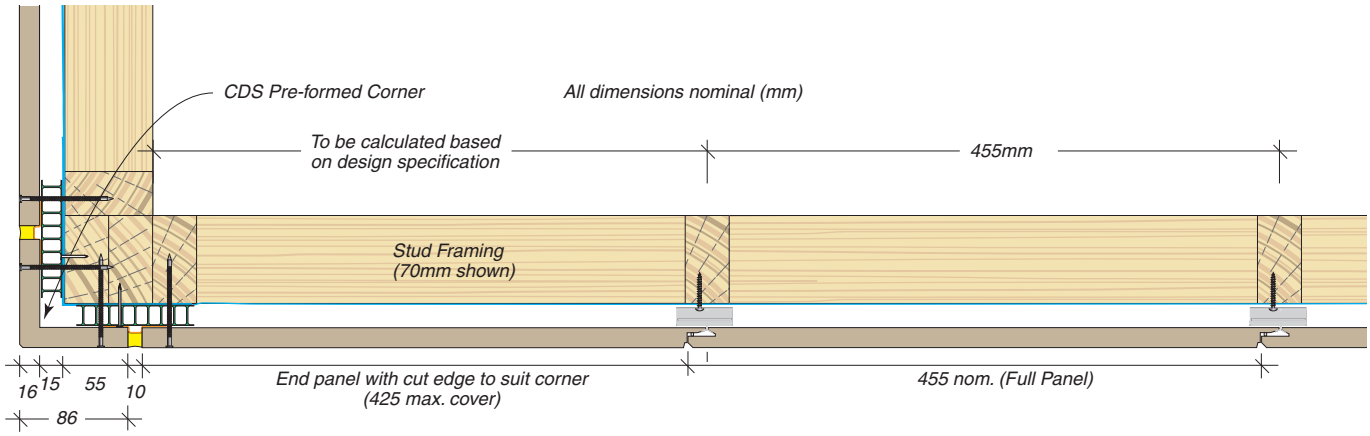


Table 10: Fixing Requirements for Designer Series Vertical Panels – Timber Framing – Studs at 455mm centres max.

Wind Classification (AS4055)	Studs at 455mm cts. max.	
	PANEL ZONE –Minimum Fixing Requirements for areas greater than 1200mm from an External Building Corner	CORNER ZONE –Minimum Fixing Requirements for areas less than 1200mm from an External Building Corner
N1	CDS Clip @ 600 cts	CDS Clip @ 600 cts
N2	CDS Clip @ 600 cts	CDS Clip @ 600 cts
N3/C1	CDS Clip @ 600 cts	CDS Clip @ 450 cts
N4/C2	CDS Clip @ 450 cts	CDS Clip @ 300 cts

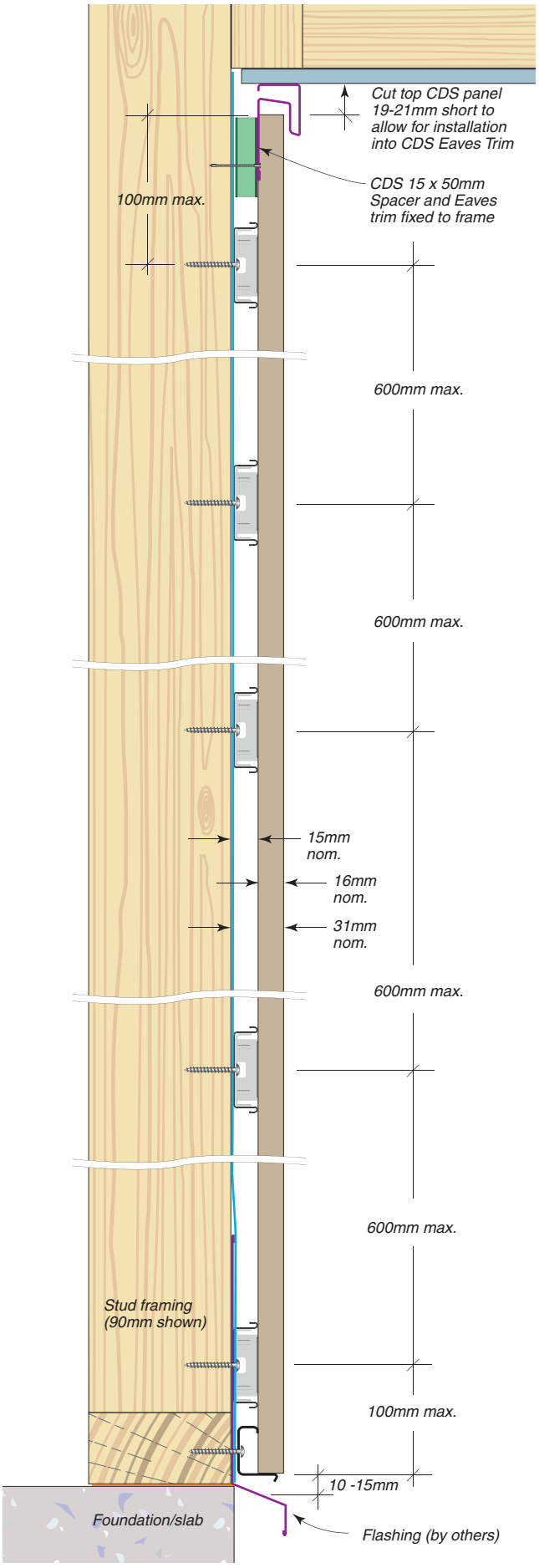
NOTES:

System performance relies on the use of CDS approved fasteners.

Table based on external pressures only, with internal linings designed to resist internal pressures.

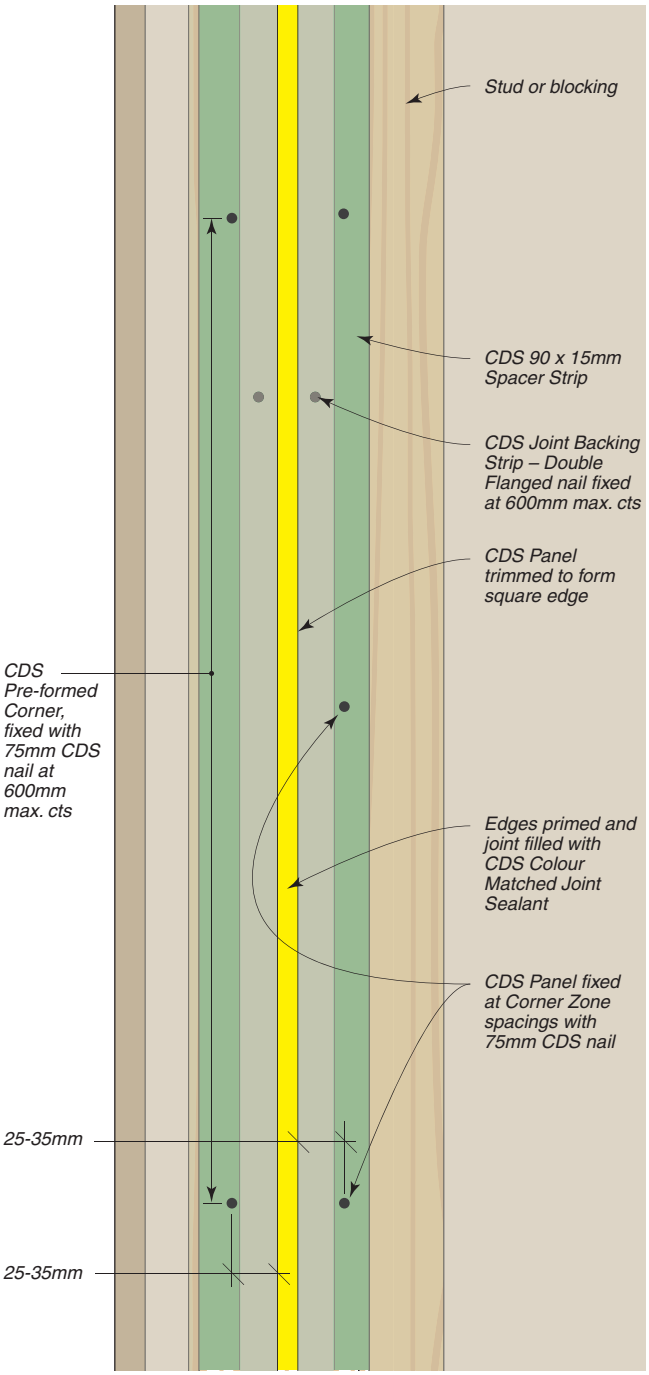
Where face fixing is required, fasteners are to be placed at the same spacings as indicated for clips.

FIG 79: Typical CDS System Cross Section – Elevation



All measurements nominal

FIG 80: Typical Face Nailing at Square Edge Joint – Elevation



FRAMING & VERTICAL PANEL SET-OUT – STEEL FRAMING

Steel framing must be in accordance with AS/NZS4600 – Cold-Formed Steel Structures.

FIG 81: Typical Framing Set-Out with 90mm Steel Framing and CDS Pre-formed Corners – Plan View

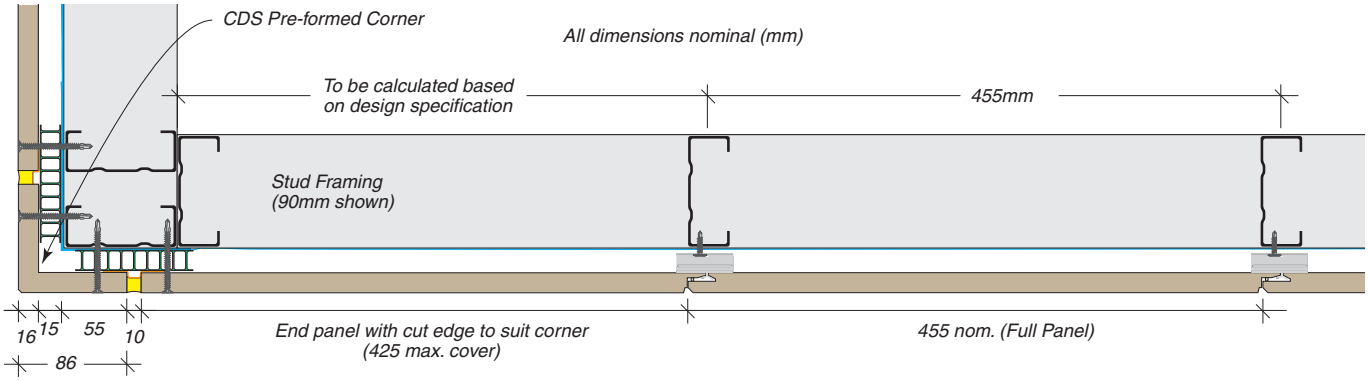


FIG 82: Typical Framing Set-Out with 75mm Steel Framing and CDS Pre-formed Corners – Plan View

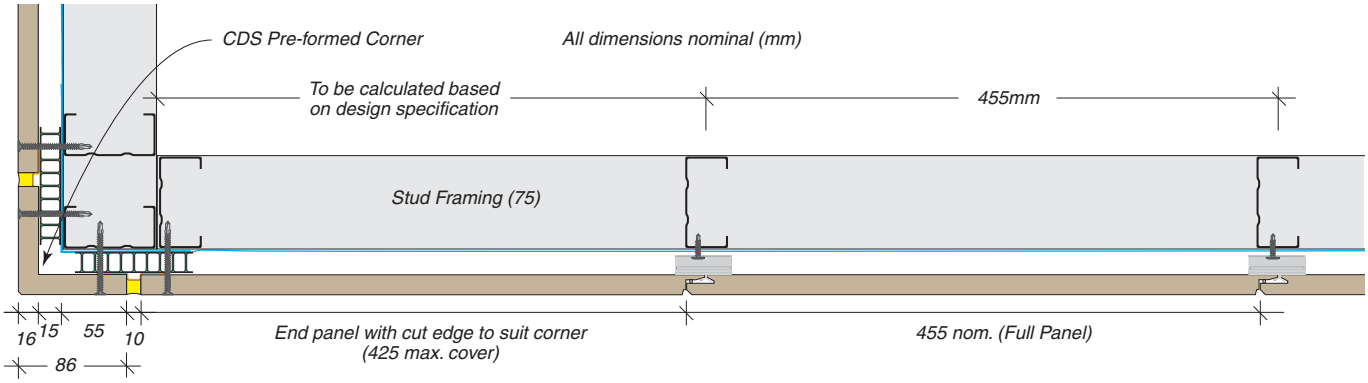


Table 11: CDS Fixing Requirements for Designer Series Vertical Panels – Steel Framing – Studs at 455mm centres max.

Wind Classification (AS4055)	PANEL ZONE –Minimum Fixing Requirements for areas greater than 1200mm from an External Building Corner		
	Steel Frame Metal Thickness		
	0.55mm	0.75mm	1.15mm
N1	CDS Clip @ 600 cts	CDS Clip @ 600 cts	CDS Clip @ 600 cts
N2	CDS Clip @ 600 cts	CDS Clip @ 600 cts	CDS Clip @ 600 cts
N3/C1	CDS Clip @ 600 cts	CDS Clip @ 600 cts	CDS Clip @ 600 cts
N4/C2	CDS Clip @ 450 cts	CDS Clip @ 600 cts	CDS Clip @ 600 cts

Wind Classification (AS4055)	CORNER ZONE –Minimum Fixing Requirements for areas less than 1200mm from an External Building Corner		
	Steel Frame Metal Thickness		
	0.55mm	0.75mm	1.15mm
N1	CDS Clip @ 600 cts	CDS Clip @ 600 cts	CDS Clip @ 600 cts
N2	CDS Clip @ 450 cts	CDS Clip @ 600 cts	CDS Clip @ 600 cts
N3/C1	N/A	CDS Clip @ 600 cts	CDS Clip @ 600 cts
N4/C2	N/A	N/A	CDS Clip @ 450 cts

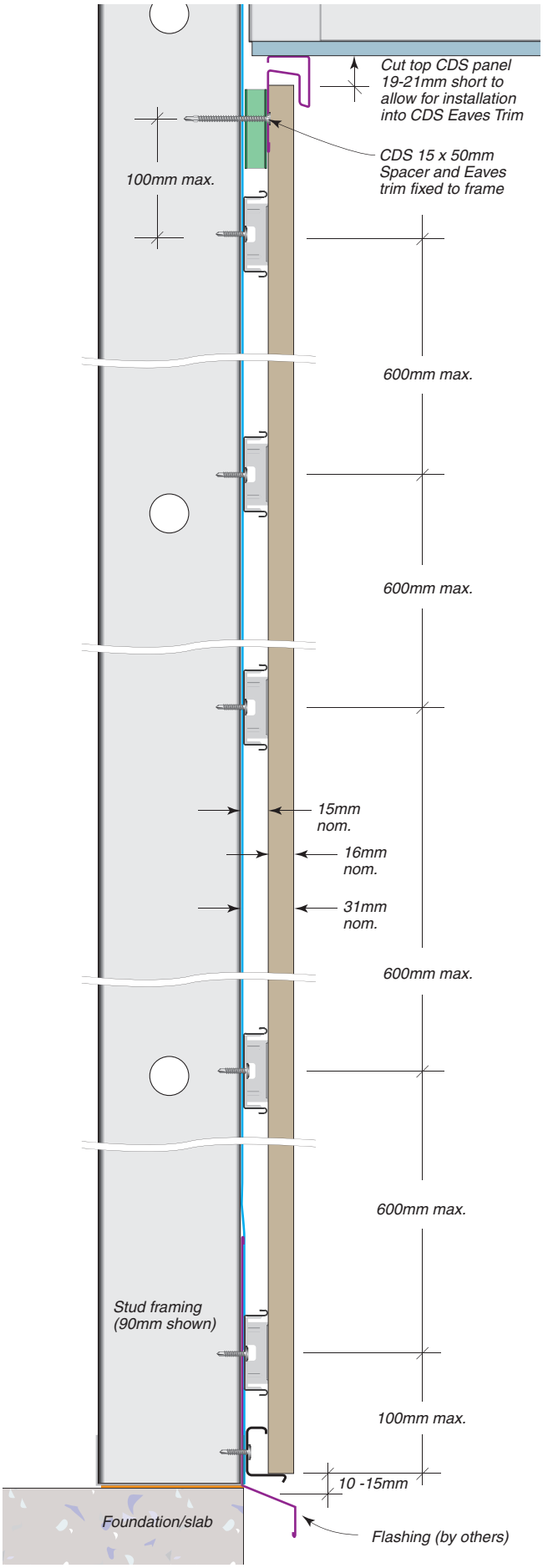
NOTES:

System performance relies on the use of CDS approved fasteners.

Table based on external pressures only, with internal linings designed to resist internal pressures.

