

CEMINTEL[®]

DESIGN AND INSTALLATION GUIDE



WEATHERBOARDS & PLANKS

Endeavour and Headland Weatherboards. Smooth and Woodgrain Planks.

CSR

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DESCRIPTION

Cemintel™ Weatherboard and Plank products are autoclaved, cellulose fibre reinforced, cement weatherboards designed for residential cladding. They will not rot or warp when correctly installed and maintained, and are resistant to fire and termite damage.

Cemintel Endeavour™ Weatherboard is a double width board machine profiled from 10mm thick base board. It has two equally spaced linear features and is recessed for 17mm overlap. It is designed to fix flat against stud framing.

Cemintel Headland™ Weatherboard has a single, sharp-edged, linear recess and is machine profiled from 10mm thick base board. It is fixed in the traditional step pattern and has an angled notch for easy alignment and up to 25mm overlap.

Cemintel™ Weatherboard Plank Smooth is a 7.5mm thick board with a flat profile. It has a smooth texture and is available in 230mm and 300mm widths. Cemintel™ Weatherboard Plank Woodgrain is similar with a traditional sawn timber appearance.

Cemintel Endeavour™ and Headland™ products are supplied primed and, once installed, can be coated with an exterior grade paint system to provide a durable, low maintenance finish. Cemintel™ Plank is supplied un-coated.

ADVANTAGES

- Achieves the natural look of timber with minimal maintenance.
- Immune to permanent water damage.
- Fire resistant.
- Termite resistant.
- Lightweight construction method.
- Provides a tough, durable cladding system.

APPLICATIONS

Cemintel™ Weatherboard and Plank products can be used in many residential external applications including:

- Upper and lower storey additions
- Composite construction
- Over-cladding of existing walls
- Gable ends
- Infill panels around windows and doors
- Garages and toolsheds

Weatherboards and Planks may be fixed to timber or steel framing. For buildings and wind loads in accordance with AS 4055, the products are suitable for wind zones N1 to N5/C3.

MATERIAL SPECIFICATIONS

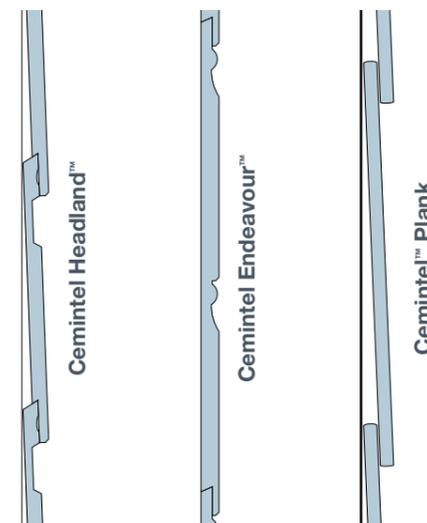
Cemintel™ Weatherboard and Plank products conform to the requirements of AS/NZS2908.2 'Cellulose-cement products Part 2: Flat sheets.'

Cemintel Headland™ and Endeavour™ Weatherboards are factory coated with a pale yellow primer.

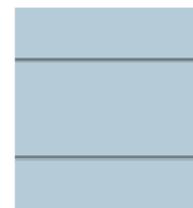
Cemintel™ Plank products are uncoated.

Table 1: Cemintel™ Weatherboard and Plank Availability

Product	Thickness (mm)	Width (mm)	Length (m)	Unit mass (kg/m)	Area mass (kg/m ²)
Cemintel Endeavour™	10	295	4.2	4.1	14.6
Cemintel Headland™	10	170	4.2	2.2	15.1
Plank Smooth	7.5	230	4.2	2.7	13.1
		300	4.2	3.5	12.8
Plank Woodgrain	7.5	230	4.2	2.7	13.1
		300	4.2	3.5	12.8



Plank Smooth



Plank Woodgrain



FIRE RESISTANCE

When tested in accordance with AS1530.3, the Fire Hazard Indices for Cemintel™ Weatherboard and Plank are as follows:

FIRE HAZARD INDICES

Product	EFHI	SMOGR _{Arc}	Group Number
Cemintel™ Weatherboard & Plank	0/0/0/0	0	1

Notes:

EFHI = Early Fire Hazard Indices (Ignitability/Spread of Flame/Heat Evolved/Smoke Developed).

SMOGR_{Arc} = Smoke Growth Rate Index.

For information on suitability for use in bushfire areas, refer to CSR Cemintel publication – Construction Guide for Bushfire Areas.

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 Cemintel™ Weatherboards or Planks are suitable for the particular requirements of any given project.

FRAMING

Cemintel™ Weatherboards or Planks may be fixed to either timber or steel framing. Stud spacing shall be in accordance with Table 2 or 3.

Timber framing must comply with AS1684 'Residential Timber Framing Construction'. Timber with an equilibrium moisture content of less than 16% at the time of cladding application must be used. Unseasoned timber prone to shrinkage must not be used. Inspect the frame carefully for bowed, warped, or twisted studs; and for alignment of all framing members. Timbers that are not flush should be packed out or straightened.

Table 2: Maximum Stud Spacing (mm) for Timber Framing

Cemintel™ Product	Fixing Location	Wind Category				
		N1	N2	N3/C1	N4/C2	N5/C3
Headland™ Weatherboard	General Zone	600	600	600	600	NA
	Corner Zone	600	600	450	400	NA
Endeavour™ Weatherboard	General Zone	600	600	600	NA	NA
	Corner Zone	600	600	400	NA	NA
Cemintel™ Plank 230mm	General Zone	600	600	600	NA	NA
	Corner Zone	600	600	400	NA	NA
Cemintel™ Plank 300mm	General Zone	600	600	NA	NA	NA
	Corner Zone	450	400	NA	NA	NA

Notes: Corner Zones are areas within 1200mm of a building corner. Framing is seasoned timber.

Table 3: Maximum Stud Spacing (mm) for Steel Framing

Cemintel™ Product	Fixing Location	Wind Category				
		N1	N2	N3/C1	N4/C2	N5/C3
Headland™ Weatherboard	General Zone	600	600	600	600	450
	Corner Zone	600	600	600	400	300
Endeavour™ Weatherboard	General Zone	600	600	450	NA	NA
	Corner Zone	600	450	300	NA	NA
Cemintel™ Plank 230mm	General Zone	600	600	600	450	NA
	Corner Zone	600	600	450	300	NA
Cemintel™ Plank 300mm	General Zone	600	600	450	NA	NA
	Corner Zone	600	450	300	NA	NA

Notes: Corner Zones are areas within 1200mm of a building corner. Steel framing is 0.55 to 1.6mm BMT.

Metal framing must comply with AS3623 'Domestic Metal Framing', and have a BMT of less than 1.6mm. Do not fix weatherboards to thicker cold rolled members or to hot rolled steel. Vertical timber or metal battens may be used over these members. Refer to framing manufacturer for appropriate products to suit coastal or other corrosive locations.

WIND LOADING

Cemintel™ Weatherboards are suitable for the specified wind classifications when installed to frames with maximum stud spacings as shown in Table 2 and 3.

WATER RESISTANCE

Wind forces can produce lower air pressures within buildings than on the outside, forcing water through gaps in the building envelope such as at penetrations and joints, even at low wind speeds. A sarking or wall wrap is highly recommended between stud frames and Cemintel™ Weatherboards or Planks. (CSR Bradford Enviroseal™ Wall Breather is recommended). Sarking must be designed and installed in accordance with AS/ NZS 4200 Part 1: Materials, and Part 2: Installation, and should be sealed as for a vapour barrier.

The control of water ingress to a building is the responsibility of the designer. All flashings, damp proof courses and sealants must be installed in accordance with the relevant standards and building codes.

Condensation is a complex problem, and can occur under a variety of conditions, not just cold weather. Literature on this subject is available from CSIRO/ BRANZ/ASHRAE and should be consulted when building in areas where condensation is likely to occur. In these cases, the appropriate use of a sarking as a vapour barrier or as thermal insulation, or both, can be effective in controlling condensation.

THERMAL INSULATION

Insulation materials should be installed to enhance thermal insulation properties and occupant comfort. Insulation also improves the acoustic performance of the wall against outside noise.

Where occupant comfort is a consideration, the minimum recommendation is a reflective foil fixed to the outside of the frame, directly beneath the weatherboards. It is important that a vapour permeable foil be used, such as CSR Bradford Enviroseal™ Wall Breather.

Where greater thermal insulation properties are required, it is recommended that CSR Bradford wall batts be installed in the wall framing. Check with local building regulations for minimum insulation requirements.

Where compressible insulation is installed between studs and weatherboards, an additional face fixing is required at the bottom of each board to each stud. When fixing to weatherboards to steel framing, a thermal break is required to meet the deemed to satisfy provisions of the BCA.

COLD CLIMATES

In cold climates where condensation in the wall cavity is possible, a vapour barrier is also recommended between any internal linings and the framing.

Cemintel™ Weatherboards are not designed to be in contact with snow or ice build-up for extended periods, such as is experienced in alpine areas subject to snowdrifts. They are NOT to be used in freeze/thaw conditions.

When metal framing is used in extreme climates and clad with Cemintel™ Weatherboards, additional precautions apply. Contact CSR Cemintel™ for more details. Extreme climatic conditions include mountain and desert climates.

COASTAL AREAS

Cemintel™ Weatherboards are suitable for use in coastal areas, which are defined as being within 1km of a beach with breaking surf, or up to 200m from a non-surf beach shoreline. Consideration must also be given to local weather and topographical features which can increase the distance that salt spray can travel.

To resist corrosion in these areas, salt laden air must be excluded from the wall cavity, for instance by lapping and sealing vapour barrier and flashing at corners, penetrations and joints.

All walls must be sufficiently exposed from above so that rain can perform natural wash down of the wall. Walls that are protected by soffits above must be washed down twice per year, to remove salt build-up. Ensure fasteners have manufacturers approval for use in the application.

Prior to the application of the external coating, wash down walls with clean fresh water to remove salt spray build-up from boards and fixings. Boards must be allowed to dry before coating.

BRACING

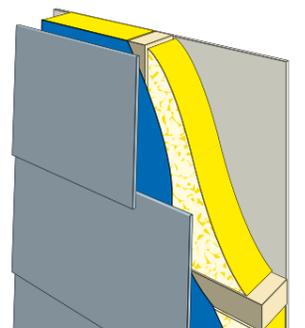
Cemintel™ Weatherboards are not designed to act as structural bracing.

Cemintel™ Weatherboard/Plank System

- Cemintel™ Weatherboards or Planks.
- Bradford Enviroseal™ Wall Breather.
- Timber or Steel Studs (90mm) at 600mm maximum centres.
- Insulation as per table below.
- 1 layer x 10mm GYPROCK Plasterboard CD to the inside of framing.

Insulation Materials

Insulation Materials	Total Wall R-Value
(a) Nil	0.84
(b) Bradford ComfortSeal™ R1.5.	1.73
(c) Bradford Soundscreen™ R2.5	2.73



TERMITE PROTECTION

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, or your local building authorities for more information about the requirements for the design of a suitable termite management system.