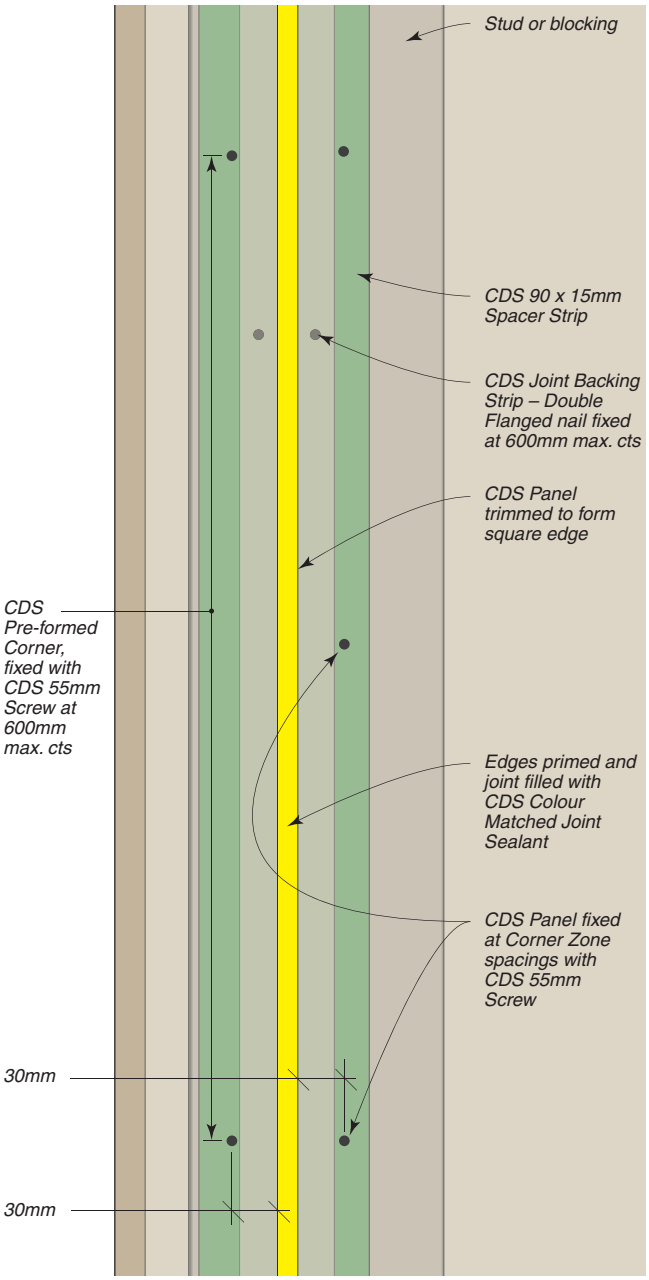
Where face fixing is required, fasteners are to be placed at the same spacings as indicated for clips.

FIG 83: Typical CDS System Cross Section – Elevation



All measurements nominal

FIG 84: Typical Face Nailing at Square Edge Joint – Elevation

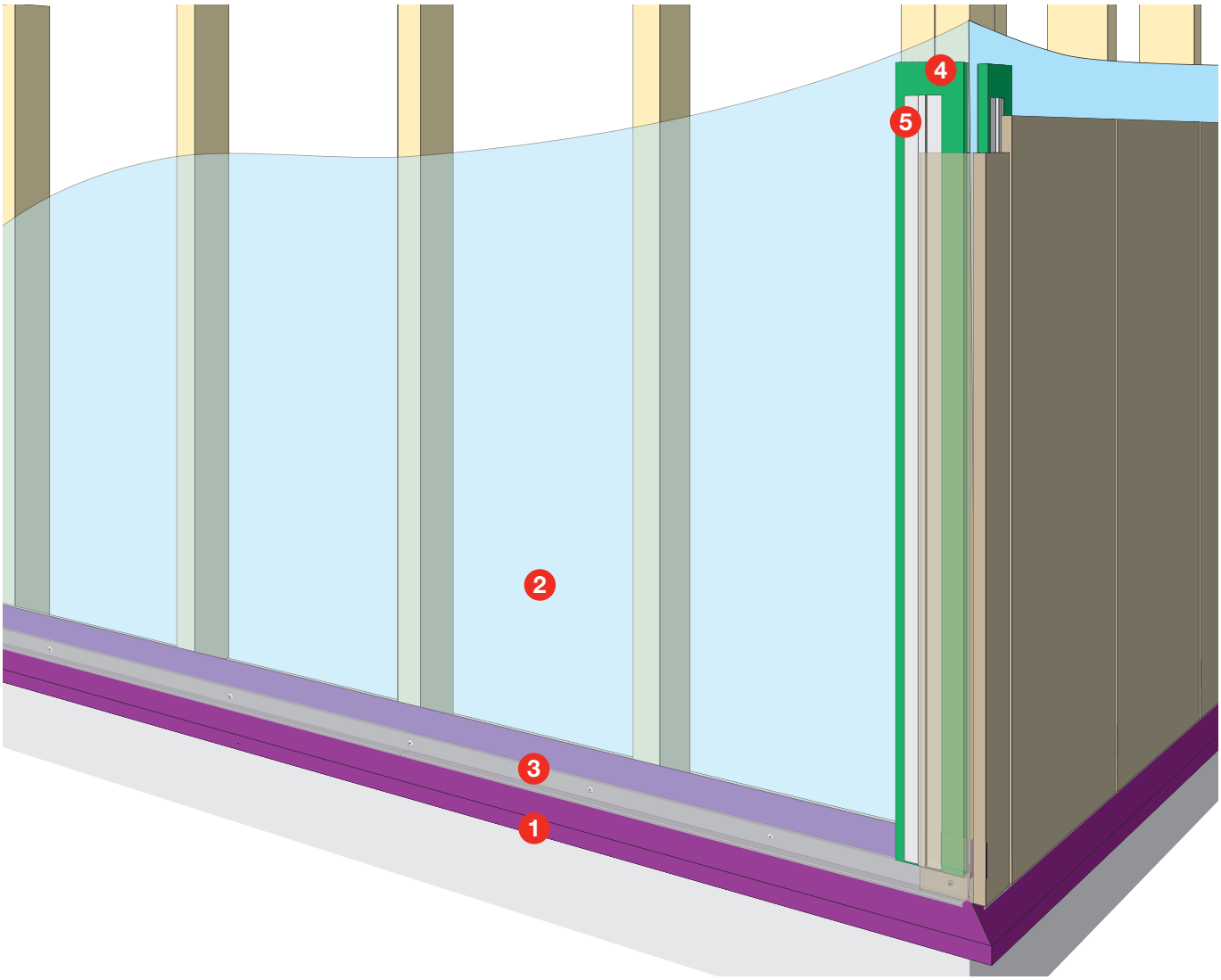


INSTALLATION PROCEDURE

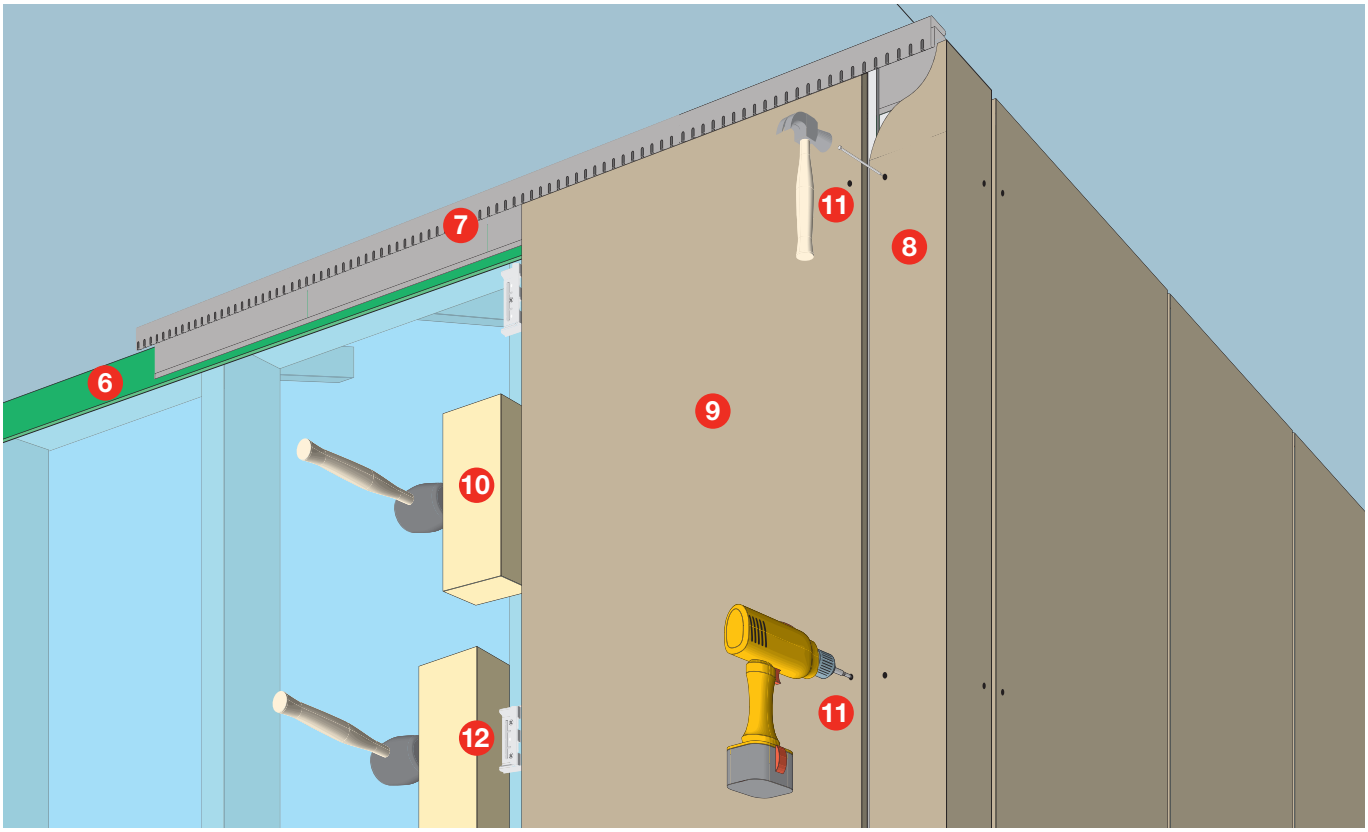
STEP BY STEP INSTALLATION PROCEDURE

(Refer to specification tables and detail illustrations for specific fixing information)

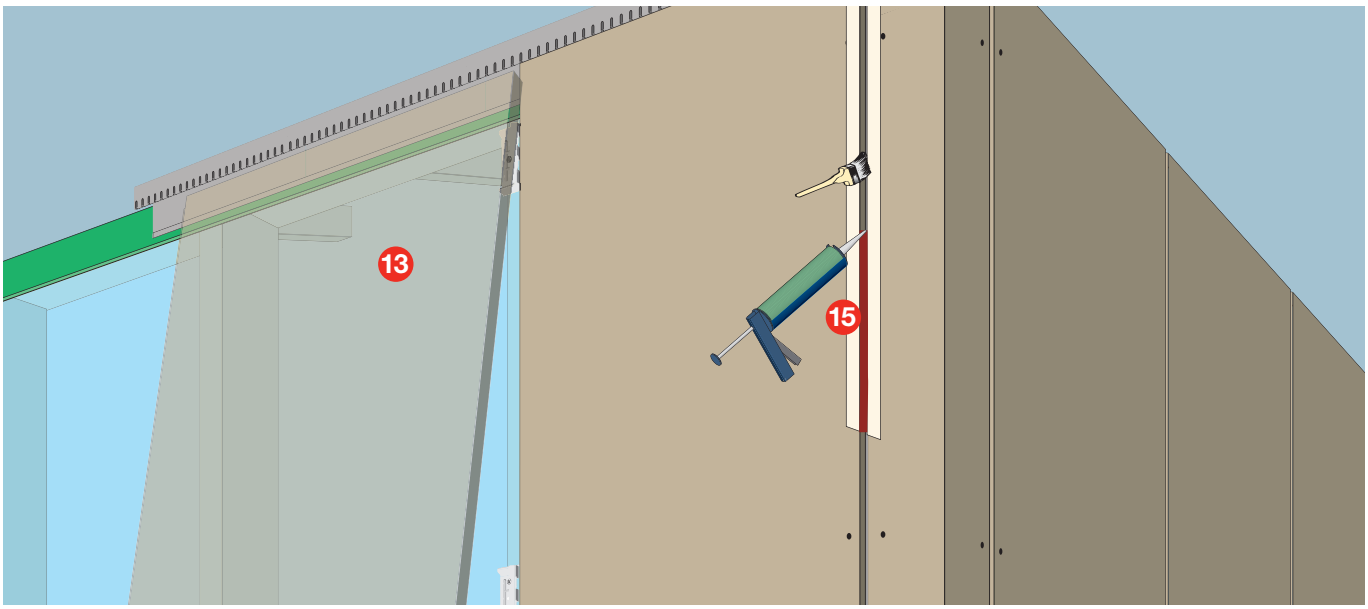
❶ Install base flashing and fix to framing. ❷ Install wall wrap/sarking. ❸ Install CDS Starter Strip and screw fix to bottom plate at 250mm max. centres with CDS 35mm Screws. Ensure there will be 10-15mm clearance between flashing and bottom of panels. ❹ Install continuous 15 x 90mm CDS Spacer behind expressed joints. ❺ Install Joint Backing Strip accurately for the full height of expressed joints.



❻ Install continuous 15 x 50mm CDS Spacer at the head of the wall. (Refer to head and alternative soffit details.) ❼ Install CDS Eaves Trim hard against eaves sheet and fix through spacer with Class 3 fastener. Notch the back of the eaves trim to allow for the CDS Joint Backing Strip. (Note: Eaves trim may need to be in-place on both wall faces prior to fitting of pre-formed corner). ❽ Install CDS Preformed Corner and fix both faces at 600mm max. cts and 20-30mm from edges with 75mm CDS nails for timber framing. Pre-drill holes through panel for nails. Alternatively fix with CDS 55mm Screws at 30mm from edges for steel framing. ❾ Trim panel width to project specification and form a square edge. Tilt CDS Panel out at the bottom, insert top into CDS Eaves Trim, lift panel up and locate bottom of panel onto CDS Starter Strip. ❿ Tap panel firmly into position. ⓫ Fix panel with approved fixings along square edge at spacings aligned with adjacent panel clips. Pre-drill holes through panel for nails. ⓬ Install panel clips on studs to tongue and groove edge at spacings in accordance with Table 11. Tap clip firmly into place and fix with one 35mm CDS screw.



⓯ Lift next panel into position onto the starter strip and slide panel into the existing clips. Firmly tap panel into position. ⓮ Fit and fix panel clips to the stud as for previous clips. Repeat steps 13 and 14 for additional panels. ⓯ Mask and prime edges of expressed joint and fill joints with CDS colour matched sealant. Prime and touch-up visible fixing heads. (Refer to Joint Finishing details).



INSTALLATION DETAILS

BASE DETAILS

FIG 85: Base Detail – 90mm Framing Shown

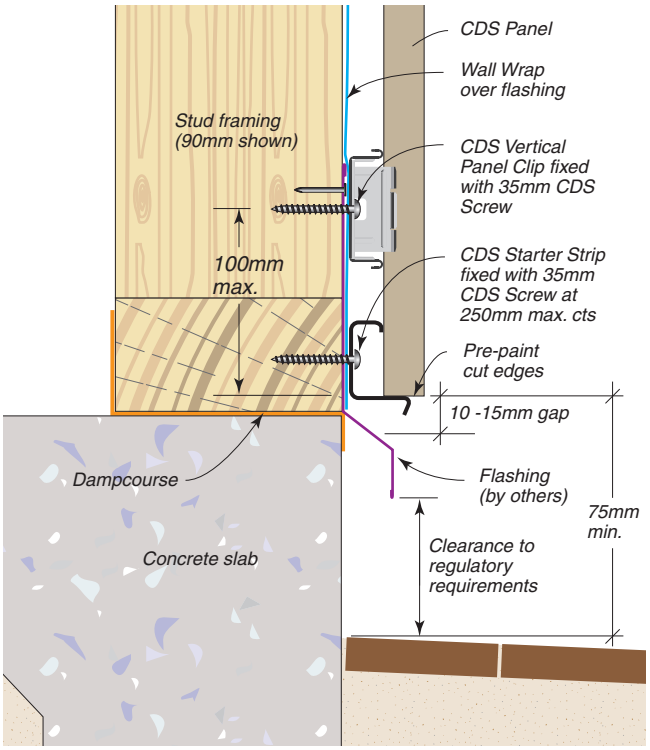


FIG 86: Base Detail – 70mm Framing Shown

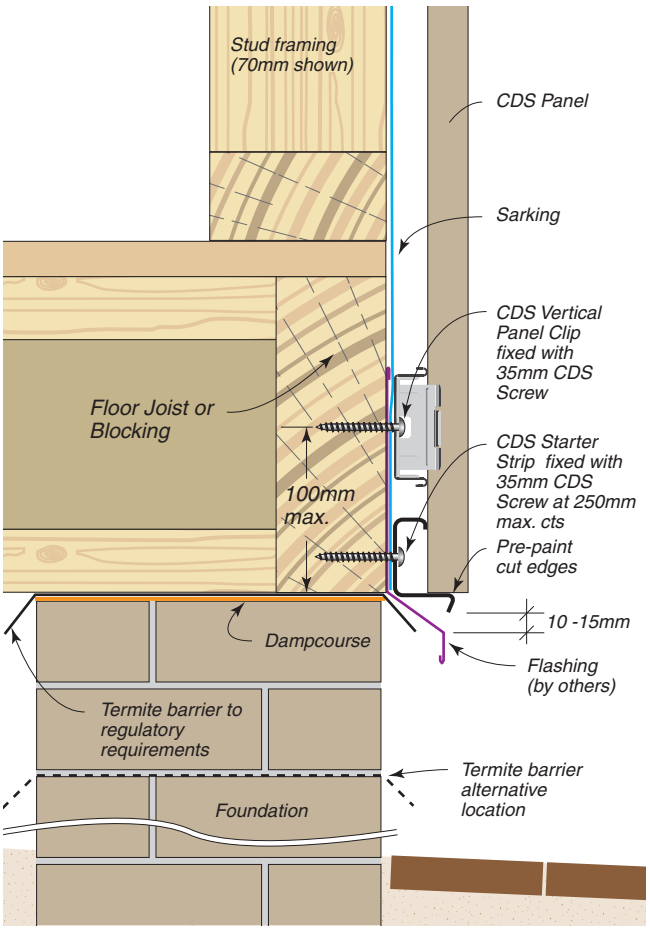


FIG 87: CDS Second Storey Junction with Hebel Panels, Brick Veneer or Masonry Wall – Cantilevered Framing

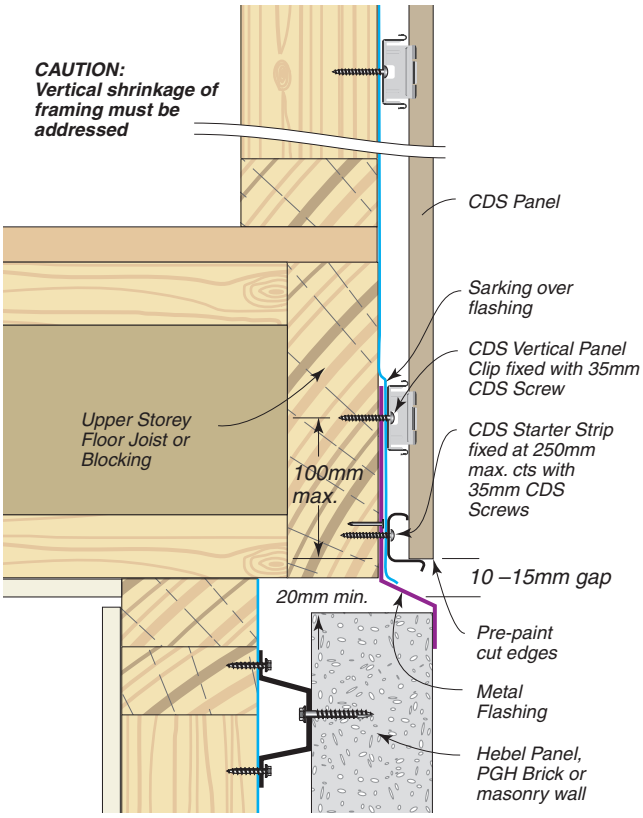
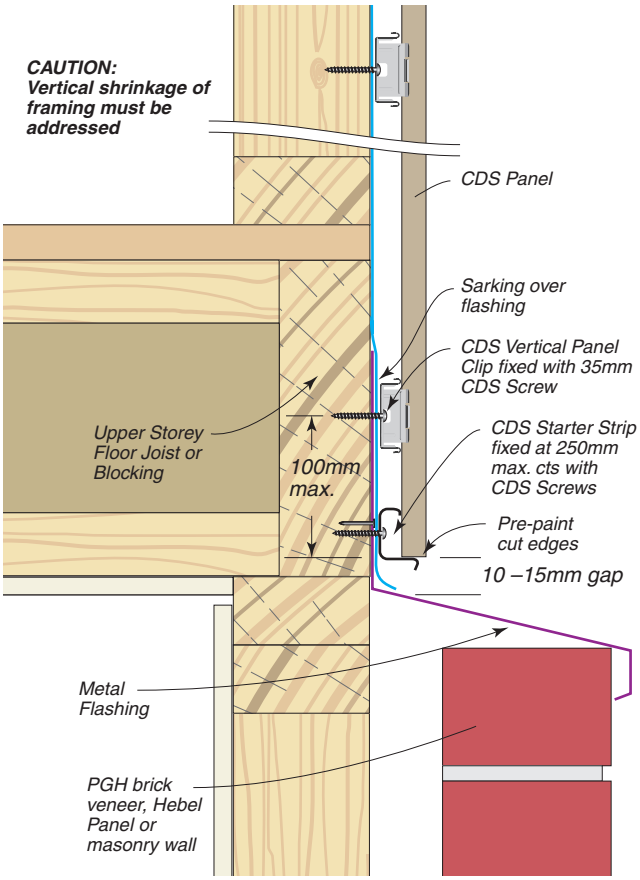


FIG 88: CDS Second Storey Junction with Masonry, Brick Veneer or Hebel Panels – In-line Framing



CORNER DETAILS

Additional studs may be required at corners to allow for fixing CDS Panel Clips and other components.

FIG 89: External Corner Detail – With Preformed Corner – Plan

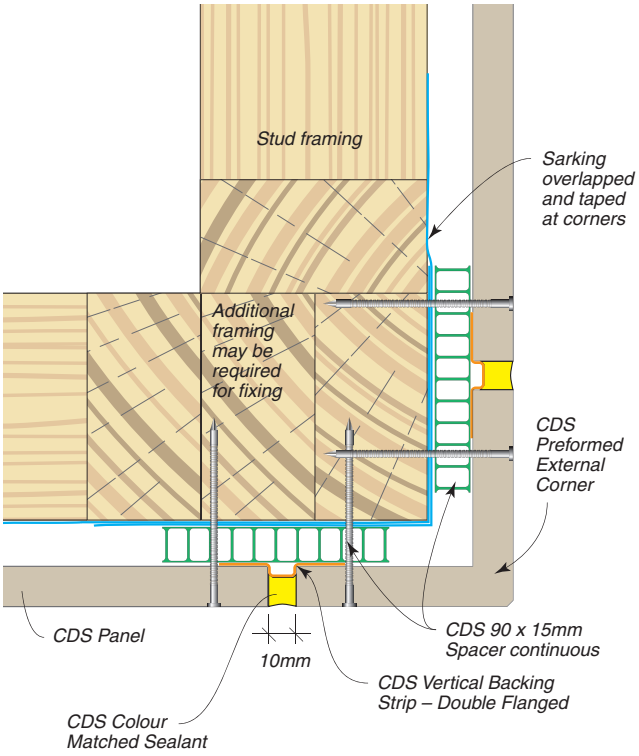


FIG 90: External Corner Detail – With CDS Coloured Corner Trim – Plan

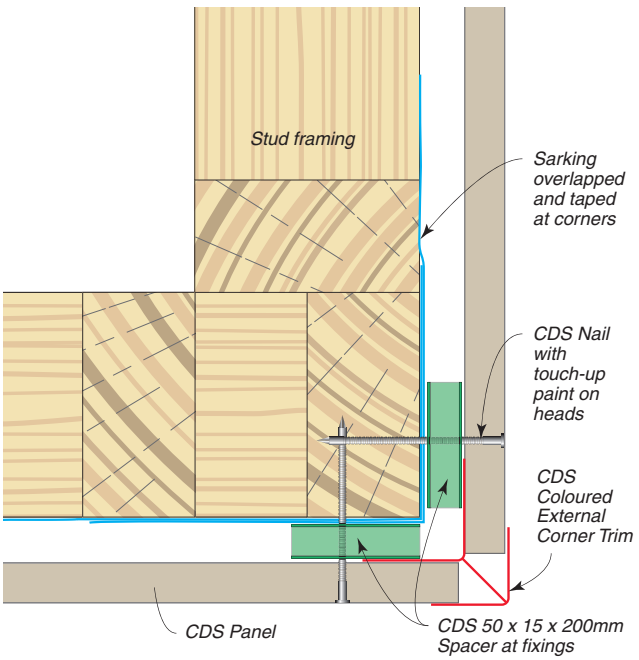


FIG 91: Internal Corner Detail – With Backing Strip and Colour Matched Sealant – Plan View

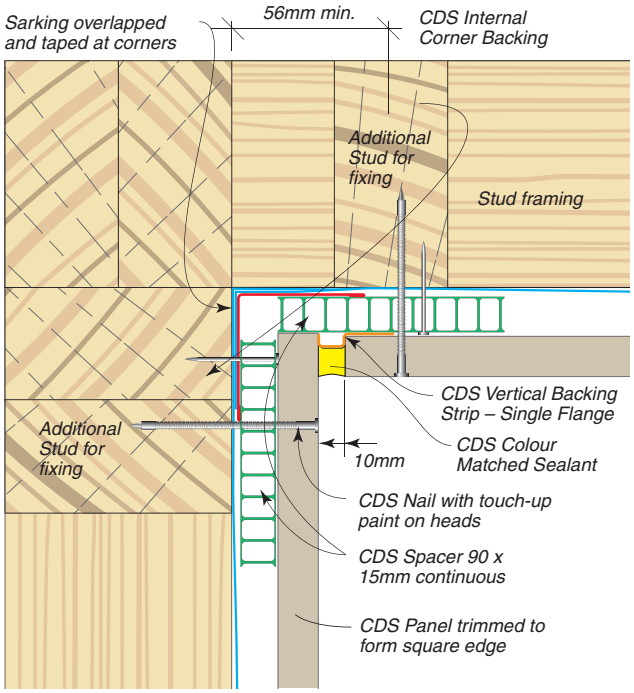
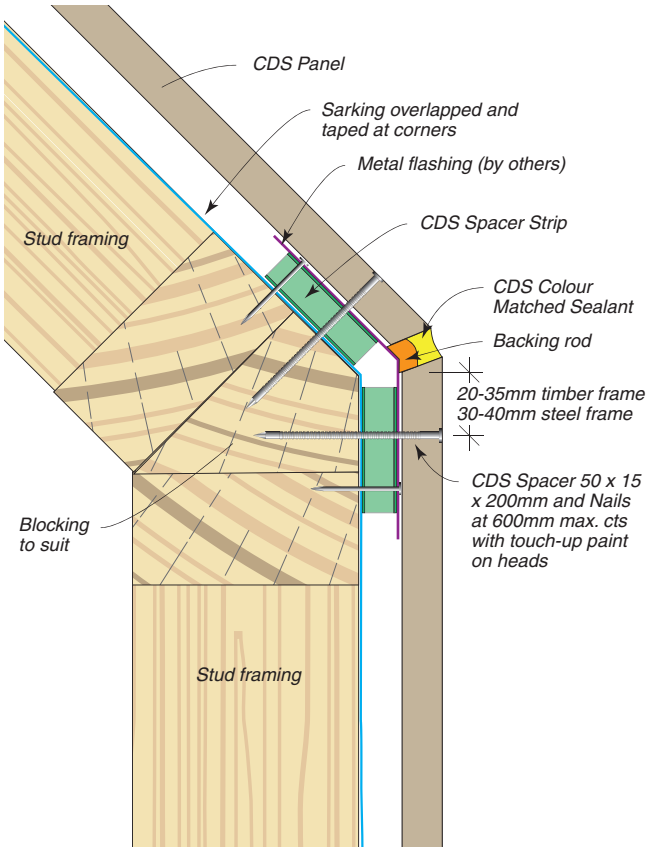


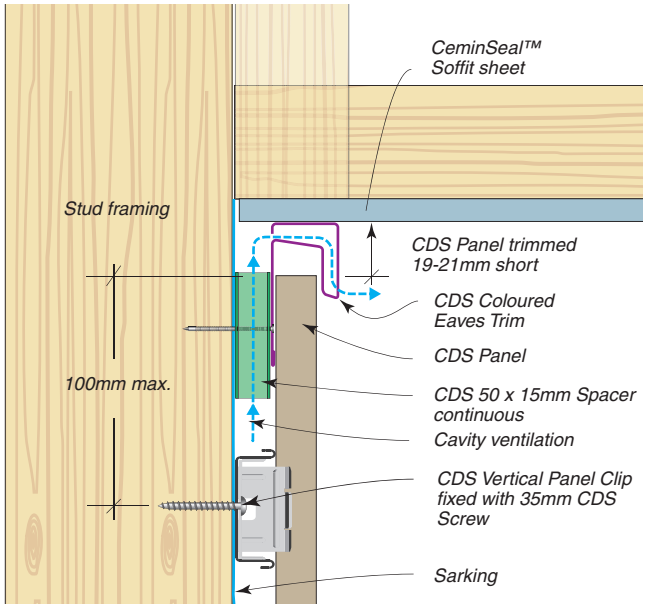
FIG 92: Obtuse Angle Corner Detail – With Metal Flashing and Colour Matched Sealant – Plan View



JUNCTION DETAILS

At eaves line the CDS system must be provided with cavity ventilation. CDS Panels are trimmed to appropriate height. Refer to the following detail options.

FIG 93: Soffit Detail – With CDS Coloured Eaves Trim – Elevation



NOTE: Notch the back of CDS Coloured Eaves Trim at intersections with Joint Backing Strip

FIG 94: Soffit Detail – With Timber Trim – Elevation

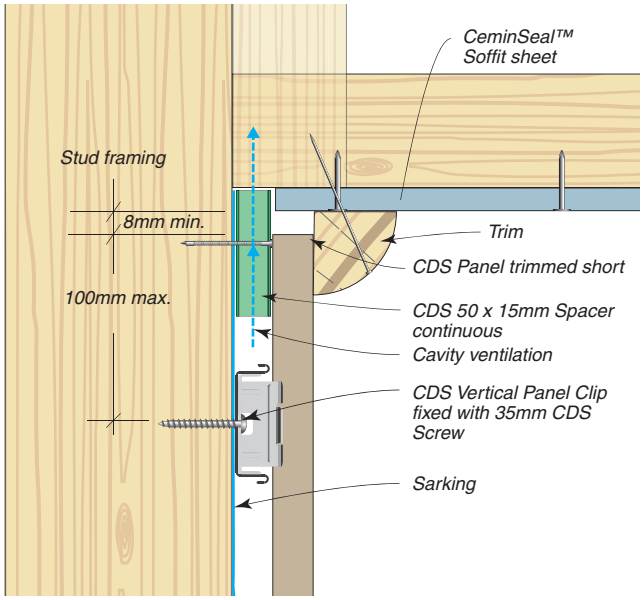


FIG 95: Soffit Detail – With Sealant – Elevation

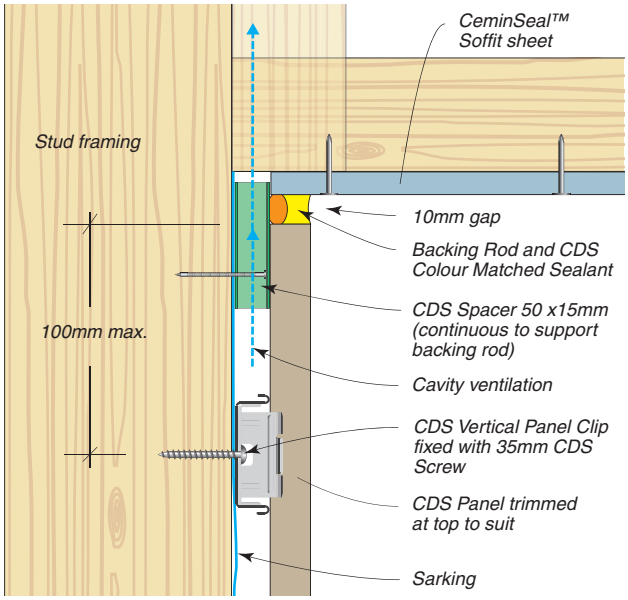
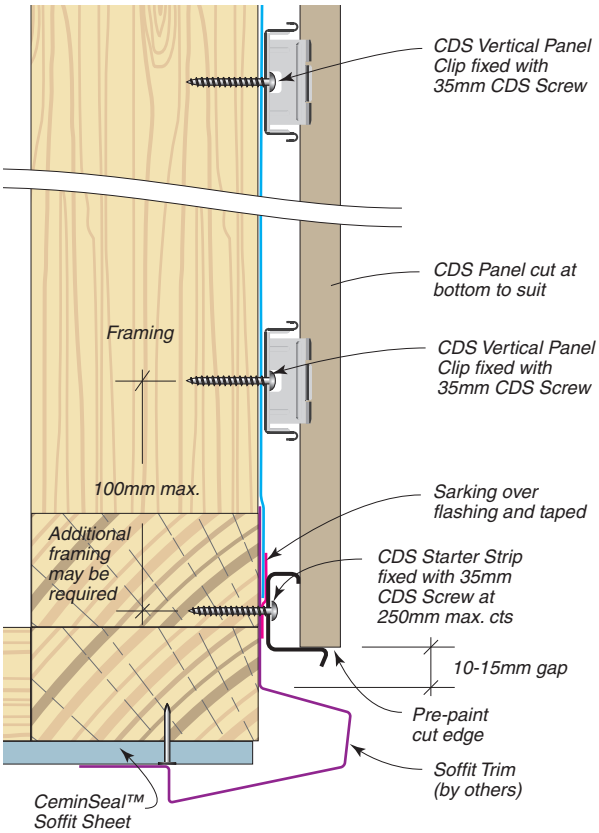