HANDLING AND CUTTING

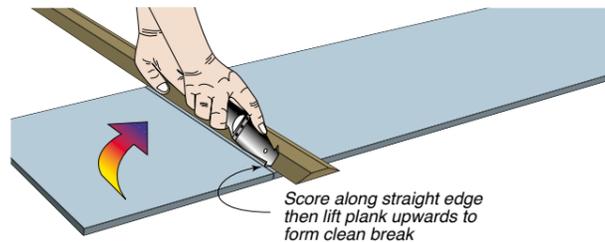
All Cemintel™ Weatherboards must be stacked flat, off the ground, and supported on a level platform. Care must be taken to avoid damage to edges, ends and surfaces.

Material must be kept dry, preferably by being stored inside a building. Where it is necessary to store material outside, it must be protected from the weather.

The following methods may be used for cutting Cemintel™ Weatherboards.

Tungsten Tipped Score and Snap Knife. Use for width cuts only.

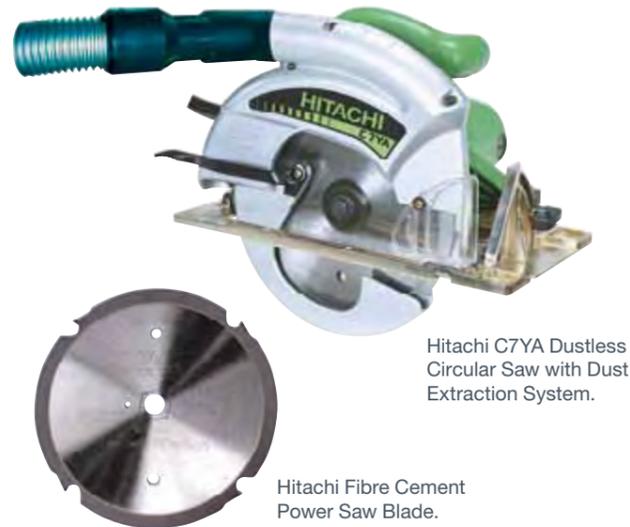
1. Score face of plank 4 to 5 times using a tungsten tipped knife against a straight edge. For 10mm thick weatherboards, score both sides.
2. Support the scored edge with the straight edge and snap the plank upwards for a clean break.



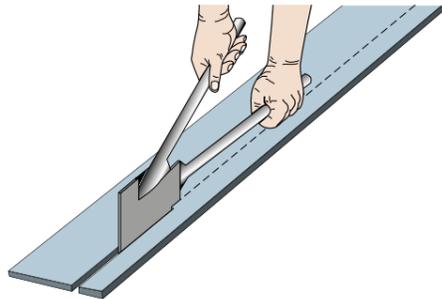
Power Saw

For best results, use a circular saw with an appropriate blade. CSR recommends using the Hitachi Fibre Cement Power Saw Blade. This blade is specifically designed for use with fibre cement and produces a superior cut compared to conventional blades.

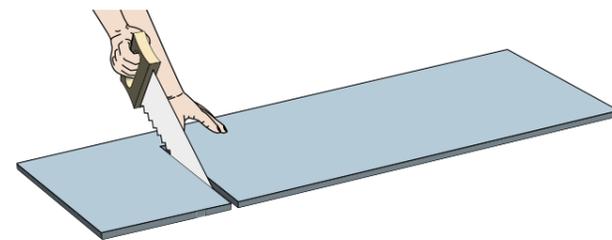
It is ideal for use with the Hitachi C7YA dustless circular saw and other 185mm circular saws fitted with vacuum extraction systems.



Hand guillotine. Use for length or width cuts.



Hand Saw. Preferably use an old handsaw. A quick jabbing action is best. Work with board face up to prevent burrs forming on the face.



Description	Order N°
Power Saw	10836
Power Saw Blade	10837
Dust Extractor	10833
Hand Guillotine	11069
Scorer Snap Knife	11087

PREPARATION

The number of weatherboards required for a wall can be calculated using the coverage table and the length of the wall.

Table 4 : Coverage Calculator

Weatherboard				
Unit Width	295	170	230	300
Overlap	17	25	25	25
N° of Rows	Wall Height			
1	295	170	230	300
2	573	315	435	575
3	851	460	640	850
4	1129	605	845	1125
5	1407	750	1050	1400
6	1685	895	1255	1675
7	1963	1040	1460	1950
8	2241	1185	1665	2225
9	2519	1330	1870	2500
10	2797	1475	2075	2775
15	4187	2200	3100	4150
20	5577	2925	4125	5525

Prior to fixing weatherboards, the following procedures should be completed:

- Where timber mouldings are to be used at internal and external corners, they should be fastened to the frame prior to fixing weatherboards.
- Wall openings, vertical joints, sills, heads and corners should be weatherproofed with flashing.
- Create a horizontal datum line and place temporary nails to support the first plank.
- To ensure the first row of planks are at the correct angle, a starter strip or packing should be fixed to the bottom plate approximately 5mm above the datum line.
- The location may need to be adjusted to ensure the bottom plank is at the correct angle.

DECORATION & MAINTENANCE

Cemintel™ Weatherboard Planks should be coated with a fibre cement sealer and finished with two coats of exterior grade acrylic paint. Cemintel Headland™ and Endeavour™ Weatherboards are factory primed and require only the finish coats.

The surface must be clean and dry before application. In all cases, the paint manufacturer's instructions are to be followed.

The durability of the weatherboard system can be improved by periodic inspection and maintenance. Inspections should include examination of the paint, flashings and seals.

Paint finishes must be maintained in accordance with the manufacturer's recommendations. Any cracked or damaged flashings or seals that would allow water ingress must be repaired immediately. Any damaged weatherboards must be replaced as for new work.

The durability of the system can also be increased by painting all exposed sealants to the sealant manufacturer's recommendations.

CEMINTEL™ HEADLAND WEATHERBOARD

Cemintel Headland™ Weatherboard has a single, sharp-edged, linear recess and is machine profiled from 10mm thick base board. It is fixed in the traditional step pattern and has an angled notch for easy alignment and up to 25mm overlap.



Cemintel Headland™

COMPONENTS

FASTENERS

Fibre Cement Nails:



- Hot dip galvanised 2.8 x 40mm for softwood and hardwood frames. Not suitable for use in coastal areas.

Order N°	Qty
11335	2.5 kg

- Hot-dip galvanised 2.8mm x 50mm for fixing over existing cladding up to 10mm thick. Not suitable for use in coastal areas.

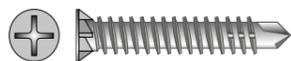
Order N°	Qty
11336	2.5 kg

- Stainless Steel 2.8 x 30mm for softwood and hardwood frames. (Supplied by others). For use in high corrosion zones including coastal areas. Refer to 'Design Considerations'.

Nail guns may be used with nails of equal specification to those shown. They must be suitable for driving nail heads to the correct depth.

Fibre Cement Screws for steel framing:

- Buildex Fibre ZIPS™, 9 -18 x 30 mm Class 3 finish. For steel framing of 0.55 to 1.6mm.



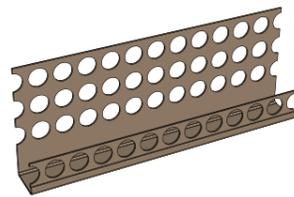
Order N°	Qty
13165	1000

- Wafer head screws 10-16x16mm class 3 for fixing stud clips to steel framing - supplied by others.

Note: In high corrosion zones, such as the coastal marine environment, Class 4 screws must be used.

STARTER STRIP

- Starter strip for support and alignment of Cemintel Headland™ Weatherboard. (EP17)



Order N°	Length
60455	3000mm

PACKING STRIP

- PVC packing for alignment of Cemintel Headland™ Weatherboard.



Order N°	Length
11190	3000mm

Alternatively, timber or fibre cement strips may be cut on-site to suit.

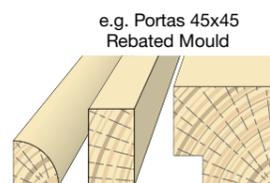
PVC CORNER FLASHING

- Used at internal and external corners. 50 x 50mm.

Order N°	Length
11205	2400mm

CORNER FINISHES

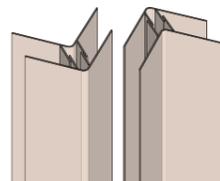
- Timber Mouldings: For jointing at internal and external corners, and at doors and windows. Use only seasoned, durable timbers. (Supplied by others).



e.g. Portas 45x45 Rebated Mould

2 PIECE CORNER MOULD

- Used at internal and external corners to cover board ends.



Order N°	Length
108451	3000mm

FLEXIBLE SEALANT

- Sikaflex PRO™ polyurethane sealant for filling weatherboard end joints and gaps around windows, doors and other penetrations.

Order N°	Qty
11378	310ml Tube (Grey)
39488	310ml Tube (Black)

THERMAL BREAK

- 6mm x 38mm Thermal Break Strip. Extruded polystyrene strip. R = 0.22



Order N°	Length
129333	6 x 38 x 1250mm PK 450LM

INSTALLATION

Headland™ Weatherboards are installed using a starter strip or packing strip. Starter strip is installed horizontally and fixed to frame at 600mm maximum centres. Boards may be fixed to steel or timber framing using the appropriate fasteners.

Begin fixing first weatherboard at an external corner, ensuring the board is flush with the corner moulding. Locate the board profile on the starter strip front edge and fix the top to each stud. Alternatively, rest the board on datum line nails, and fasten the bottom edge to each stud, through the packing strip. Fasten the top to each stud, in the nailing groove to ensure fixings do not interfere with the overlap of the next board above. Refer to FIG 1, 2, 3 and 4.

Fix the first row of weatherboards around the perimeter of the building, cutting to length as appropriate for on-stud jointing. Once the first row is complete remove the guide nails.

Begin the second row with an off-cut to ensure that the joints are staggered along the wall. Use a stiff brush to remove any dust or debris along the top and bottom profiles. Push the upper board down firmly to engage the profile of the board below. Fix the top of each board to every stud. Check rows for level.

Refer to FIG 3 for location of fixings. Fasteners must be a minimum of 12mm from weatherboard edges and 20mm from ends. Pre-drill holes for fixings at board ends to avoid corner damage while installing.

Continue fixing successive weatherboards working up the wall.

JOINTS

Plan vertical layout so that, where possible, a full width weatherboard occurs above and/or below openings. If a weatherboard has been reduced in width, provide a joint to at least one side of the opening. Refer to FIG 5.

When a window or door opening exceeds 1800mm width, it is necessary to have a joint above and below the opening for both full and reduced width weatherboards, to allow for movement. Joints at ends of weatherboards should be located randomly throughout the wall to reduce visual impact.

Weatherboard ends should be cut square and rasped smooth in preparation for sealant. Joints are generally formed on a stud. Additional framing is required at joints to allow sufficient edge distances for fixings. Refer to FIG 6.

Cemintel Headland™ Weatherboards may also be installed with joints located midway between studs, as the keyed profile provides continuity to boards above and below. Fill the gap with sealant, ensuring any excess is removed. Refer to FIG 7.

CORNER DETAIL

Internal and external corners can be finished by butting boards up to a timber moulding. A two-piece corner mould for internal and external angles is also available that covers the ends of boards, giving greater tolerance in set out.

Timber mouldings must be installed prior to the fixing of boards. Board ends must be straight and square, and are to be butted up firmly to the moulding. Fasteners should be 20mm minimum from board ends and holes must be pre-drilled where closer than 50mm from board ends. Refer to FIG 8 and 9.

Angle flashing must be used at all internal and external corners where sarking is not used or where additional weatherproofing is required.

Two Piece Corner Mould

Fix both legs of the inner part at 600mm centres to corner studs before installing weatherboards. When all boards have been installed, firmly push the outer part into place, engaging the teeth of both parts. Refer to FIG 10 and 11.

FIG 1: Nail Fixing with Packing Strips

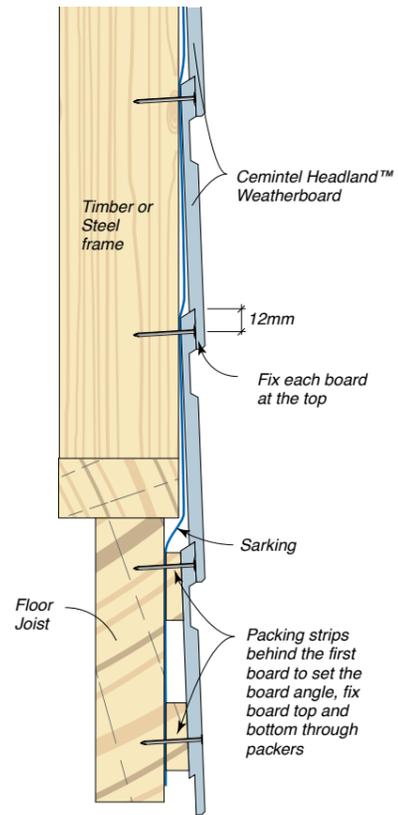


FIG 3: Nail Driving Detail

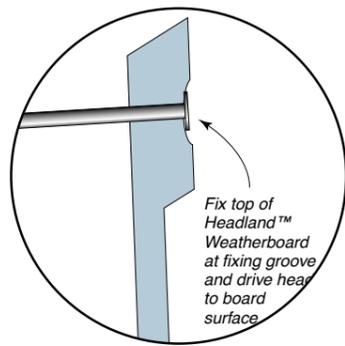


FIG 2: Nail Fixing with Starter Strip

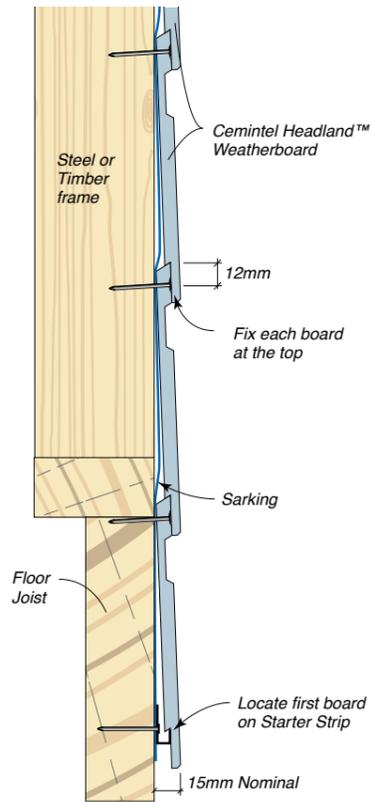


FIG 4: Screw Fixing with Packing Strips

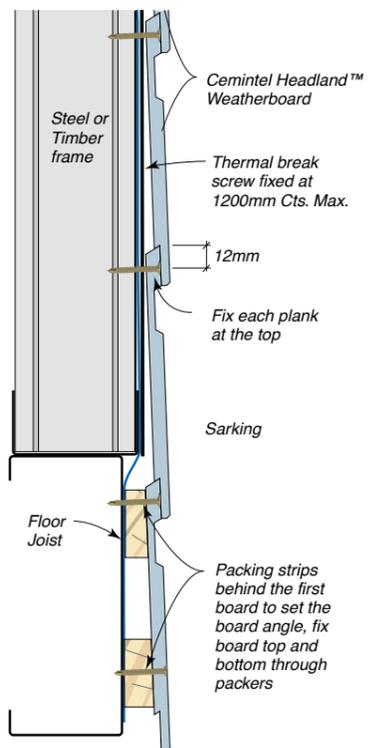


FIG 5: Window Opening Detail

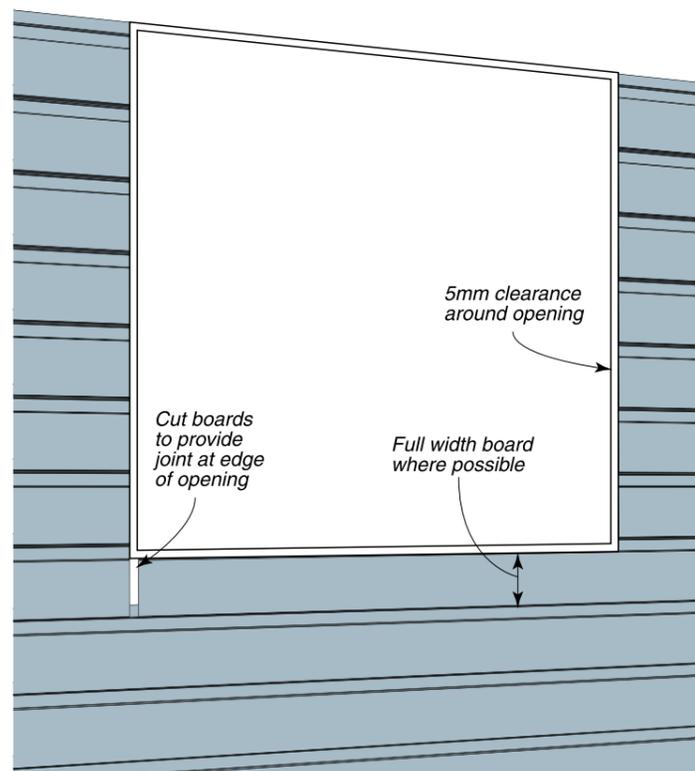


FIG 6: Jointing on-stud

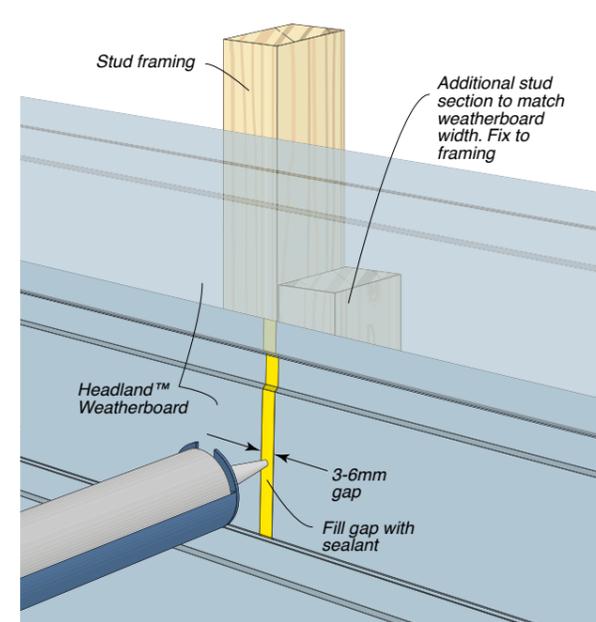


FIG 7: Jointing Off-stud

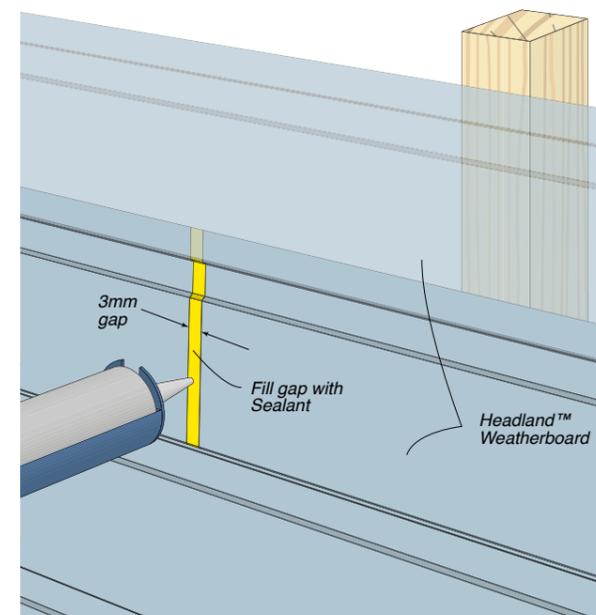


FIG 8: External Corner – Timber Mould

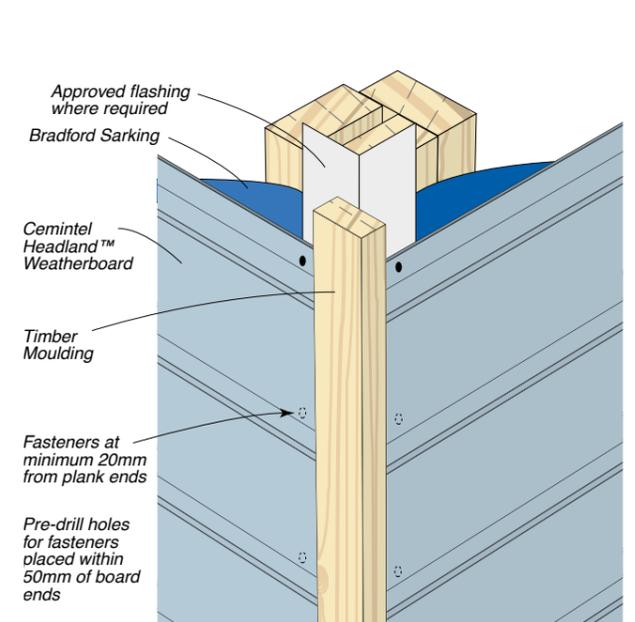


FIG 9: Internal Corner – Timber Mould

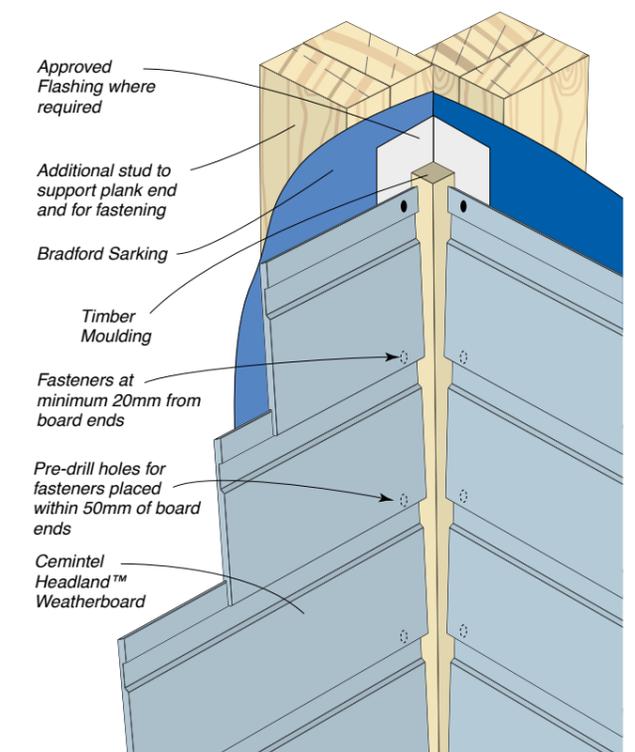


FIG 10: External Corner Aluminium Snap-on Corner

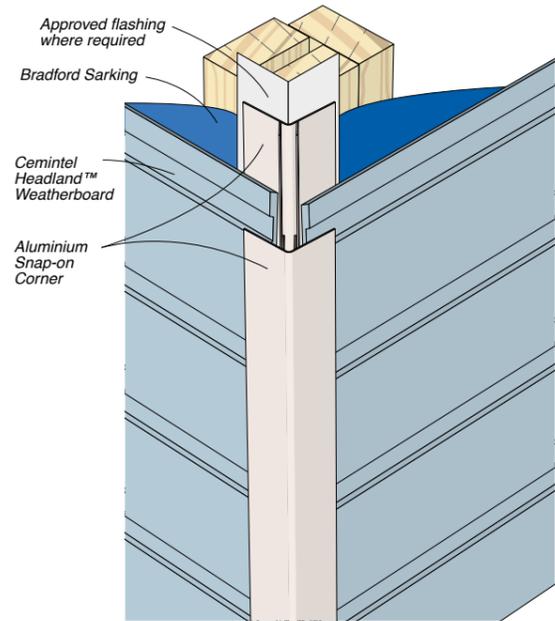