FIG 96: Soffit Detail – With Soffit Trim – Elevation



Typical dimensions for Soffit Trim (supplied by others)

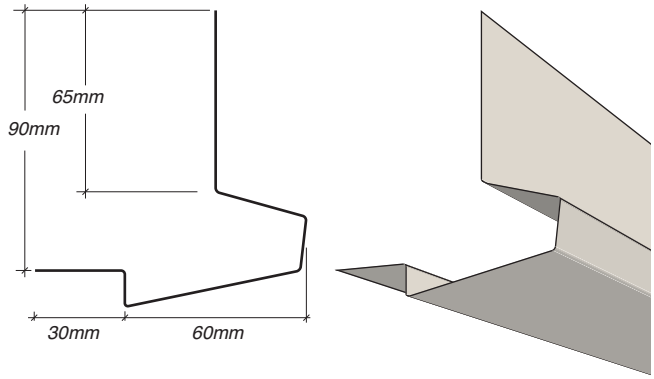


FIG 97: Horizontal Control Joint – Elevation

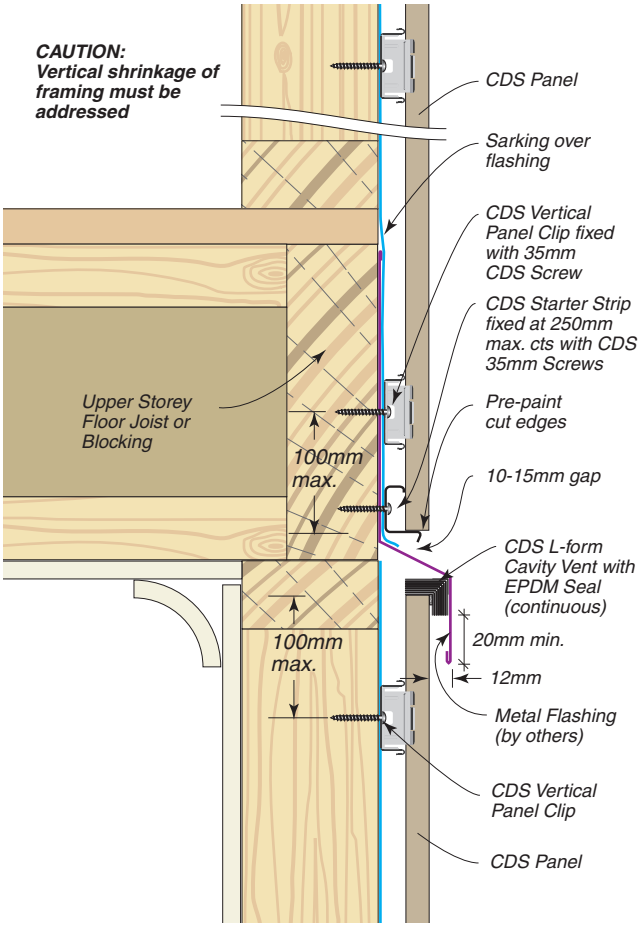


FIG 98: Horizontal Parapet – Elevation

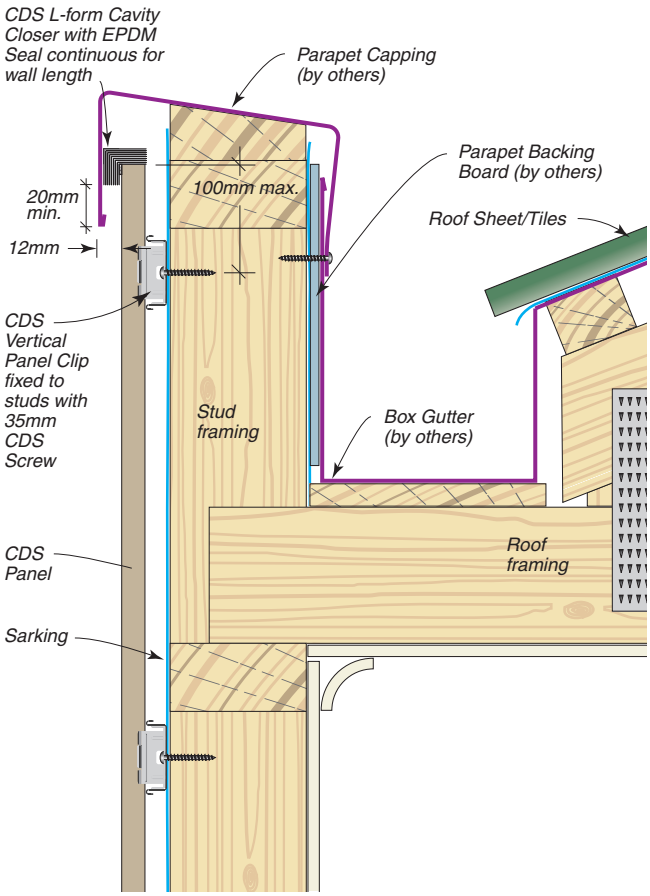


FIG 99: Junction of CDS with External Roofing

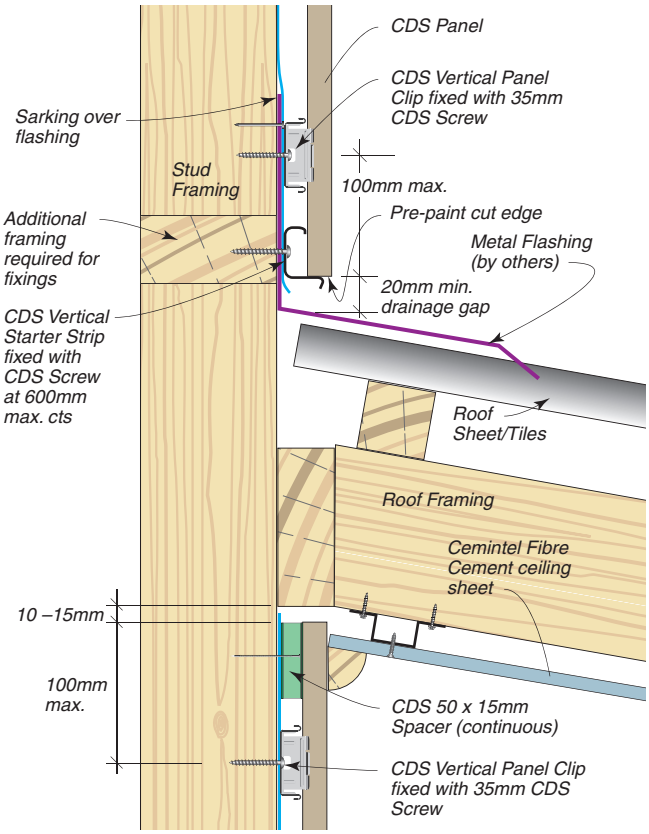


FIG 100: Junction of CDS with External Roofing

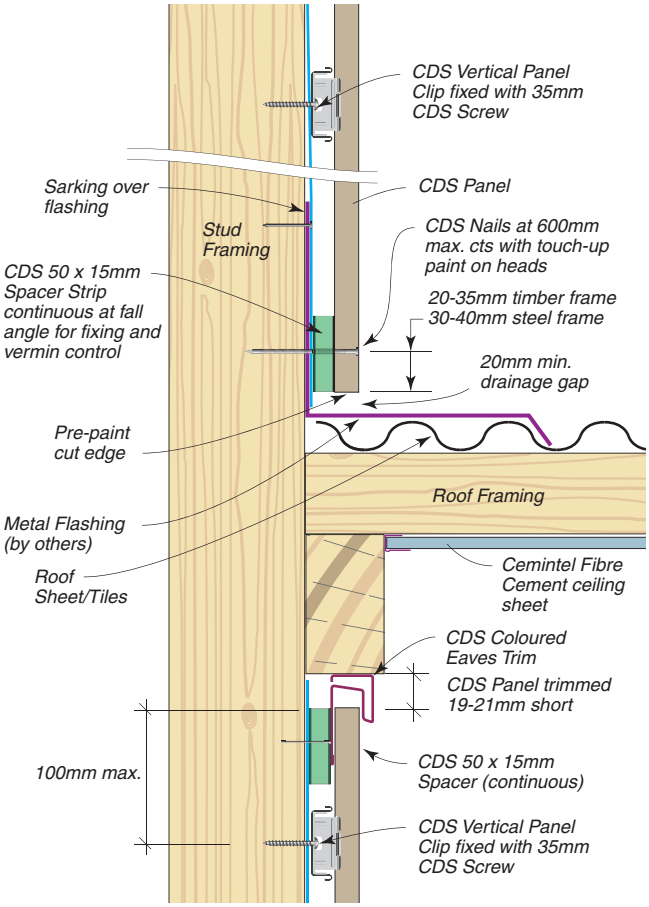


FIG 101: Junction of CDS with In-line Masonry Wall – Plan View

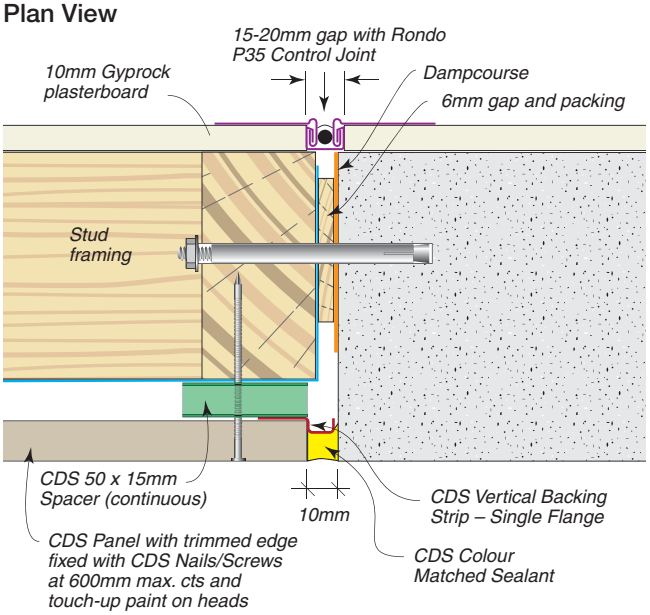


FIG 102: Junction of CDS with Offset Masonry Wall – Plan View

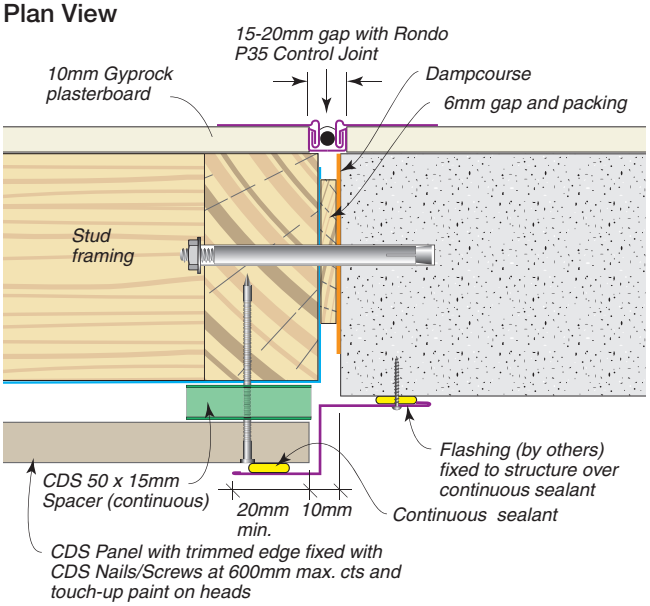


FIG 103: Typical Detail Junction with Fibre Cement Cladding System – Plan View

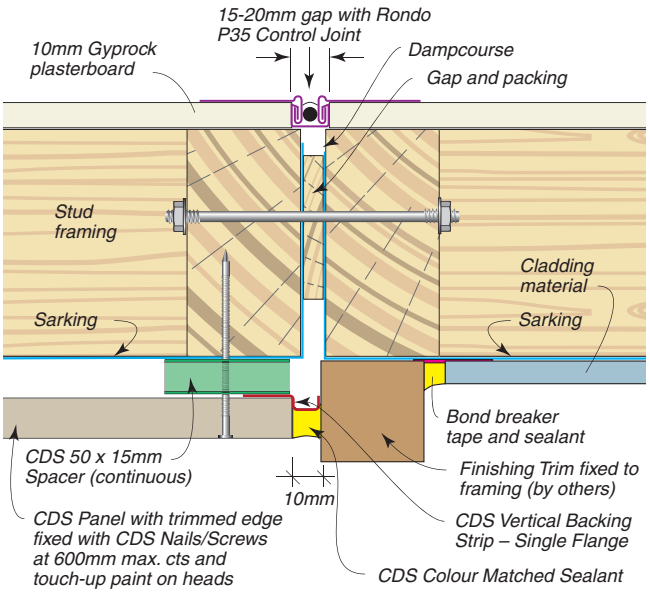
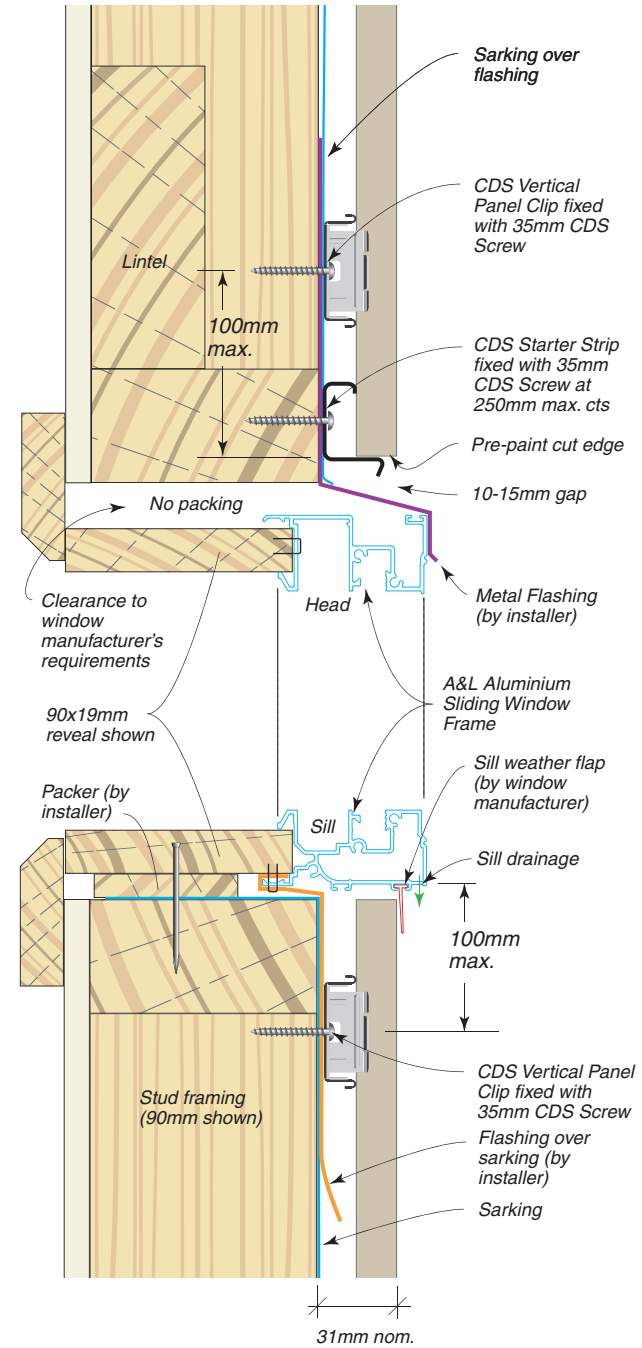


FIG 104: Window Detail – A&L Aluminium Sliding Window with Weatherboard Trim



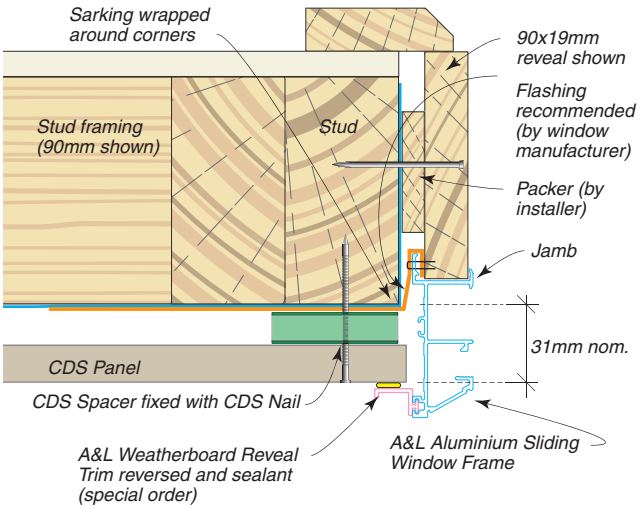
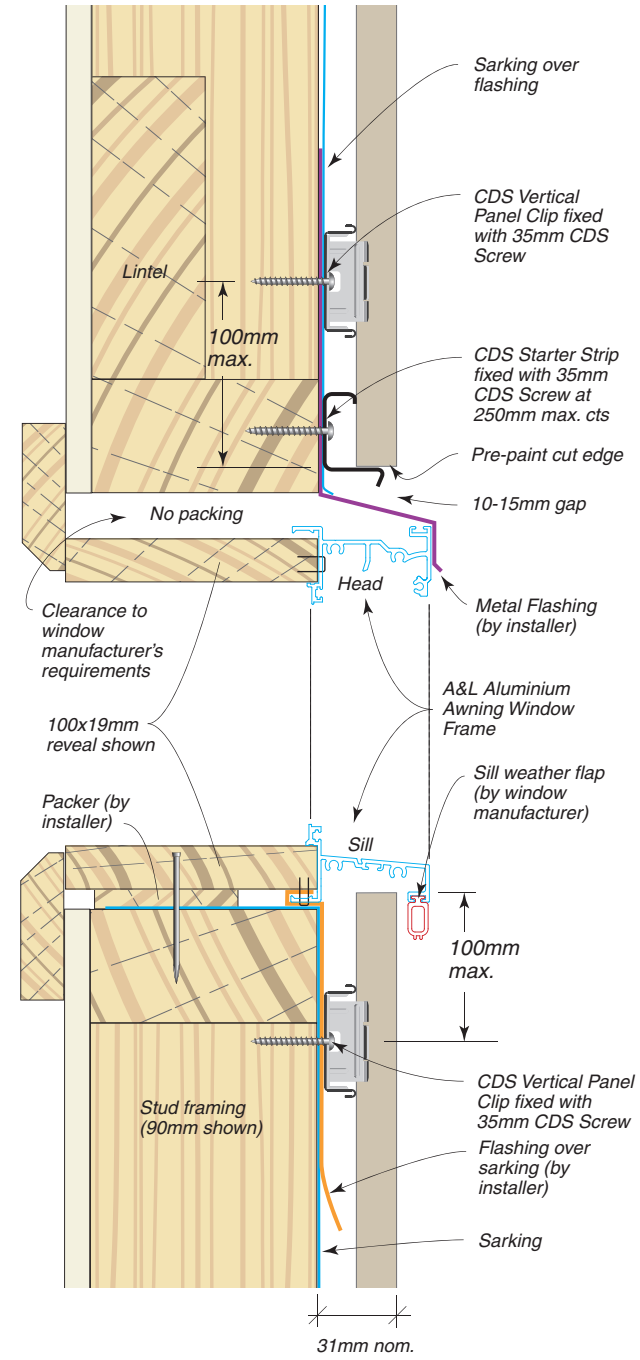


FIG 105: Window Detail – A&L Aluminium Awning Window with Weatherboard Trim



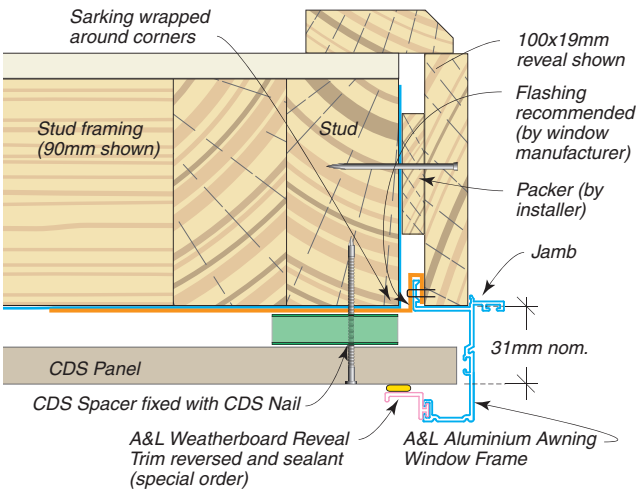
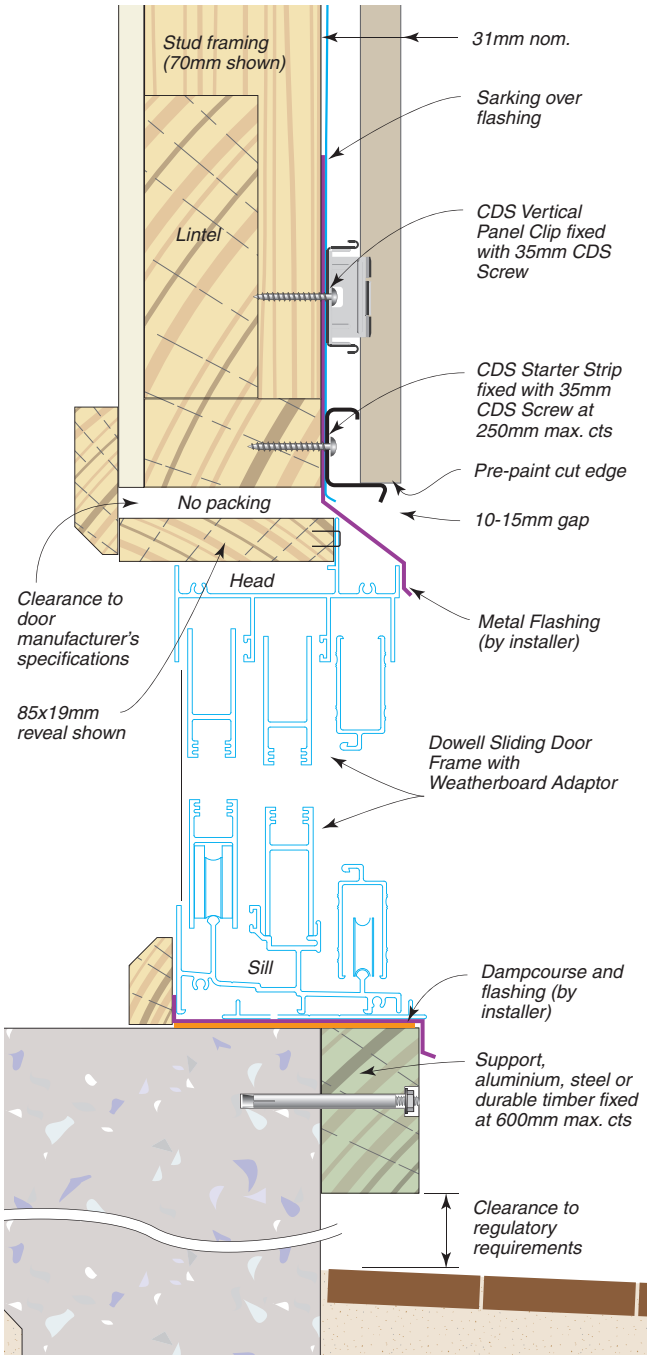
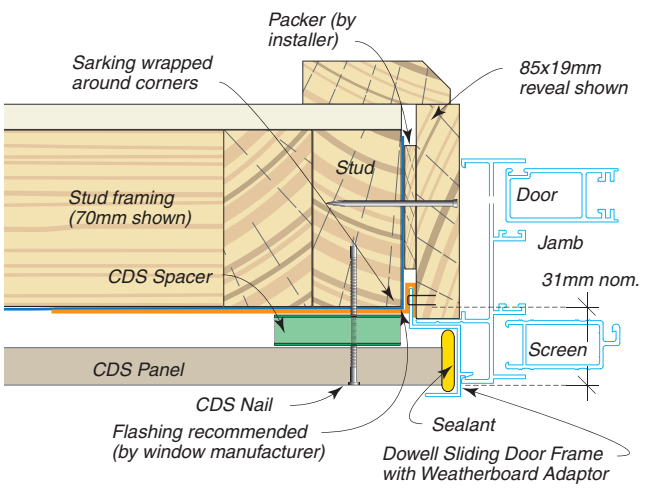


FIG 106: Dowell Sliding Door Installation – 70mm Framing and 85mm Reveal Shown

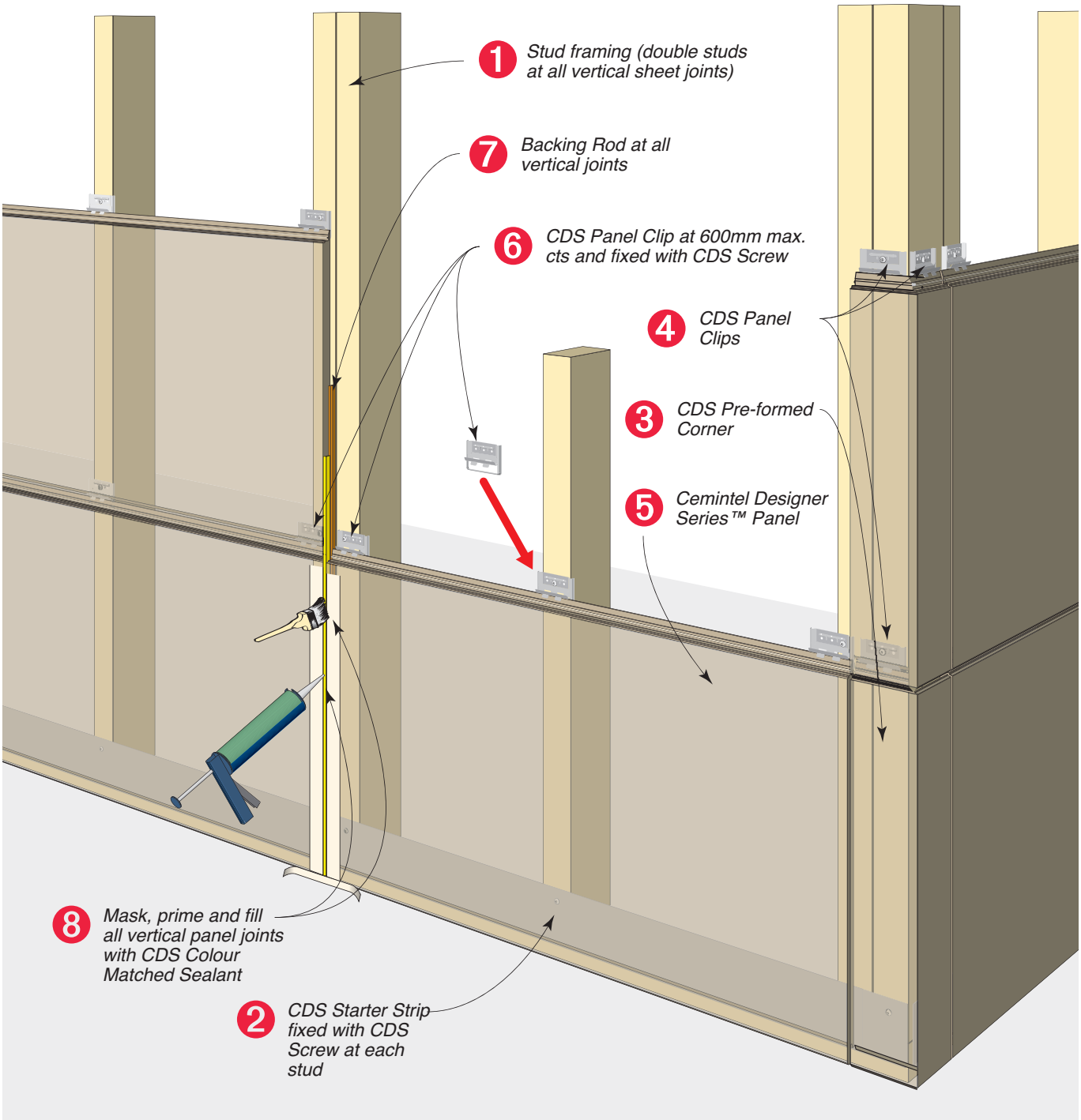




CDS INTERNAL LINING SYSTEM

OVERVIEW & FEATURES

- Cemintel Designer Series™ Panels have complementary tongue and groove profiles along the horizontal edges with an in-built flexible sealing strip.
- CDS Panel Clips fit over the lower panel tongue, and accept and retain the groove of the upper panel providing invisible fixing. The integrated compressible strip provides a sealed joint.
- The CDS Pre-formed External Corners are easy to install using CDS Panel Clips, and provide an attractive matching finish.
- Pre-finished CDS Panels mean virtually no finishing work is required. Simply fill all vertical joints with colour matched sealant and finish off with the matching touch-up kits.

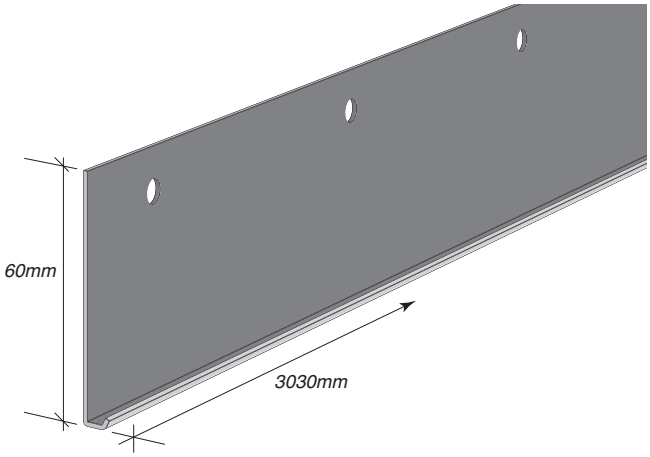


COMPONENTS

Components listed here are unique to the Internal Horizontal Panel system. For additional components please refer to 'COMPONENTS' on page 14 of this guide.

CDS STARTER STRIP

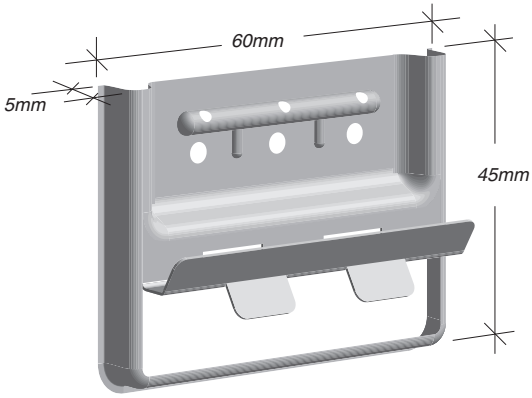
Steel profile used at the base to locate the first row of panels. Provides 5mm offset from face of studs. Manufactured from 1.2 BMT steel with Galvalume AZ150 corrosion resistant coating.



Order N°	Pack Quantity	Length
114911	1	3030mm

CDS PANEL CLIP

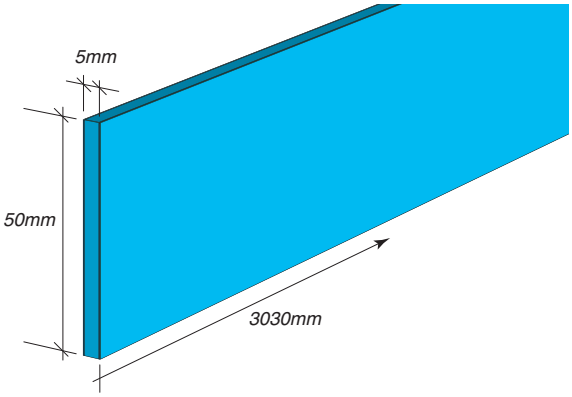
Fixed to the framing to retain the tongue and groove edges of panels. Provides 5mm offset from face of studs. Manufactured from SuperDyma corrosion resistant coated steel.



Order N°	Quantity
114913	50

CDS 5mm SPACER

For packing between framing and panels at wall head and other locations wherever face fixing is required. Manufactured in extruded plastic.



Order N°	Pack Quantity	Length
114912	1	3030mm

CDS BACKING ROD

Foam backing rod used at vertical panel joints to back and provide bond breaker for joint sealant.

Order N°	Length (m)
11177	10mm dia. x 50m roll

DESIGN CONSIDERATIONS

FRAMING

The Cemintel Designer Series™ Internal Lining System may be fixed to either timber or steel framing with studs at 600mm maximum centres

Framing shall be in accordance with the following standard:

- AS1684 – Residential Timber-Framed Construction.
- AS/NZS4600 – Cold-Formed Steel Structures.
- The Building Code of Australia (BCA).

Timber shall be seasoned or have reached an equilibrium moisture content of 16% or less at the time of framing. Unseasoned timber is not recommended.

The design and construction of the steel frames should be considered in conjunction with the advice from the manufacturer. In highly corrosive environments, appropriate measures should be taken to protect the frame from corrosion.

NOTE: Standard framing techniques are appropriate with the addition of double studs at all vertical panel joints to allow for fixing of clips each side of panel joints.

WALL BRACING

CDS panels are indirectly attached to the structural framing using clips and spacers. As a consequence, they are not designed to provide wall bracing. Bracing must be provided in the structural framing in the normal manner by using methods such as strap bracing or sheet bracing. Where sheet bracing is used, the entire wall framing to be clad with CDS panels must be sheeted to maintain a uniform fixing plane. Note that window set-out will be affected.

SERVICES

The CDS system will accommodate services that are run through the framing as per standard practice.

PENETRATIONS

Penetrations in the CDS panels must be neatly cut using appropriate tools such as a saw, drill or hole saw. Penetrations should be prepared with a clearance of 8-10mm all around and the gap must be fully sealed with CDS Sealant.

CONTROL JOINTS

As the CDS panels are indirectly attached to the structural framing using clips and spacers, and sealant filled vertical joints are required at the ends of all panels, i.e. at maximum 3030mm spacings (full panel length), no additional vertical control joints are required. Movement joints provided in framing should be aligned to joints in the panels.