FIG 11: Internal Corner Aluminium Snap-on Corner

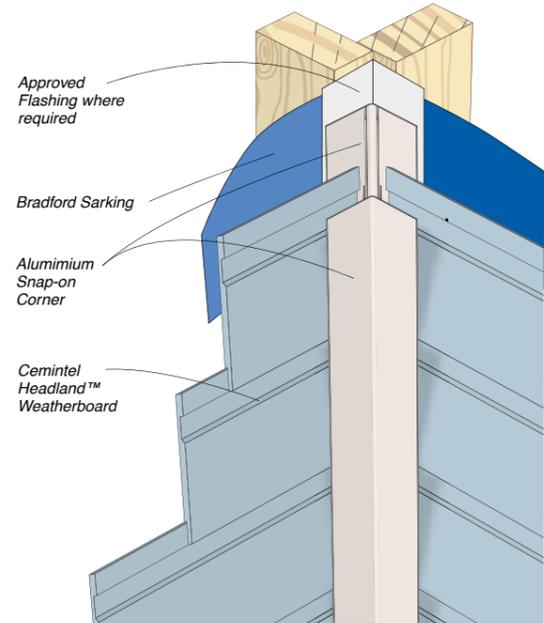


FIG 13: Timber Window Jamb Detail

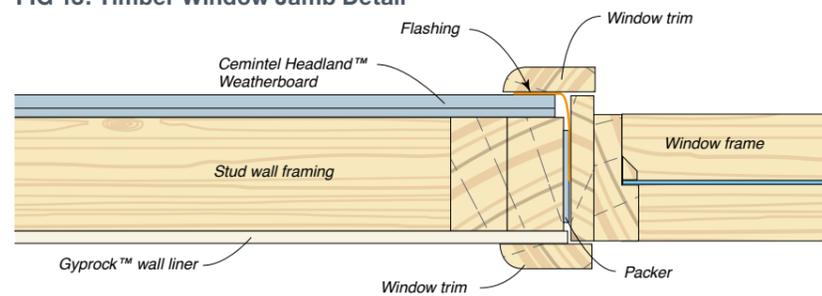


FIG 12: Timber Window Head/Sill Detail

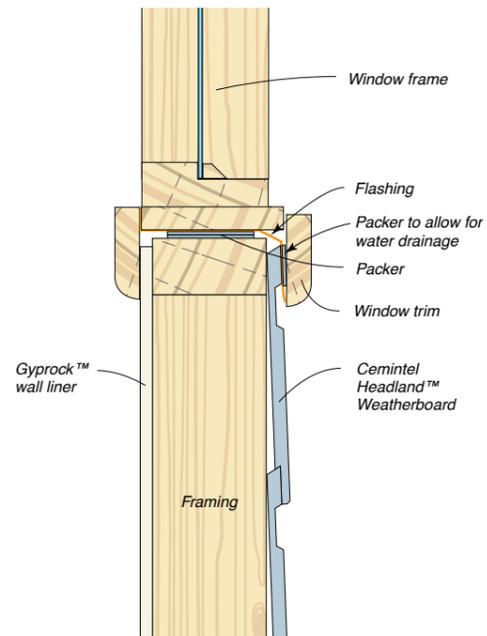
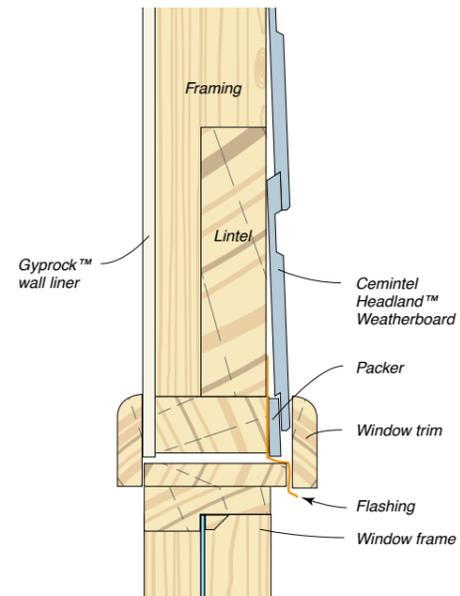


FIG 14: Aluminium Window Head/Sill Detail

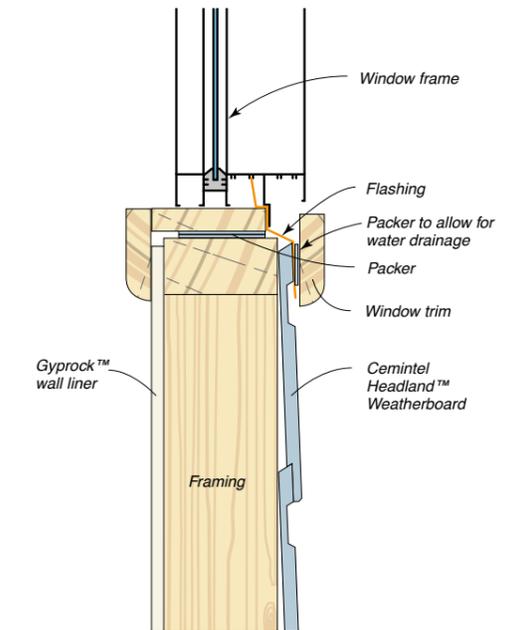
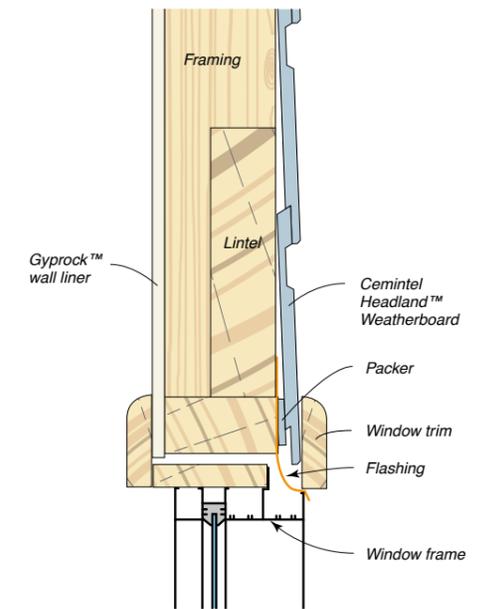
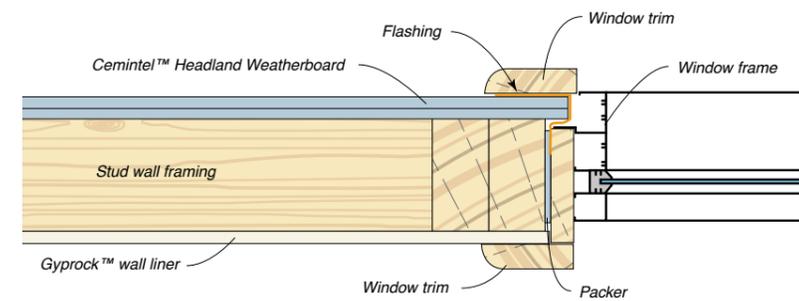


FIG 15: Aluminium Window Jamb Detail



CEMINTEL™ ENDEAVOUR WEATHERBOARD

Cemintel Endeavour™ Weatherboard is a double width board, machine profiled from 10mm thick base board. It has two equally spaced linear features, and is recessed for 17mm overlap. It is designed to fix flat against stud framing.



COMPONENTS

FASTENERS



FIBRE CEMENT NAILS:

- Hot dip galvanised 2.8 x 40mm for softwood and hardwood frames. Not suitable for use in coastal areas.

Order N°	Qty
11335	2.5kg

- Hot-dip galvanised 2.8mm x 50mm for fixing over existing cladding up to 10mm thick. Not suitable for use in coastal areas.

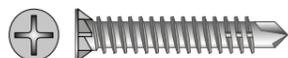
Order N°	Qty
11336	2.5kg

- Stainless Steel 2.8 x 30mm for soft wood and hardwood frames. (Supplied by others). For use in high corrosion zones including coastal areas. Refer to 'Design Considerations'.

Nail guns may be used with nails of equal specification to those shown. They must be suitable and set for driving nail heads to the correct depth.

Fibre Cement Screws for steel framing:

- Buildex Fibre ZIPS™, 9 -18 x 30 mm Class 3 finish. For steel framing of 0.55 to 1.6mm.



Order N°	Qty
13165	1000

- Wafer head screws 10-16x16mm class 3 for fixing stud clips to steel framing - supplied by others.

Note: In high corrosion zones, such as the coastal marine environment, Class 4 screws must be used.

PACKING STRIP



- PVC packing for alignment of Cemintel Endeavour™ Weatherboard.

Order N°	Length
11190	3000mm

Alternatively, timber or fibre cement strips may be cut on-site to suit.

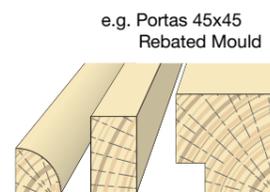
PVC CORNER FLASHING

- Used at internal and external corners. 50 x 50mm.

Order N°	Length
11205	2400mm

CORNER MOULDS

- Timber mouldings for jointing at internal and external corners, and at doors and windows. Use only seasoned, durable timbers. (Supplied by others).



e.g. Portas 45x45 Rebated Mould

BOSSES OR CORNER ROSETTES

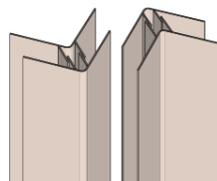
- Decorative timber or PVC moulds used at reveal corners, (supplied by others)

e.g. Portas Architrave Corner Block



TWO-PIECE CORNER MOULD

- Aluminium clip together profiles used at internal and external corners to cover board ends.



Order N°	Length
108451	3000mm

FLEXIBLE SEALANT

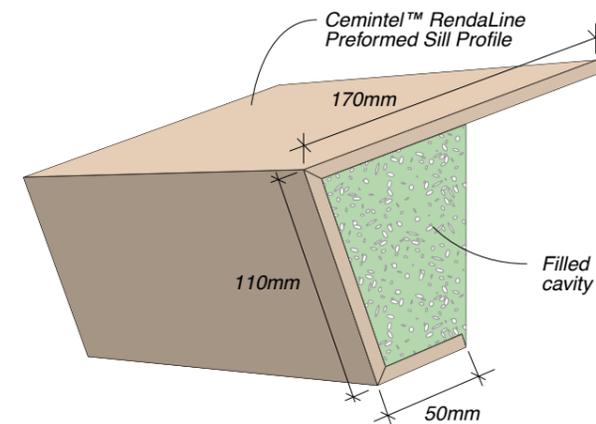
- Sikaflex PRO™ polyurethane sealant for filling weatherboard end joints and gaps around windows, doors and other penetrations.

Order N°	Length
11378	310ml Tube (Grey)
39488	310ml Tube (Black)

CEMINTEL RENDALINE™ SILL

- A preformed profile for use under windows to provide a traditional sloping or raked sill appearance.

Prefabricated from Cemintel Rendaline™ Sheet which is bonded with polyurethane foam to form a strong, durable and attractive feature sill.



Order N°	Length
11355	3000mm

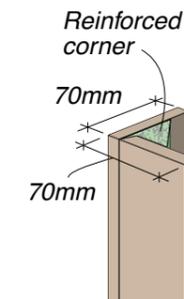
CEMINTEL™ EXTERNAL JOINT COMPOUND

- Used to protect sill ends and glue sills in place.

Order N°	Length
41584	6kg

CEMINTEL™ WEATHERBOARD REVEAL

- A preformed profiles for use around windows



Order N°	Length
52395	3000mm

THERMAL BREAK

- 6mm x 38mm Thermal Break Strip. Extruded polystyrene strip. R = 0.22



Order N°	Pack Qty
129333	6 x 38 x 1250mm PK 450LM

INSTALLATION

Endeavour™ Weatherboards are installed without a starter strip and may require packing to create the correct alignment. They may be fixed to steel or timber framing using the appropriate fasteners.

Begin fixing first weatherboard at an external corner and ensure the board is flush with the corner moulding. Rest the board on the datum line nails, and fasten the bottom edge to each stud, through any packing. Fasten the centre and top edge at each stud, ensuring fixings do not interfere with the overlap of the next board above.

Fix the first row of weatherboards around perimeter of the building, cutting to length for on-stud jointing if required. Once the first row is complete remove the guide nails.

Begin the second row with an off-cut to ensure that the joints are staggered along the wall. Use a stiff brush to remove any dust or debris along the top and bottom profiles. Push the upper board down firmly to engage the profile of the board below. Fix the centre and top of each board at each stud. Check rows for level.

Refer to FIG 16, 17, 18 and 19 for location of fixings. Fasteners must be a minimum of 12 mm from weatherboard edges and 20mm from ends. Pre-drill holes for fixings at board ends to avoid corner damage while installing.

Continue fixing successive weatherboards working up the wall.

JOINTS

Plan vertical layout so that, where possible, a full width weatherboard occurs above and/or below openings. If a weatherboard has been reduced in width, provide a joint at least one side of the opening. Refer to FIG 20.

When a window or door opening exceeds 1800mm width, it is necessary to have a joint above and below the opening for both full and reduced width weatherboards, to allow for movement. Joints at ends of weatherboards should be located randomly throughout the wall to reduce visual impact.

Weatherboard ends should be cut square and rasped smooth in preparation for sealant. Joints are generally formed on a stud. Additional framing is required at joints to allow sufficient edge distances for fixings. Refer to FIG 21.

Cemintel Endeavour™ Weatherboards may also be installed with joints located midway between studs, as the keyed profile provides continuity to boards above and below. Fill the gap with sealant, ensuring any excess is removed. Refer to FIG 22.

CORNER DETAIL

Internal and external corners can be finished by butting boards up to a timber moulding. A two-piece corner mould for internal and external angles is also available that covers the ends of boards, giving greater tolerance in set out.

Timber mouldings must be installed prior to the fixing of boards. Board ends must be straight and square, and are to be butted up firmly to the moulding. Fasteners should be 20mm minimum from board ends. Fasteners and holes must be pre-drilled where closer than 50mm from a board end. Refer to FIG 23 and 24.

Angle flashing must be used at all internal and external corners where sarking is not used or where additional weatherproofing is required.

Two Piece Corner Mould

Fix both legs of the inner part at 600mm centres to corner studs before installing weatherboards. When all boards have been installed, firmly push the outer part into place, engaging the teeth of both parts. Refer to FIG 25 and 26.