A control joint must also be installed when a masonry wall adjoins framed construction, and at the junction of framed additions or existing buildings, to allow for differential movement. Refer to 'Installation Details'.

VERTICAL PANEL JOINTS

Vertical joints in panels must be aligned and extend for the full height of continuous panelling. As the joints are expressed and sealant filled, consideration to the positioning of joints is important for aesthetic reasons. The number and/or aesthetic impact of joints can be reduced by utilising changes in direction at corners for vertical joints or by using the preformed corners. Placing joints at sides of openings or above doors or full length windows can also reduce the impact of joints.

BUILDING RENOVATIONS

When undertaking building renovations, remove all linings from the original wall framing. Ensure the condition of the framing is in accordance with current applicable requirements. Install additional studs behind all CDS vertical joints. Install the CDS system in accordance with all requirements in this publication.

BUILDING ADDITIONS

When undertaking building additions, a movement control joint must be installed at the junction of the current framing and new framing. The current and new framing and lining systems must be discontinuous at this control joint. Refer to installation details later in this publication.

LIMITATIONS

The CDS Internal Lining system is unsuitable for the following applications, non-horizontal joints/panels, wet areas such as bathrooms and water features. Do NOT apply tiles or other materials to the face of the panels.

When CDS is used for linings adjacent a heat source, including a fireplace or heater, the CDS should not be exposed to temperatures above 50 degrees celcius.

Direct loading of the panels should be avoided. It is recommended that where items such as wall mounted televisions, bookshelves, artwork or signage are to mounted to CDS the stud framing should be back-blocked at fixing locations and the void behind the CDS panel should be packed to avoid distortion of the panels.

MAINTENANCE, WASH-DOWN, GRAFFITI PROTECTION & RECOATING

Refer to details in the External Cladding system section.

BUILDER'S INSTALLATION CHECKLIST

The construction process requires coordination between the builder and the CDS System Installer. The following builder's checklist will assist in making this process run smoothly.

	ACTION	COMPLETED
	PRE-CLADDING CHECKLIST	
1	Confirm that double studs are appropriately located behind all vertical panel joints.	
2	Confirm that studs are appropriately located to accept preformed external corners (when used).	
3	Confirm that studs are appropriately located at internal corners.	
4	Confirm timber framing alignment is in accordance with AS1684, or steel framing is in accordance with AS/NZS4600, and correct if necessary.	
5	Confirm bracing is in place. NOTE: Where sheet bracing is used behind CDS panels, the entire area must be sheeted to maintain a uniform fixing plane.	
6	Confirm services and insulation have been installed in framing where appropriate.	
7	Confirm appropriate window detailing to accommodate panel setout. (21mm nom. from face of frame to face of CDS Panels).	
8	Confirm chosen detailing for junction of wall and ceiling.	
9	Confirm adequate structural support for fixtures such as shelving, signage, etc.	
	POST-CLADDING CHECKLIST	
1	Confirm all vertical joints have been neatly filled with approved sealant.	
2	Confirm all visible nail heads have been covered with appropriate primer and touch-up paint.	
3	Confirm all visible cut edges have been finished with two coats of CDS Touch-up Paint.	

INSTALLATION

FRAMING

Standard framing techniques are appropriate with the addition of double studs at all vertical panel joints to allow for fixing of clips each side of panel joints.

INSTALLATION METHODS

Prior to delivery of components and installation, installers and supervisors should be familiar with the recommended installation methods. Please refer to page 9.

SEALING VERTICAL PANEL JOINTS

Please refer to page 11

CUT EDGES & TOUCH-UP

Please refer to page 11.

FRAMING & PANEL SET-OUT

All framing must be in accordance with the following standards:

- AS1684 – Residential Timber-Framed Construction.
- AS/NZS4600 – Cold-Formed Steel Structures.

FIG 107: Typical Framing Set-Out with 70mm Timber Framing and CDS Pre-formed Corner – Plan View

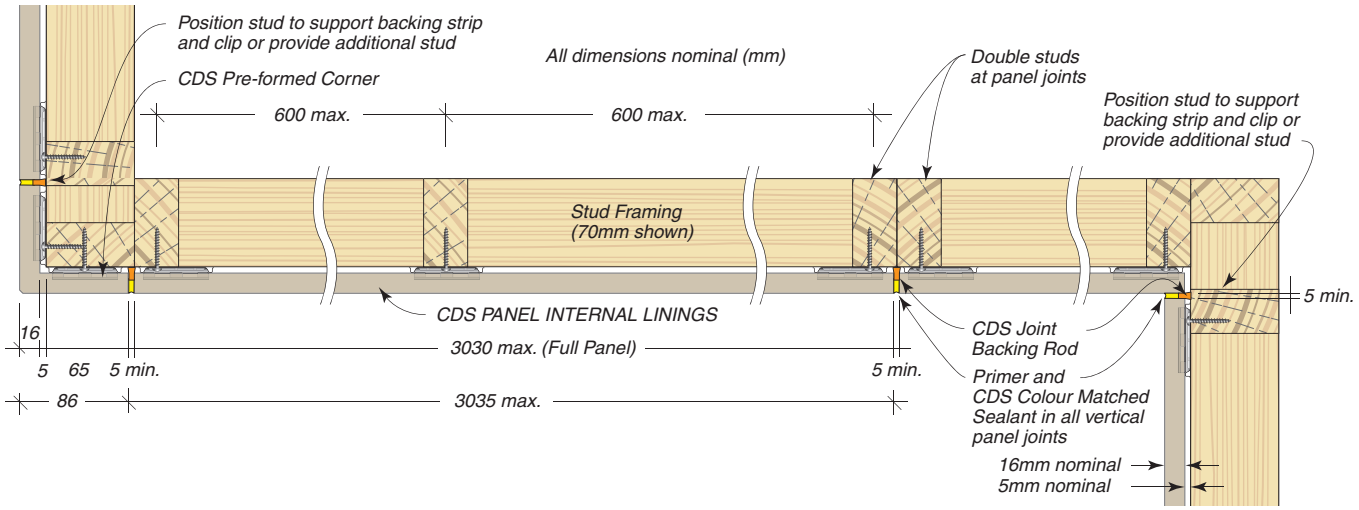


FIG 108: Typical Framing Set-Out with 75mm Steel Framing and CDS Pre-formed Corner – Plan View

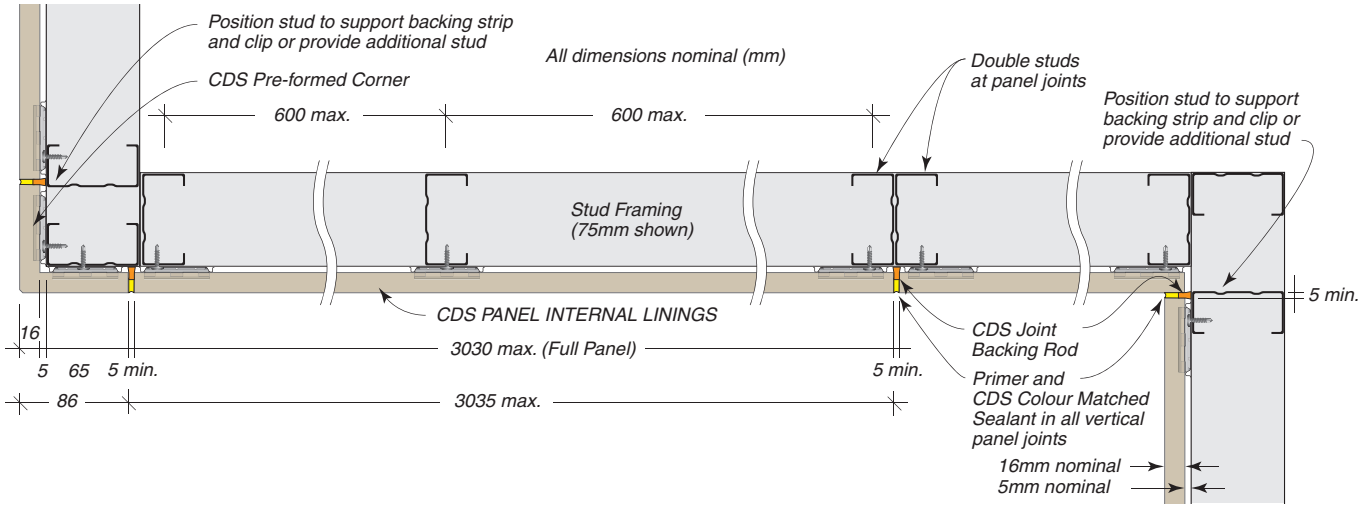


FIG 109: Typical Framing Set-Out with 90mm Timber or Steel Framing and CDS Pre-formed Corner – Plan View

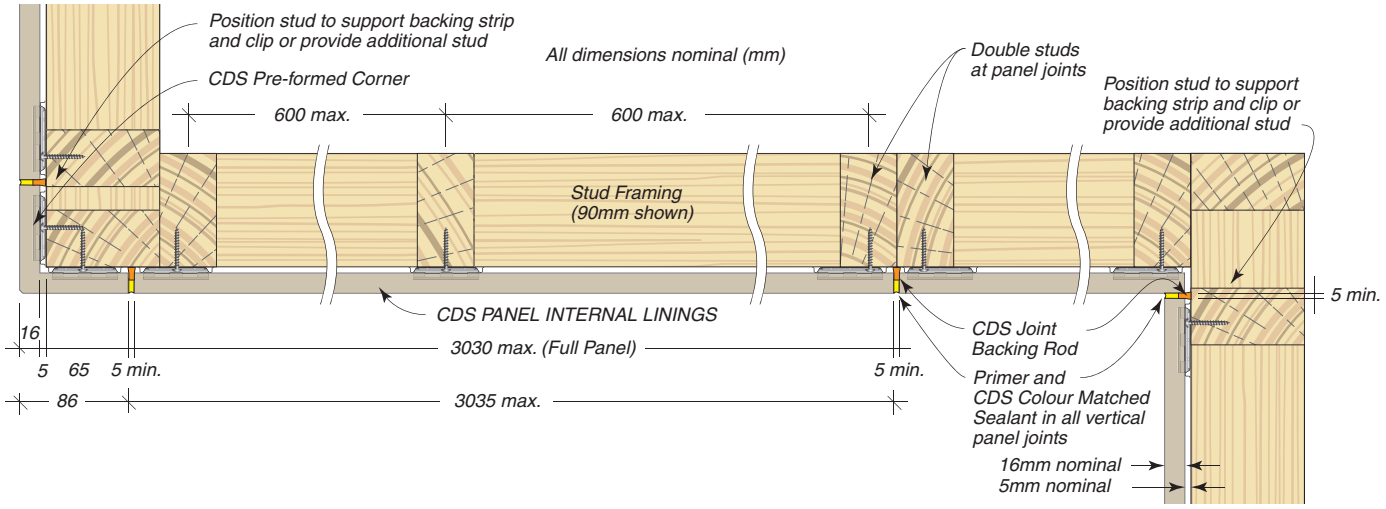
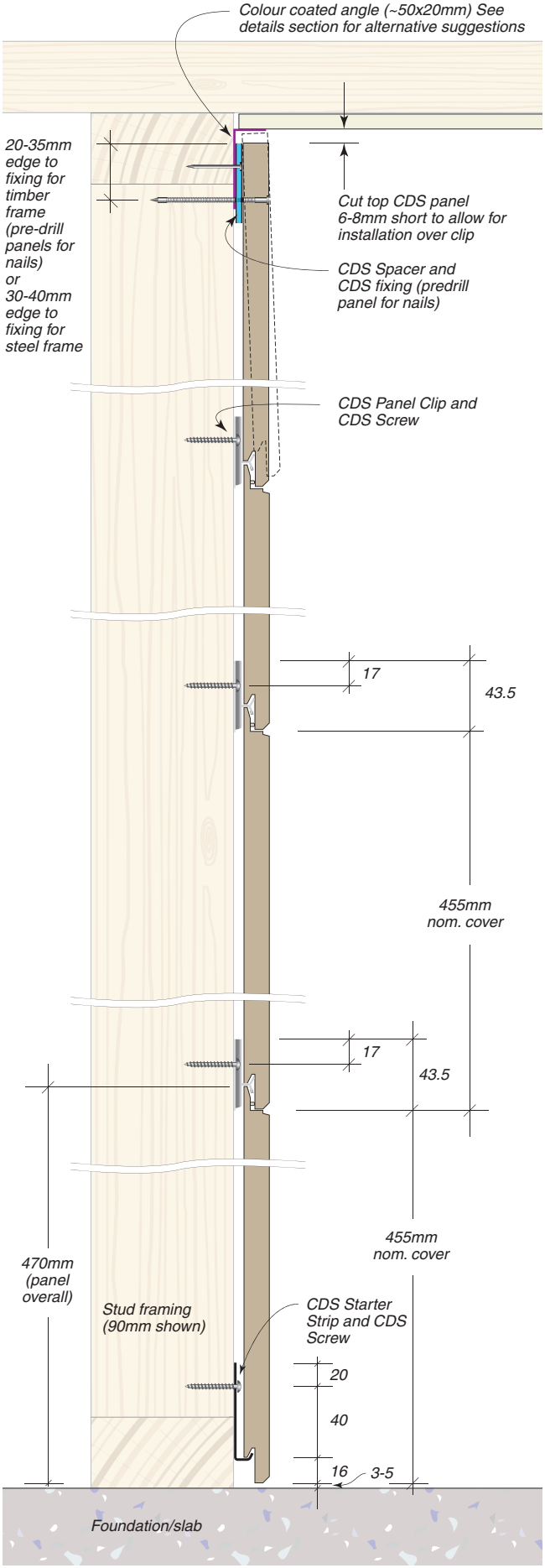


FIG 110: Typical System Cross Section – Elevation



All measurements nominal (mm)

FIG 111: Typical System Cross Sectional Detail where Face Fixing is required – Timber Frame – Elevation

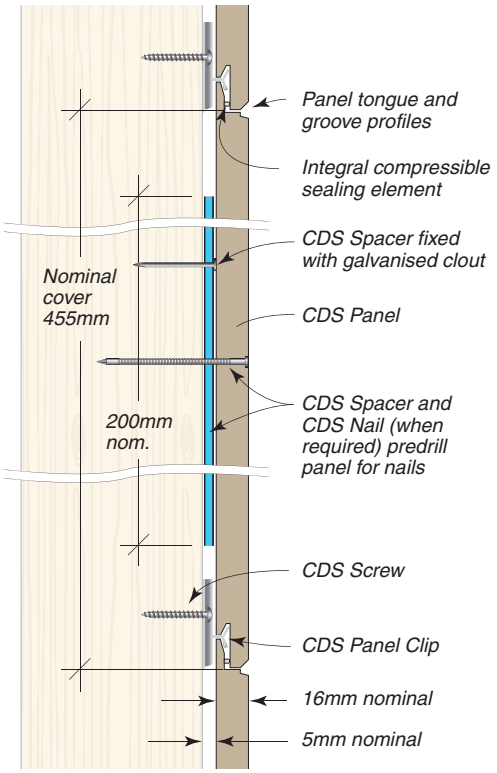
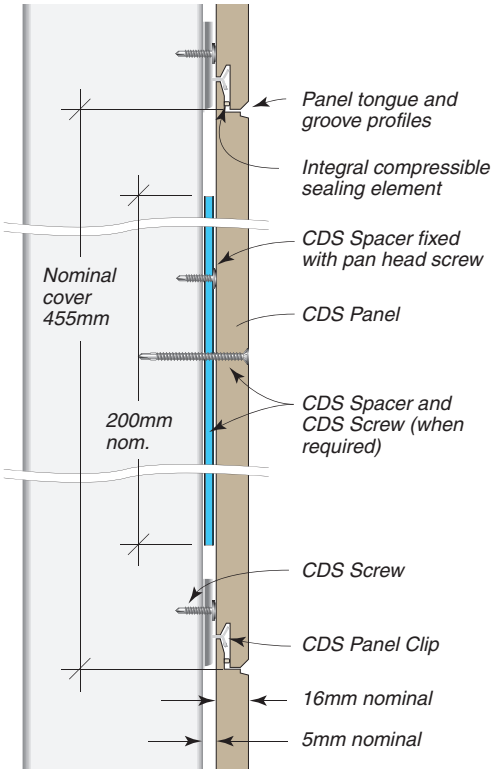


FIG 112: Typical System Cross Sectional Detail where Face Fixing is required – Steel Frame – Elevation



INSTALLATION PROCEDURE

Install CDS Starter Strip at the base of the wall. See Installation Details for alternative methods.