FIG 16: Nail Fixing with Packing Strip

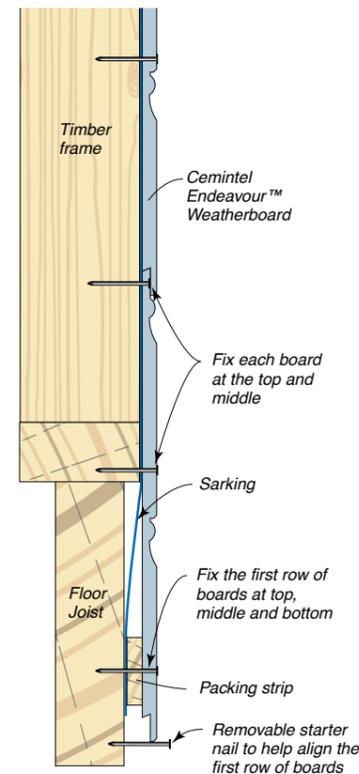


FIG 17: Screw Fixing with Packing Strip

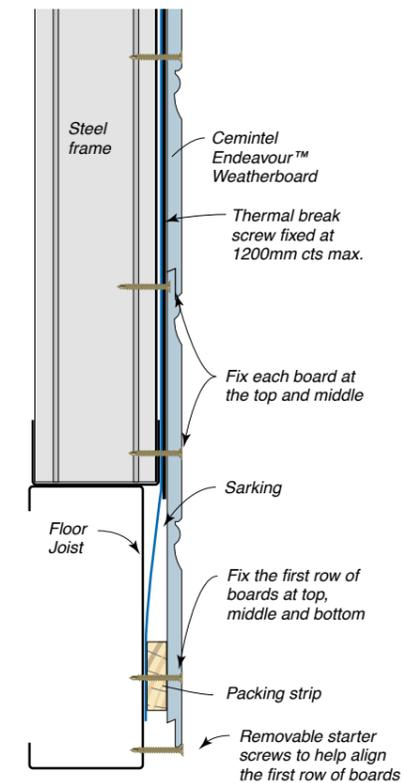


FIG 18: Nail Driving Detail

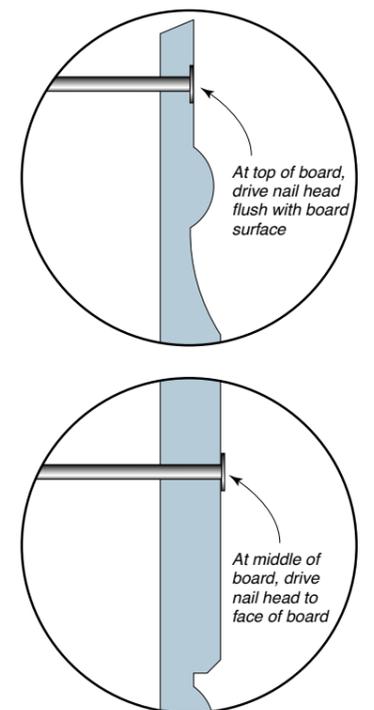


FIG 19: Installation Detail

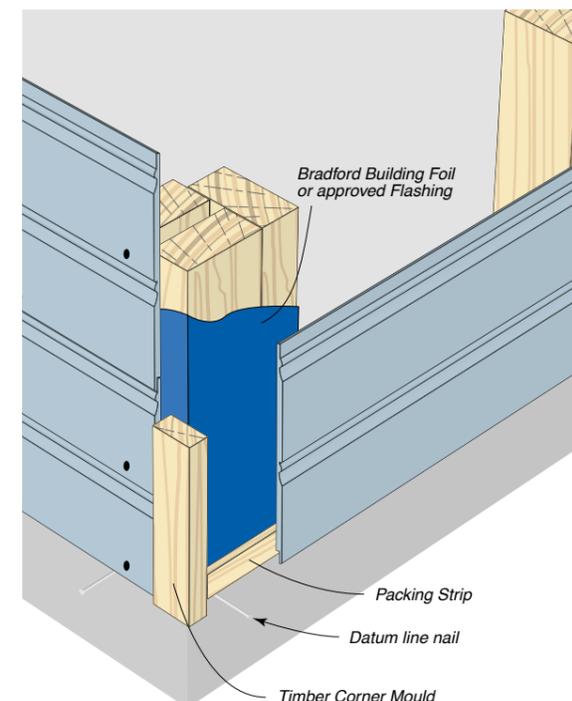


FIG 20: Window Opening Detail

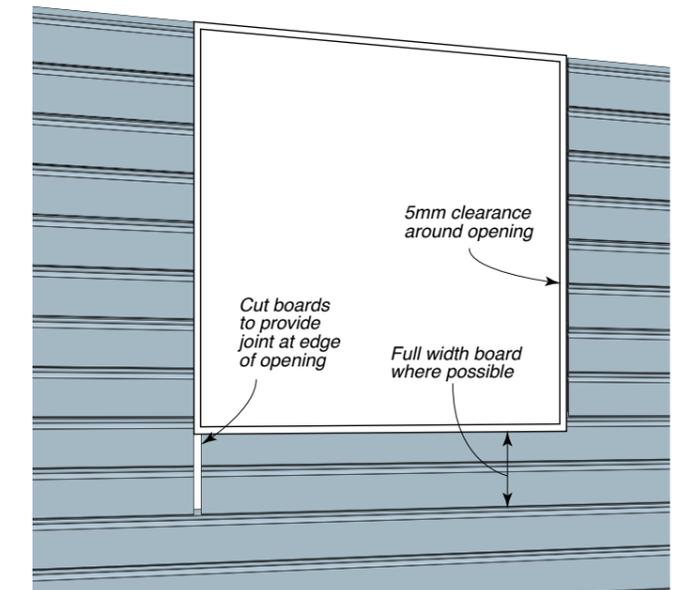


FIG 21: Jointing Off-stud

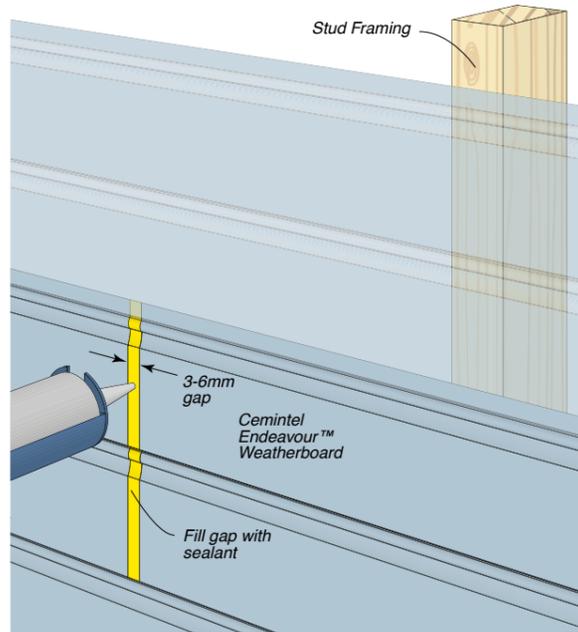


FIG 22 Jointing On-stud

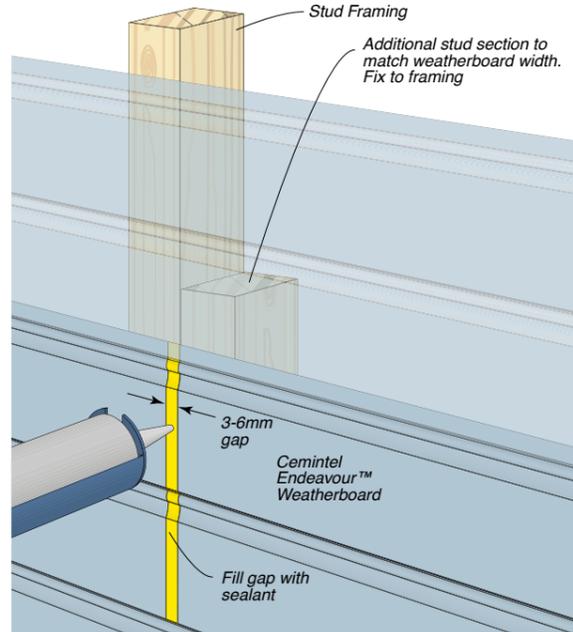


FIG 23: Internal Corner – Timber Moulding

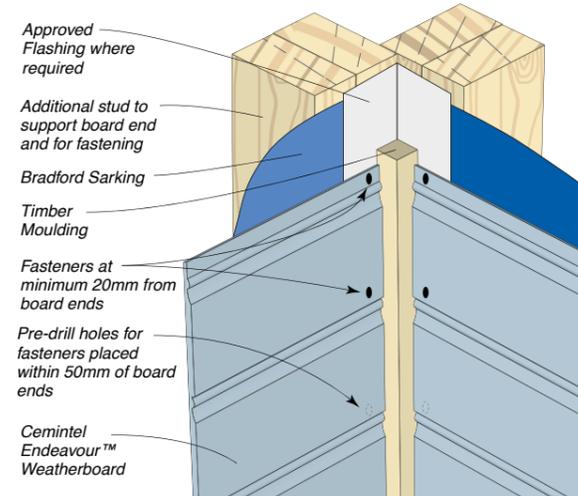


FIG 24: External Corner – Timber Moulding

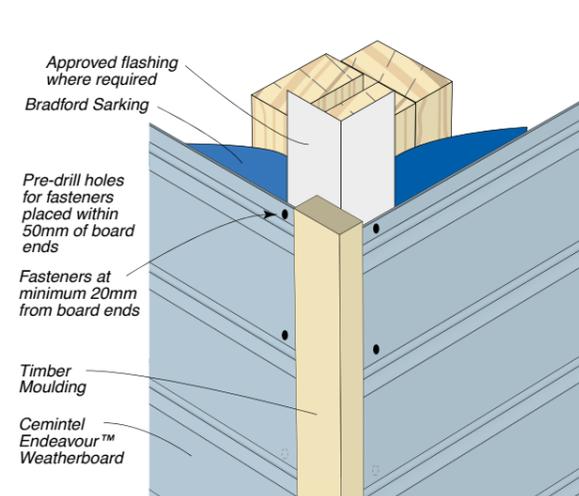


FIG 25: Internal Corner – Two-piece Moulding

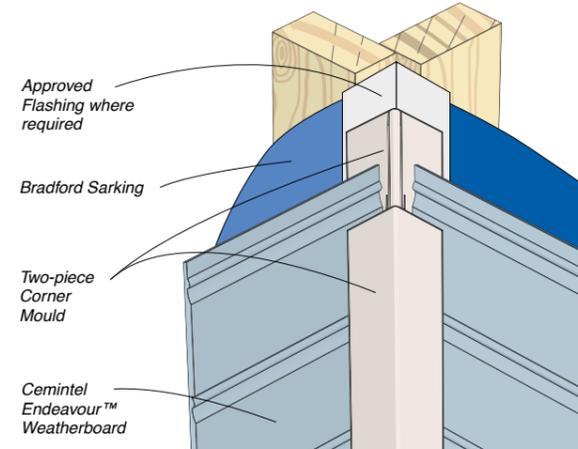


FIG 26: External Corner – Two-piece Moulding

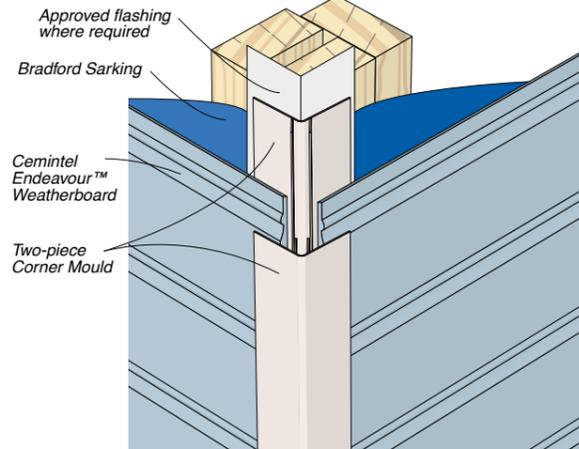


FIG 27: Window Detail

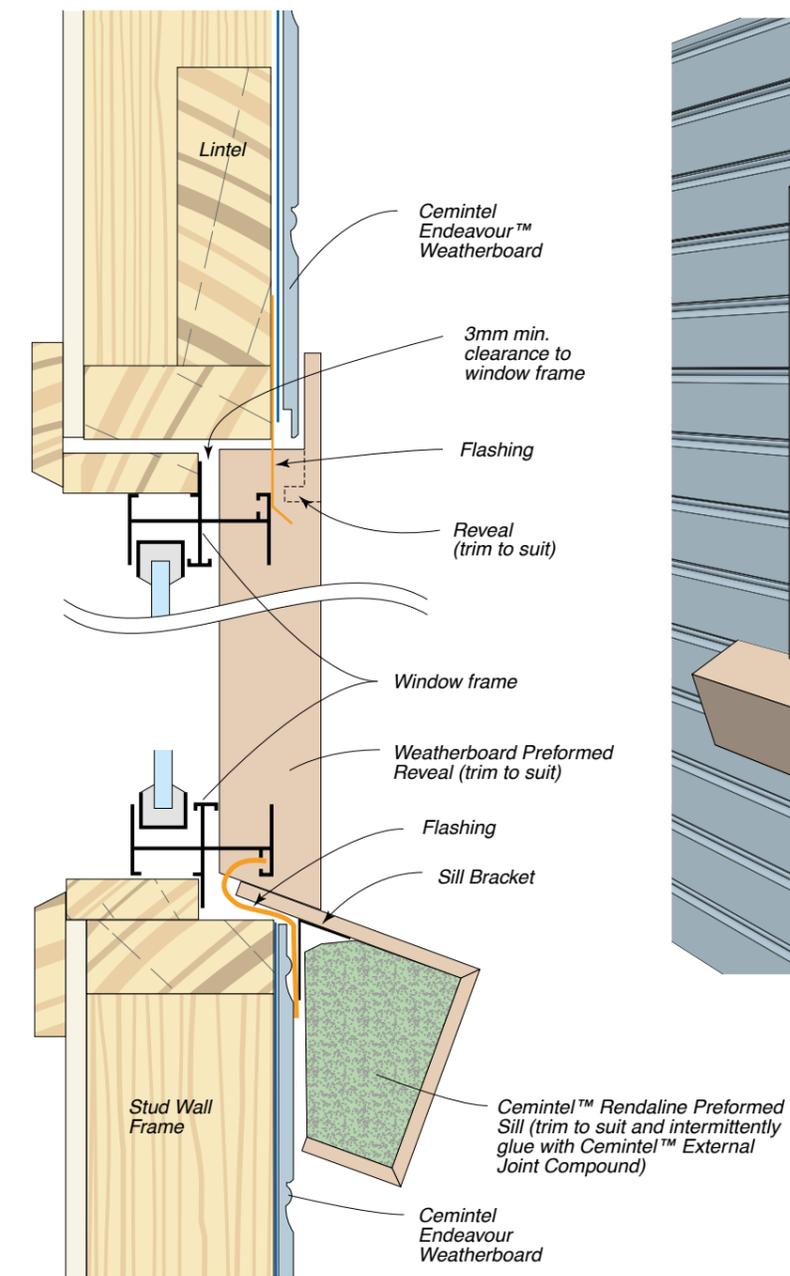
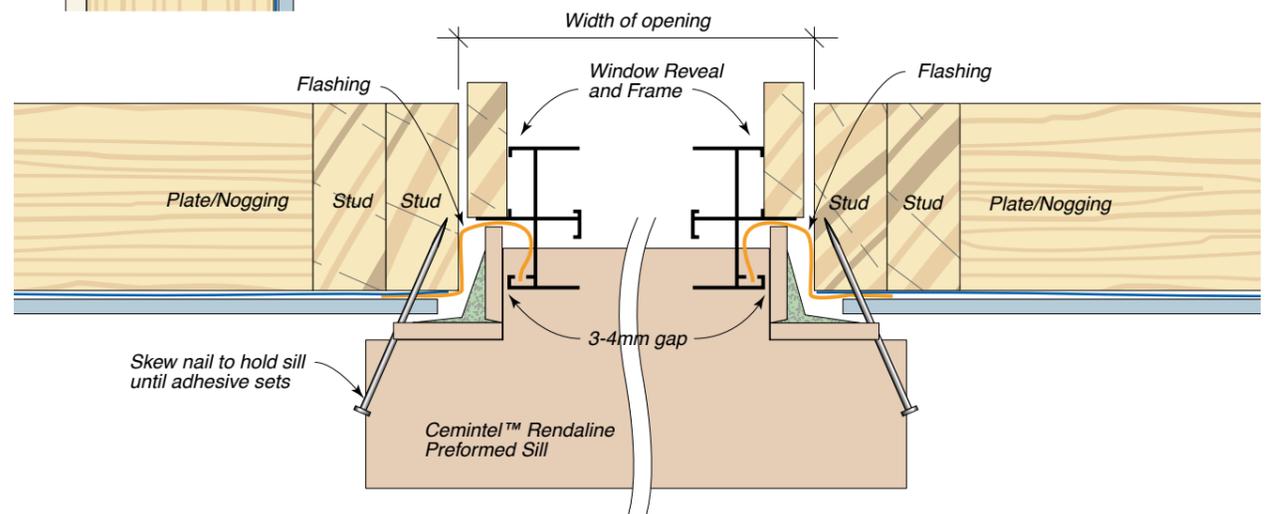
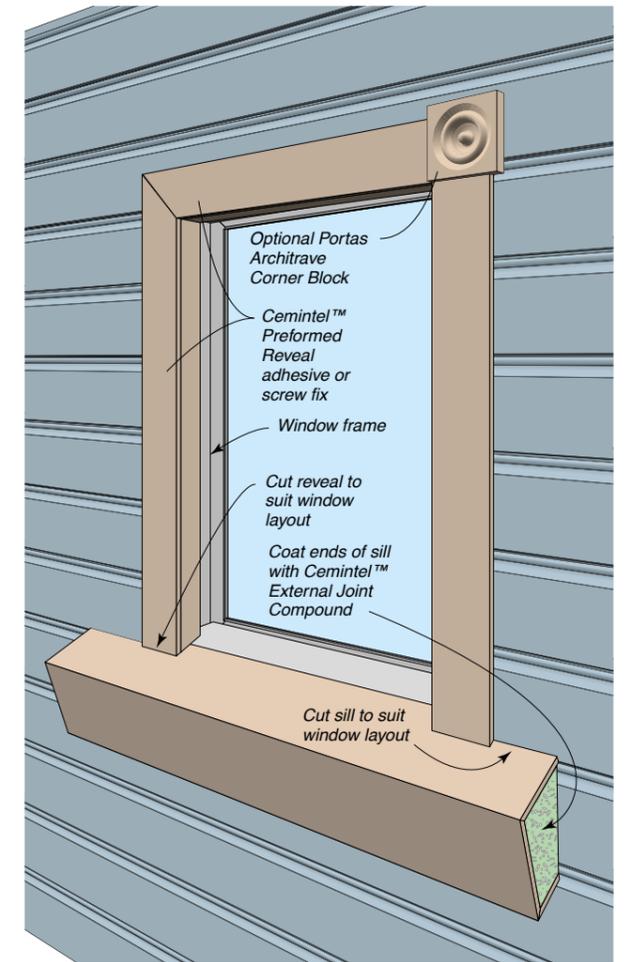


FIG 28: Window Trim Detail



CEMINTEL™ PLANK

Cemintel™ Weatherboard Plank Smooth is a 7.5mm thick board with a flat profile. It has a smooth texture and is available in 230mm and 300mm widths. Cemintel™ Weatherboard Plank Woodgrain is similar with a traditional sawn timber appearance.

Cemintel™ Plank

COMPONENTS

Cemintel™ Weatherboards and conform to the requirements of AS/NZS2908.2 'Cellulose-cement products Part 2: Flat sheets.' Cemintel Headland™ and Endeavour™ Weatherboards are factory coated with a pale yellow primer and Weatherboard Plank products are uncoated.

FASTENERS

Fibre Cement Nails:



- Hot dip galvanised 2.8mm x 50mm for softwood and hardwood frames. Not suitable for use in coastal areas.

Order N°	Qty
11336	2.5 kg

- Stainless Steel 2.8 x 50mm for soft wood and hardwood frames. (Supplied by others). For use in high corrosion zones including coastal areas. Refer to 'Design Considerations'.

Nail guns may be used with nails of equal specification to those shown. They must be suitable and correctly set for driving nail heads to the correct depth.

Fibre Cement Screws for steel framing:

- Buildex Fibre ZIPS™, 9 -18 x 30 mm Class 3 finish. For steel framing of 0.55 to 1.6mm.



Order N°	Qty
13165	1000

- Wafer head screws 10-16x16mm class 3 for fixing stud clips to steel framing - supplied by others.

Note: In high corrosion zones, such as the coastal marine environment, Class 4 screws must be used.

PACKING STRIP



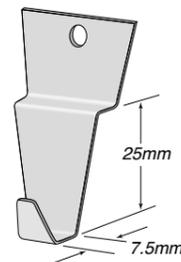
- PVC packing for alignment of Cemintel™ Plank

Order N°	Length
11190	3000mm

Alternatively, timber or fibre cement strips may be cut on site to suit.

STUD CLIP

- Steel bracket that provides a fast and convenient method of fixing Cemintel™ Plank with 25mm overlap to both timber and steel frames. (Not suitable for use in coastal areas.)

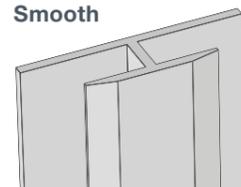


Order N°	Qty
12615	1000mm

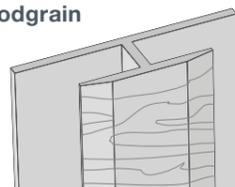
JOINERS

- PVC Plank Joiner: Used to join Cemintel™ Plank between studs.

Smooth



Woodgrain



To suit Plank	Length	Order N°	Qty
Smooth	230	11338	25
	300	11340	25
Woodgrain	230	11339	25
	300	11341	25

CONCEALED JOINT STRIP

- For concealed jointing of Cemintel™ Plank between studs. Use with flexible joint sealant. (Not suitable for use in coastal areas.)



Size	Order N°	Qty
230	108477	60
300	108478	60

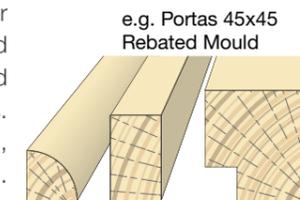
PVC CORNER FLASHING

- Used at internal and external corners.

Order N°	Length
11205	2400mm

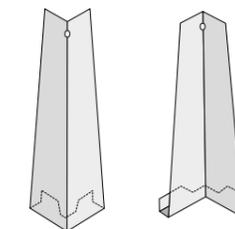
CORNER MOULDINGS

- Timber Mouldings for jointing at internal and external corners, and at doors and windows. Use only seasoned, durable timbers. (Supplied by others).



PREFORMED ALUMINIUM CORNERS

- Individual trims for external and internal corners to suit Cemintel™ Plank.



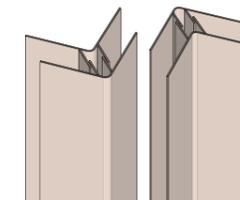
External Internal

Product	Size mm	Order N°	Qty
Internal Corner	230	108474	100
	300	108475	
External Corner	230	108472	100
	300	108473	

Note: Accessories are the proprietary designs of various manufacturers

TWO-PIECE CORNER MOULDING

- Aluminium moulding used at internal and external corners to cover board ends.



Order N°	Quantity
108451	5

FLEXIBLE SEALANT

- Sikaflex PRO™ polyurethane sealant for filling weatherboard end joints and gaps around windows, doors and other penetrations.

Order N°	Qty
11378	310ml Tube (Grey)
39488	310ml Tube (Black)

THERMAL BREAK

- 6mm x 38mm Thermal Break Strip. Extruded polystyrene strip. R = 0.22



Order N°	Pack Qty
129333	6 x 38 x 1250mm PK 450LM

INSTALLATION

For Cemintel™ Weatherboard Plank, install a horizontal packing strip close to the bottom of the board with fixings at 600mm maximum centres.

Begin fixing first plank at an external corner. Rest the plank on the datum line nails, and fasten the bottom edge to each stud, through the packing strip. The top edge may also be fixed, or restrained with the next plank bottom fixing.

Ensure the plank is flush with the corner. Fix the first row around perimeter of the building, cutting to length as appropriate for on-stud jointing, if required. Once the first row is complete remove the guide nails. Refer to FIG 29, 30 and 31 for location of fixings.

Begin the second row with an off-cut to ensure that the joints are staggered along the wall. A minimum lap of 25mm is recommended for Planks. For ease of set out, make a lap gauge from a timber block or use stud clips at every third stud as shown in FIG 33. Regularly check rows for level.

Fasteners must be a minimum of 12mm from Plank edges and 20mm from ends. Pre-drill holes for fixings at board ends to avoid corner damage while installing.

Continue fixing successive Planks working up the wall. Fix the top of the last plank in a wall, and beneath all openings, to each stud.

FIXING TO STEEL STUDS

Cemintel™ Planks may be fixed to steel framing directly using appropriate screws, or with stud clips. Refer to FIG 30 for location of fixings.

Once the first row of planks is in place, stud clips are positioned along the top edge of the plank at every third stud, and fixed to the stud. Successive rows of planks are then supported by the bottom lugs of the clip. The top edge of the plank is restrained by the next stud clip or may be screw fixed to the studs. It is recommended that every few rows are checked for alignment.

JOINTS

Plan vertical layout so that, where possible, a full width plank occurs above or below openings. If a plank has been reduced in width, provide a joint to at least one side of the opening. Refer to FIG 34.

When a window or door opening exceeds 1800mm width, it is necessary to have a joint above and below the opening for both full and reduced width planks, to allow for movement. Joints at ends of planks should be located randomly throughout the wall to reduce visual impact.

Plank ends should be cut square and rasped smooth in preparation for sealant. Joints are generally formed on a stud. Additional framing is required at joints to allow sufficient edge distances for fixings. Refer to FIG 35.

Cemintel™ planks may also be joined using PVC plank joiners, concealed joint strips or backing strips, with joints located midway between studs.

Plank Joiner

Plank Joiners are installed in each vertical joint progressively as Planks are installed. Joiners lap downward over the lower row. Cut joiners as required to fit at heads, sills and eaves. Refer to FIG 36.

Concealed Joint Strip

For a less obvious joint a Concealed Joint Strip can be used. The Concealed Joint Strip is fitted to the top of the lower row of planks and slid onto one board end, hard up against the tabs. Butt the edge of the next plank up to joiner tabs, and continue fixing. Fill the gap with sealant, ensuring any excess is removed. Refer to FIG 37.