Begin at an external corner. Install CDS Preformed Corner profile onto the CDS Starter Strip and fix in-place with CDS Panel Clips screw fixed to framing. (Where no external corner exists, start at one end of the wall.}

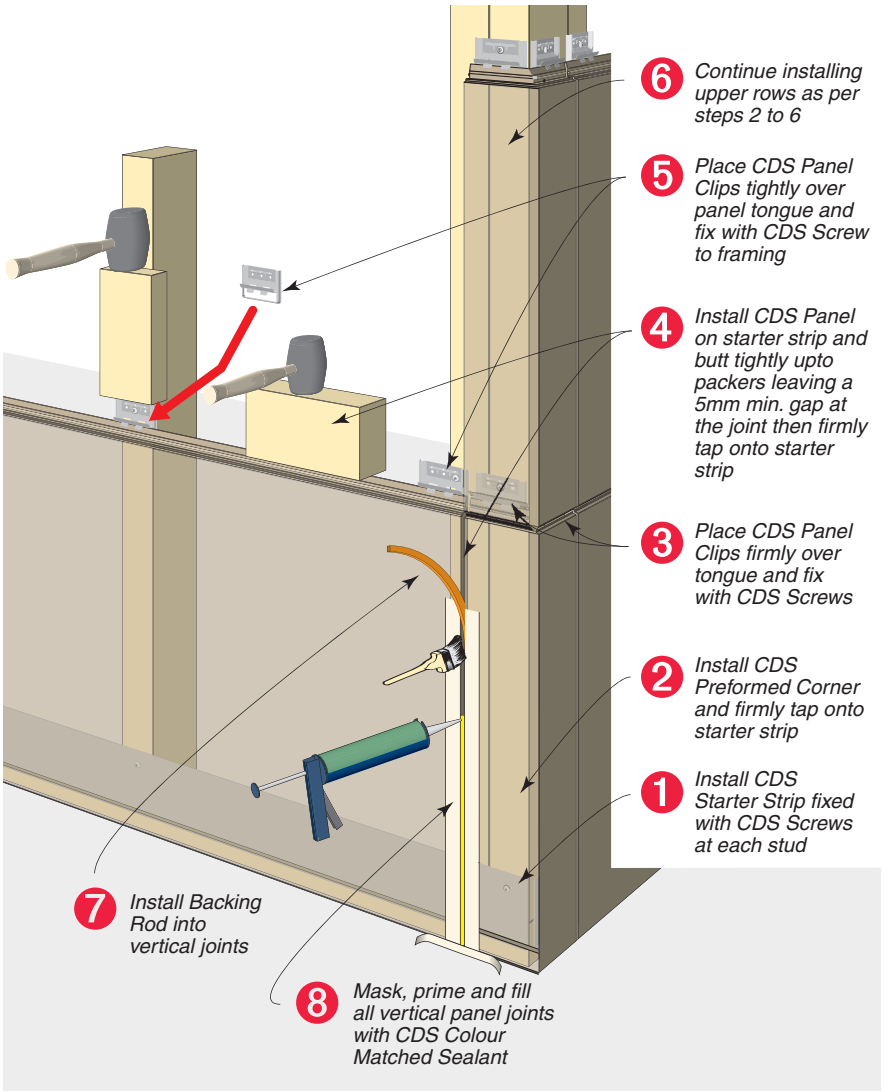
CDS Panels are installed horizontally with the lowest row being installed first onto the starter strip. Use tile spacers or similar to form a 5mm minimum gap at all vertical joints. Ensure vertical joints are accurately aligned.

CDS Panel Clips are placed over the top edge tongue of the panel and screw fixed to framing at each stud.

At the wall head, face fixing is required. Refer to detailed information on this topic later in this publication.

At all face fixing locations, a CDS Spacer is required behind the panel.

FIG 113: Installation Procedure for CDS Internal Lining System



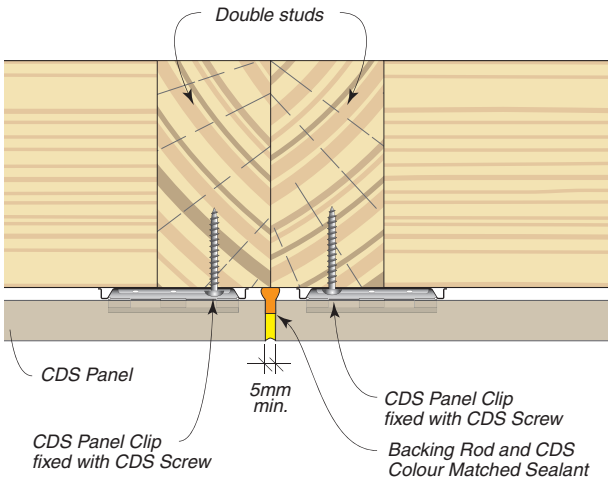
SEALING VERTICAL PANEL JOINTS

All vertical panel joints require Backing Rod to support the sealant. All joints must be primed and filled with CDS Colour Matched CDS Sealant after installation. Panels must be completely dry before applying primer and sealant.

Correct and full application of CDS Primer to both ends of the panels is critical to successful sealant performance. Primer must be allowed to dry fully before installing sealant.

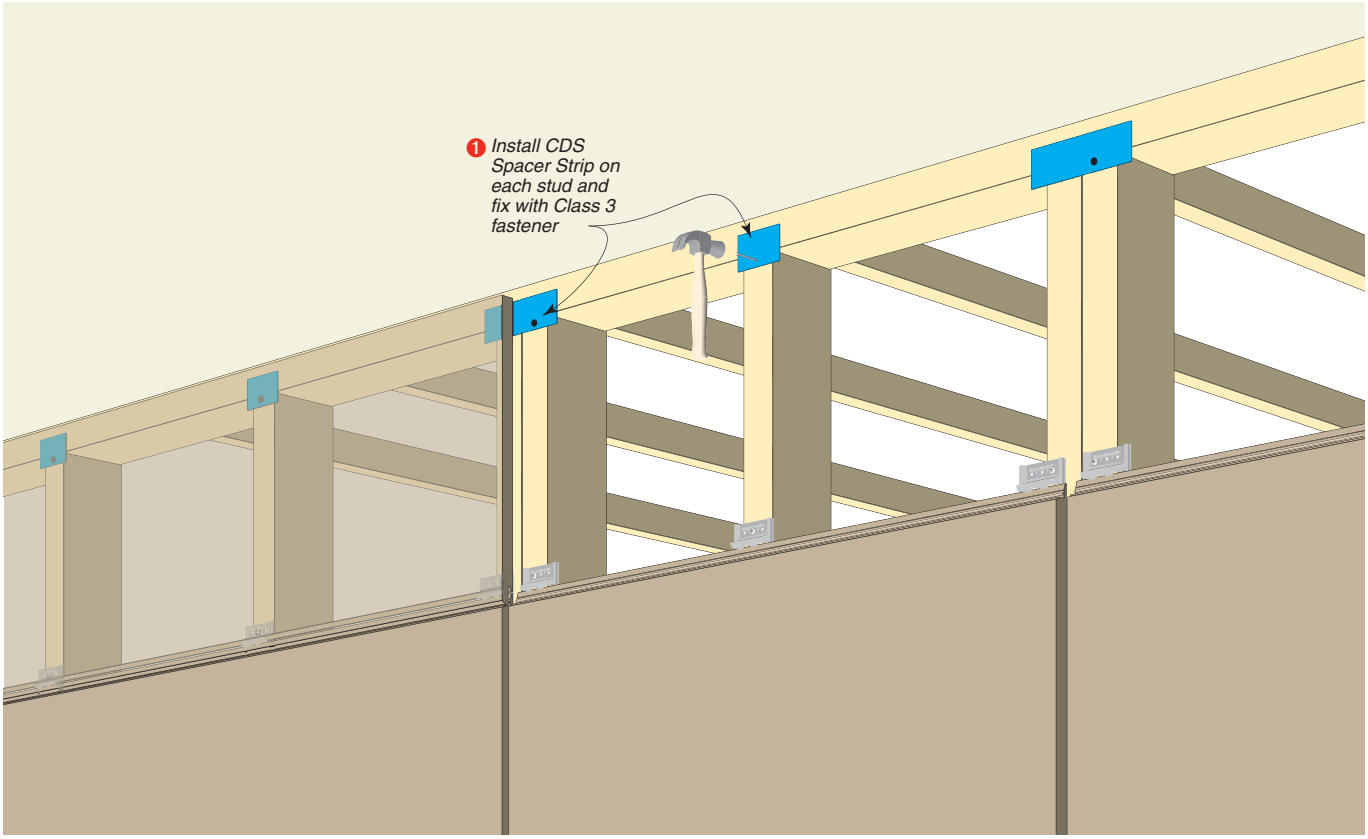
Sealant must be installed not less than 30 minutes after and not more than 6 hours after primer application.

FIG 114: Vertical Panel Joint - Plan View



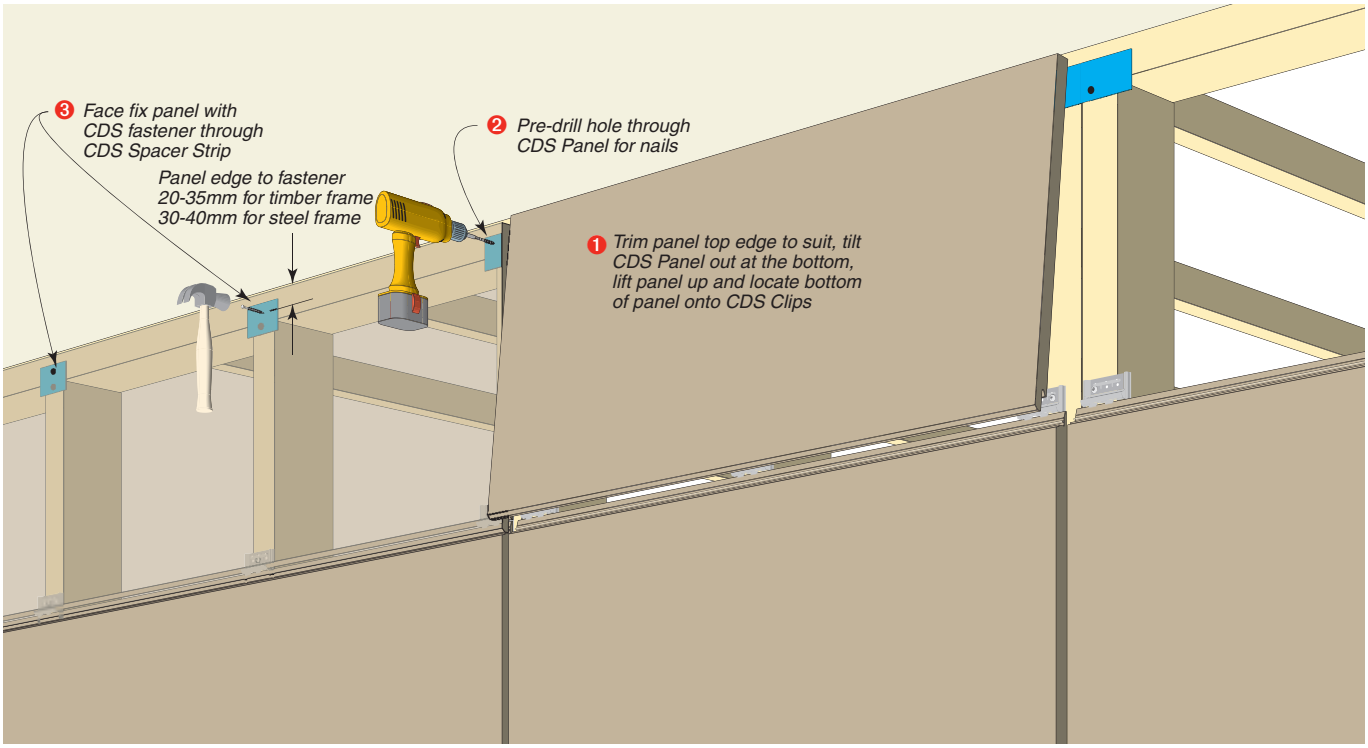
PREPARATION AT SOFFIT (Also refer to Head Details).

❶ Install and fix CDS Spacer Strip on each stud.



PANEL INSTALLATION AT SOFFIT (Panel height may require trimming to provide adequate installation clearance. Refer to Head Details).

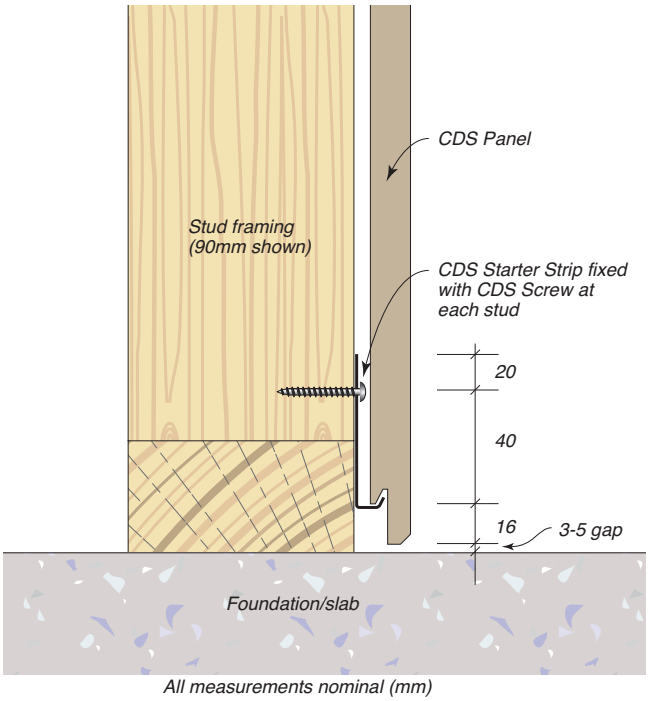
❶ Tilt CDS Panel out at the bottom, lift panel up and locate bottom of panel onto CDS Clips. ❷ Pre-drill holes through panels for nails. ❸ Face fix panel with CDS fastener through CDS Spacer Strip at each stud and 20-35mm from panel edges for timber frame or 30-40mm for steel frame.



INSTALLATION DETAILS

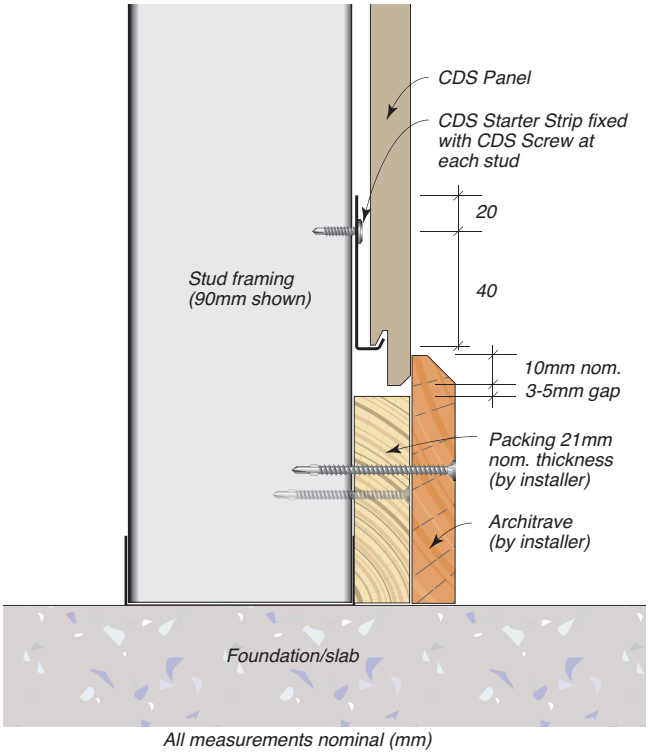
BASE DETAILS

FIG 115: Base Detail - No Skirting



All measurements nominal (mm)

FIG 116: Base Detail - With Skirting



All measurements nominal (mm)

HEAD DETAILS

FIG 117: Head Detail - With Coloured Angle

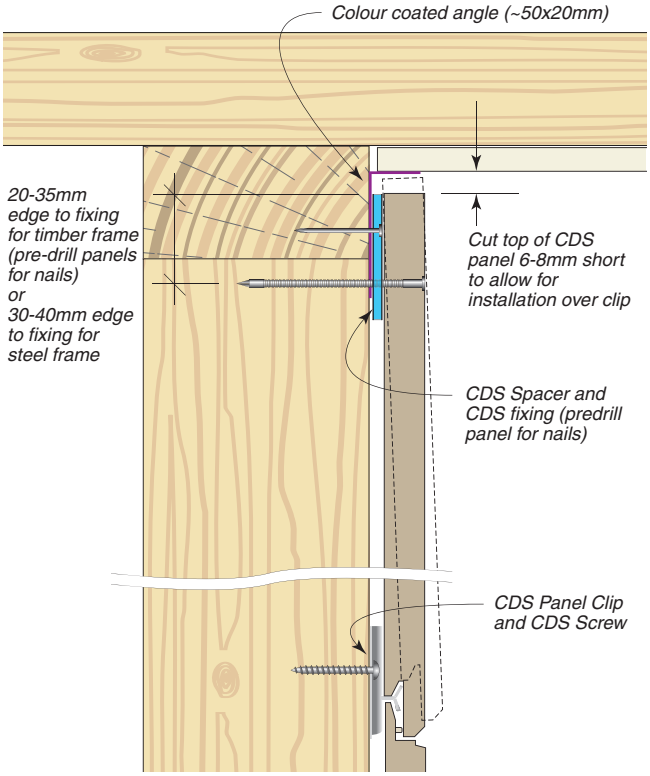


FIG 118: Head Detail - With Shadowline Trim

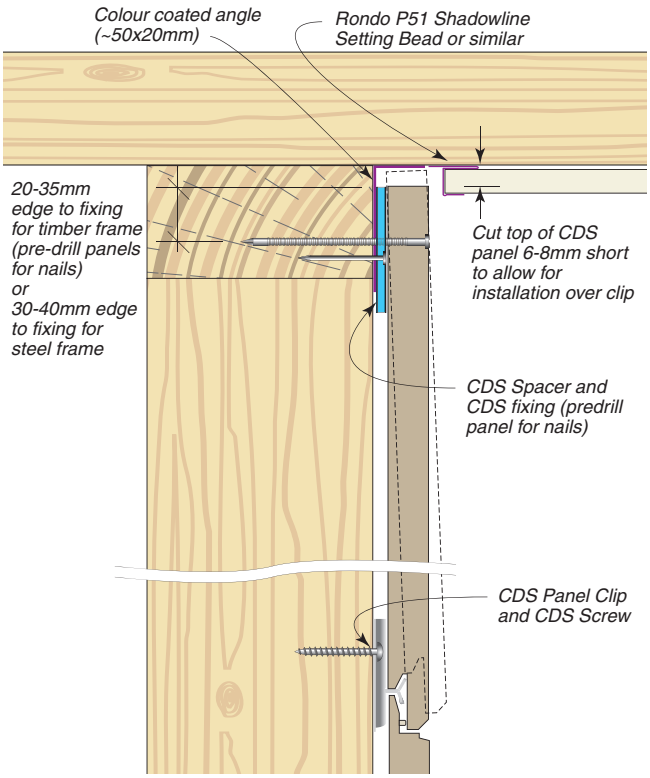
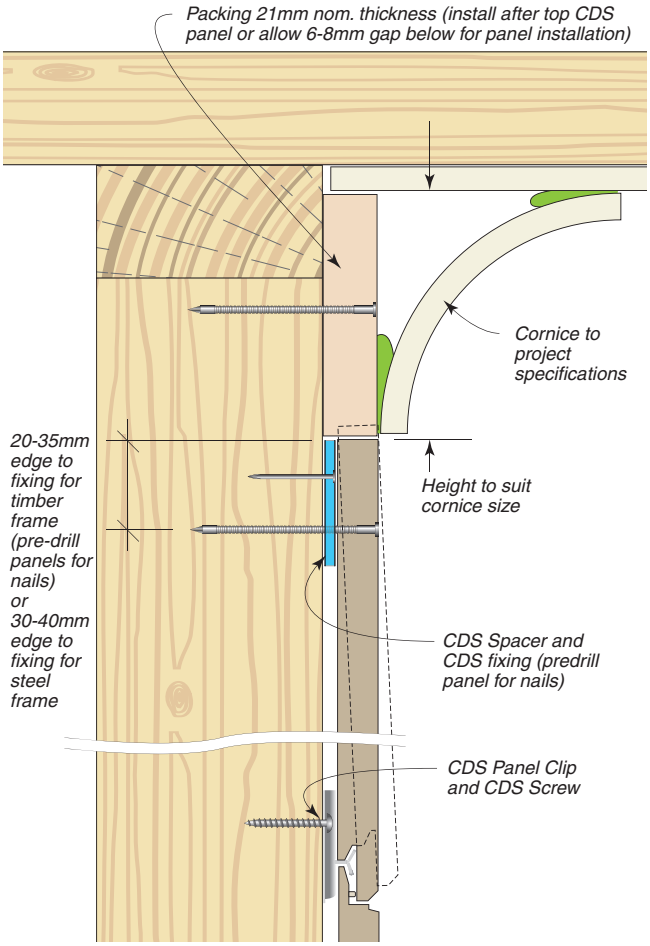


FIG 119: Head Detail - With Cornice



JUNCTION DETAILS

FIG 120: Typical Junction of CDS with Plasterboard Wall – Plan View

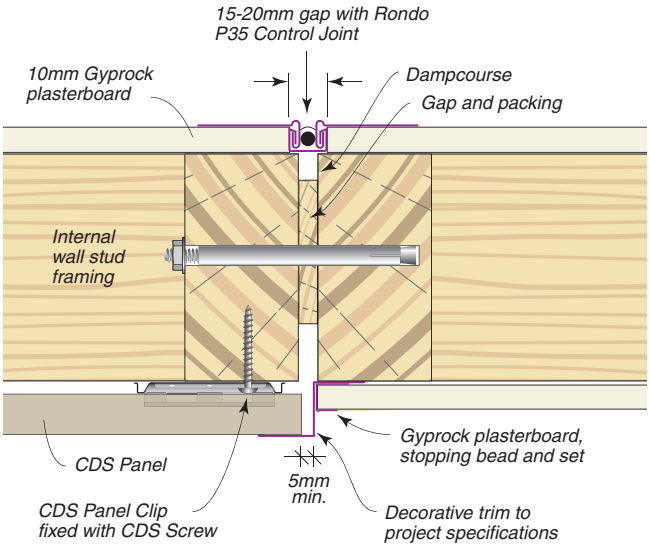


FIG 121: Typical Junction of CDS with Masonry Wall – Plan View

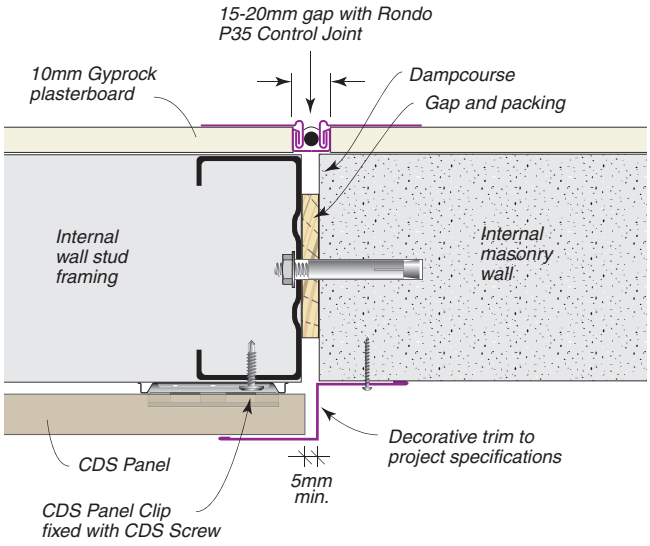
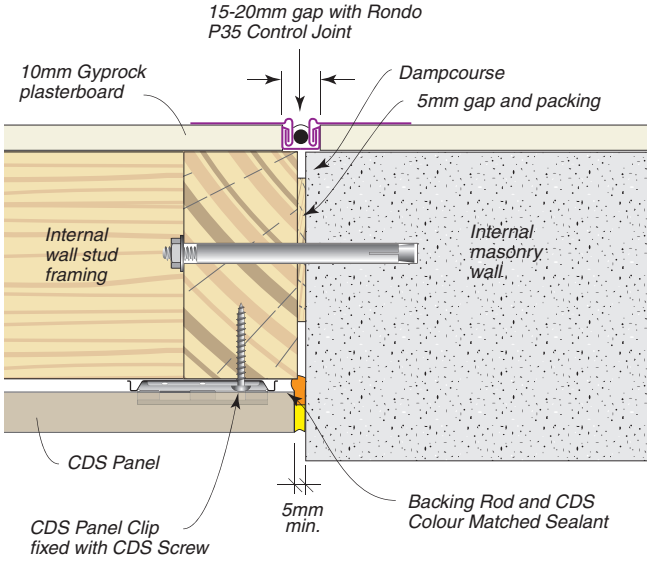


FIG 122: Typical Junction of CDS with Deep Masonry Wall – Plan View



CORNER DETAILS

Additional studs may be required at corners to allow for fixing CDS Panel Clips, other components and to support joint backing rod.

FIG 123: Preformed External Corner – Plan View

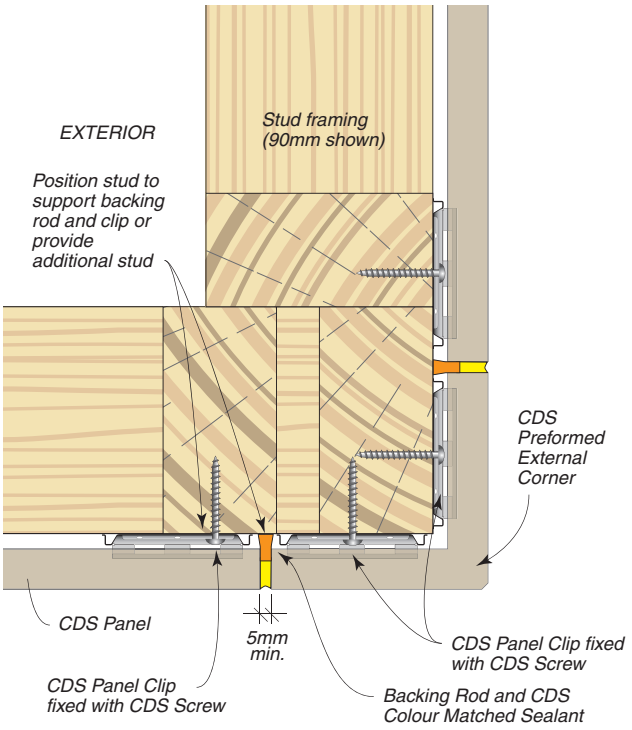


FIG 124: External Corner with Coloured External Corner Trim – Plan View

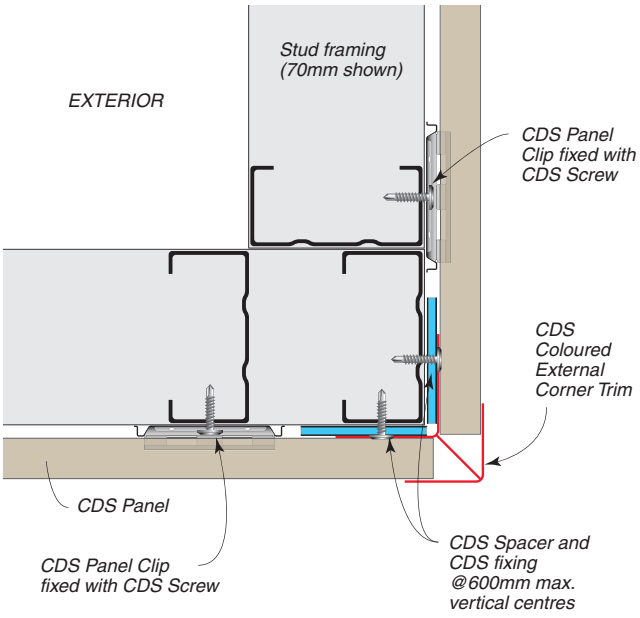


FIG 125: Internal Corner with Backing Rod and Colour Matched Sealant – Plan View

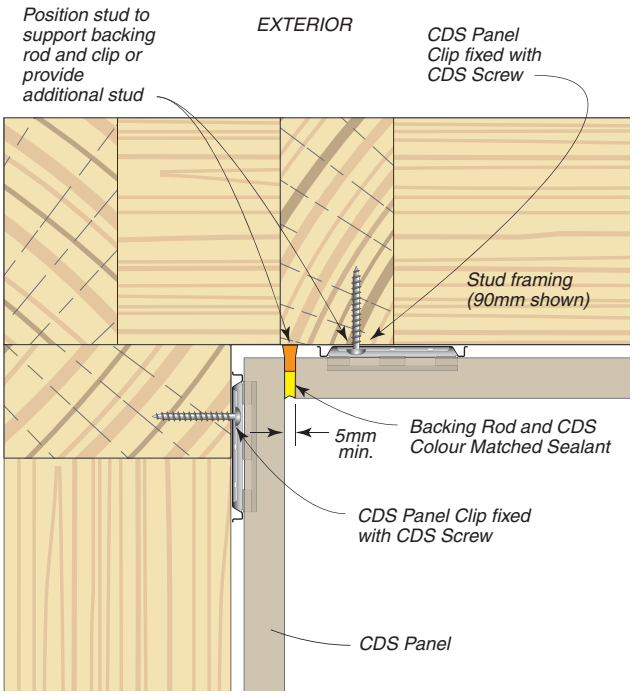
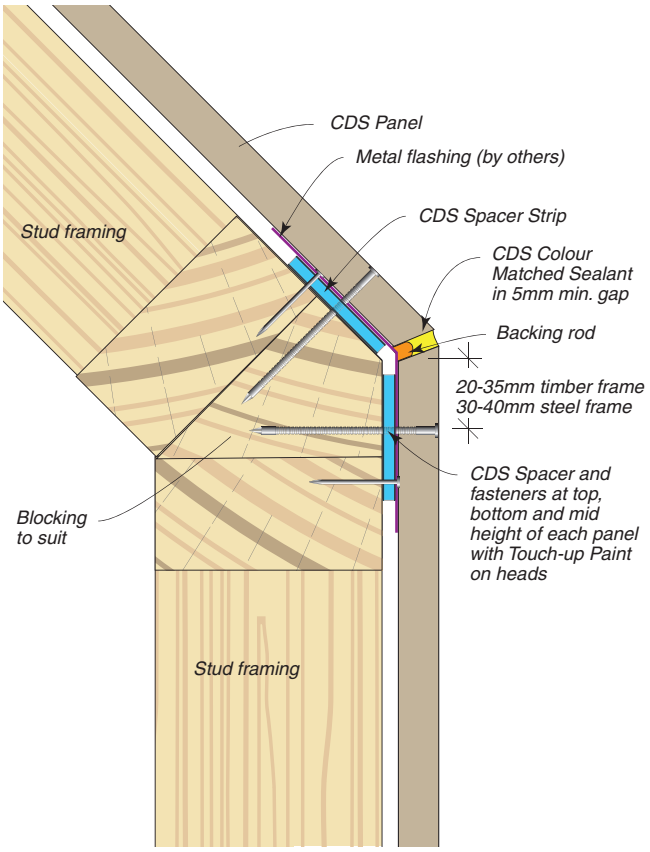


FIG 126: Obtuse Angle Corner with Metal Flashing and Colour Matched Sealant – Plan View



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DESIGNER SERIES™

FC:502

HEALTH & SAFETY

WARNING

Fibre Cement products contain crystalline silica. Repeated inhalation of fibre cement dust may cause lung scarring (silicosis) or cancer. Do not breathe the dust. When cutting sheets, use the methods recommended in this brochure to minimise dust generation. If power tools are used, wear an approved dust mask (respirator). These precautions are not necessary when stacking, unloading or handling fibre cement products.

For further information and for a Material Safety Data Sheet, phone 1800 678 068.

WARRANTY

CSR Building Products Limited ("**CSR**") warrants its Cemintel Designer Series™ panels ("**Product**") to remain free of defects in material and manufacture and that the coating will not blister, peel or flake for 7 years from the date of purchase.

In the event of any failure of the Product caused by the direct result of a defect in the material or manufacture of the Product, CSR will at its option replace or repair, supply an equivalent product, or pay for doing one of these.

This warranty does not apply where the Product has been used in any manner not in accordance with the manufacturer's instructions, nor the reuse of the Product after its initial installation. This includes installation and maintenance in accordance with the relevant Cemintel technical manual, current copies are available at www.cemintel.com.au/installation or by contacting **1300 CEMINTEL**. CSR recommends that only those products, components and systems recommended by it be used and the project must be designed and constructed in strict compliance with all relevant provisions of the current Building Code of Australia, regulations and standards. CSR will need to be satisfied that any defect in its Product is attributable to material or manufacture defect (and not another cause) before this warranty applies.

Without limiting the foregoing, CSR will not be liable for any claims, damages or defects arising from or in any way attributable to poor workmanship, poor design or detailing, settlement or structural movement and/or movement of materials to which the Product is attached, incorrect design of the structure, high levels of pollution, acts of God including but not limited to earthquakes, cyclones, floods or other severe weather conditions or unusual climatic conditions, efflorescence or performance of paint/coatings applied to the Product or normal wear and tear.

Other than as expressly set out in this warranty, and the guarantees that can not be excluded under The Australian Consumer Law (Schedule 2 of the Competition and Consumer Act 2010 (Cth)) (and any other law), CSR excludes all other warranties and guarantees with regard to the Product including all guarantees and warranties that may apply at law.

To the extent that it is able to do so, CSR excludes all liability for loss and damage (including consequential loss) in connection with the Product. This exclusion does not apply where the Product is sold to a consumer and is a good of a kind ordinarily acquired for personal, domestic or household use or consumption.

The following statement is provided where the Product is supplied to a buyer who is a "consumer" under the Australian Consumer Law: *Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.* The benefits of this warranty are in addition to other rights or remedies of the consumer under law in relation to the goods or services to which the warranty relates.

Notification of a warranty claim must be made to CSR prior to any return of the Product. Failure to allow CSR to examine an alleged faulty Product in-situ may result in the voiding of this warranty.

To make a claim under this warranty, you must contact CSR on **1300 CEMINTEL**, or write to one of our state offices, **www.cemintel.com.au/contact-us**. All expense of claiming the warranty will be borne by the person making the claim. CSR may require documentation supporting the claim to be provided.

FC502.BMS1042.0814

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AUGUST 2014

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