Backing Strip

Off-stud jointing can be achieved using a steel or timber backing strip. Install both planks leaving a 3 to 6mm gap. Reinforce the joint by fixing the backing strip from the outside with two screws each side. Fill the gap with sealant, ensuring any excess is removed. Refer to FIG 38.

CORNER DETAIL

Internal and external corners can be finished by butting planks up to a timber moulding. A two-piece corner mould and individual preformed corner pieces are also available for internal and external corners.

Timber mouldings must be installed prior to fixing planks. Plank ends must be straight and square, and are to be butted up firmly to the moulding. Fasteners should be 20mm minimum from corner fasteners and holes must be pre-drilled where closer than 50mm from a corner. Refer to FIG 39 and 40.

Angle flashing must be used at all internal and external corners where sarking is not used or where additional weatherproofing is required.

Two Piece Corner Mould

Fix both legs of the inner part at 600mm centres to corner studs before installing planks. When all planks have been installed, firmly push the outer part into place, engaging the teeth of both parts. Refer to FIG 41 and 42.

Preformed Aluminium Corners

Splay cut adjoining plank ends and butt together at corner. Fit the preformed metal corners by locating the bottom flange under the planks. Push upwards until the corner is flush with the lower plank edge. Fasten with one nail through the hole at the top. Refer to FIG 43 and 44.

FIG 29: Direct Fixing with Packing Strip

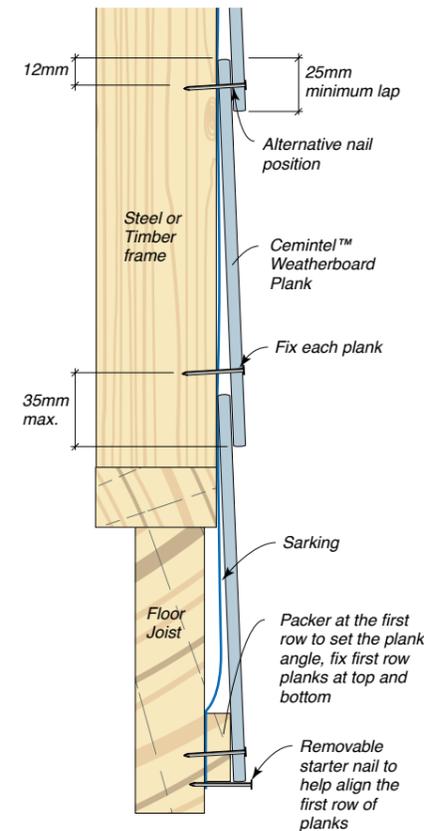


FIG 30: Fixing with Packing Strip and

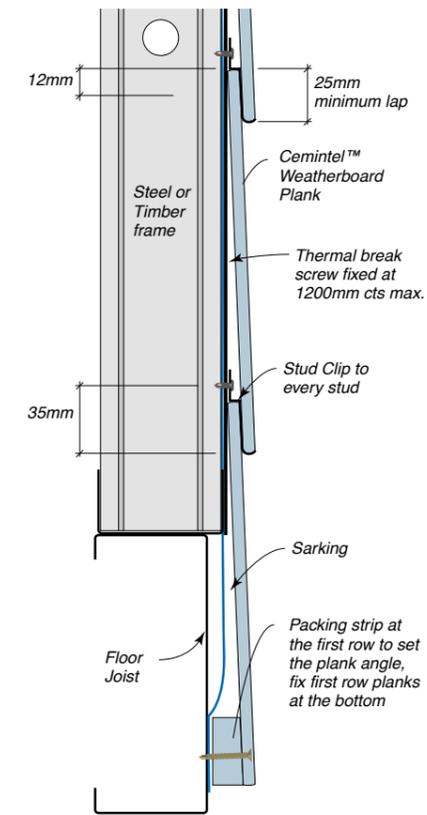


FIG 31: Nail Driving Detail

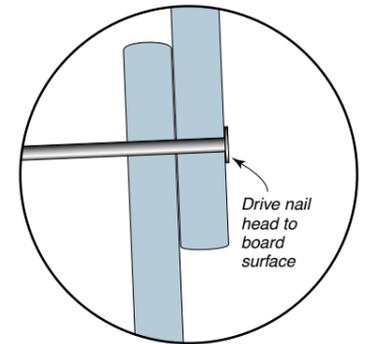


FIG 32: Installation Start-up

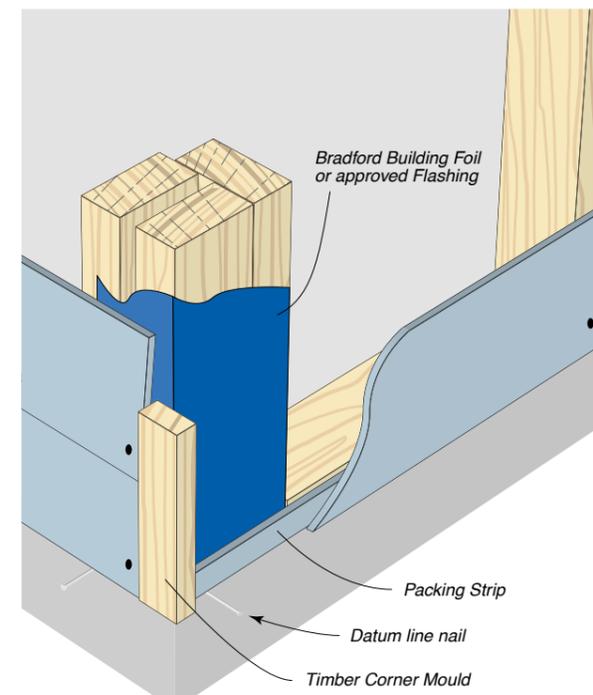


FIG 33: Plank Set-out

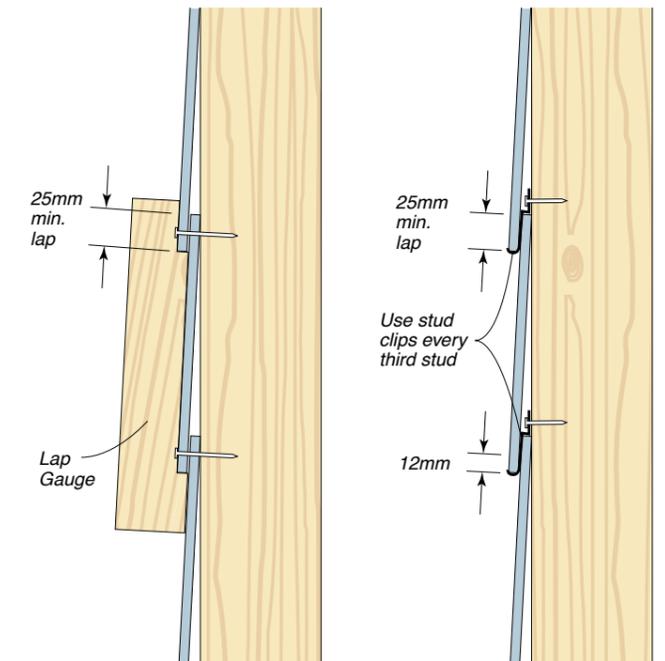


FIG 34: Window Opening Detail

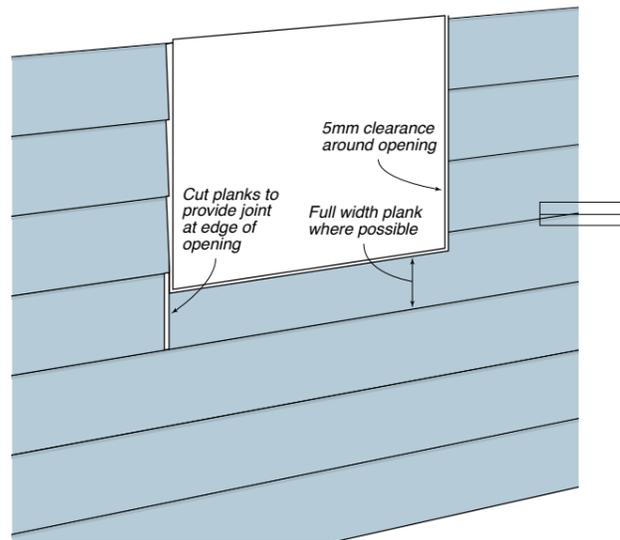


FIG 35: On-stud Join with Additional Stud Section

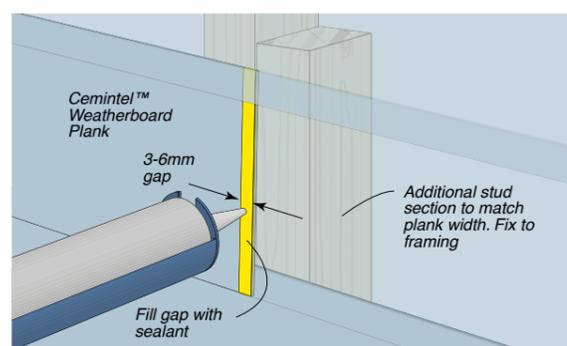


FIG 36: Between Stud Join using PVC Joiner

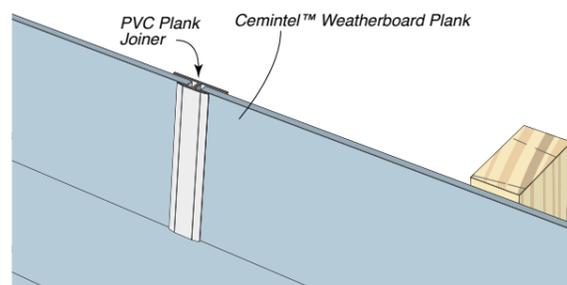


FIG 37: Between Stud Join using Joint Strip and Sealant

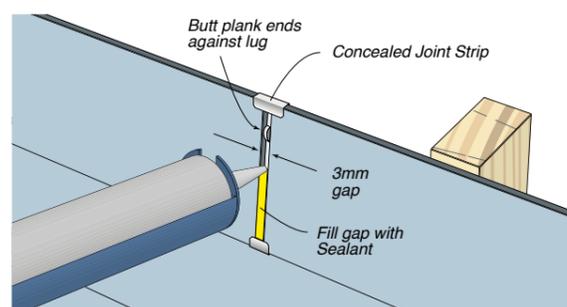


FIG 38: Off-stud Join using Back-block

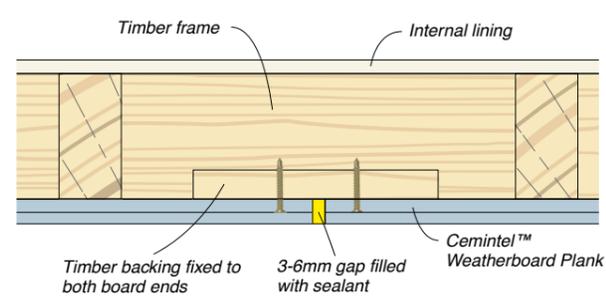


FIG 39: External Corner using Timber Moulding

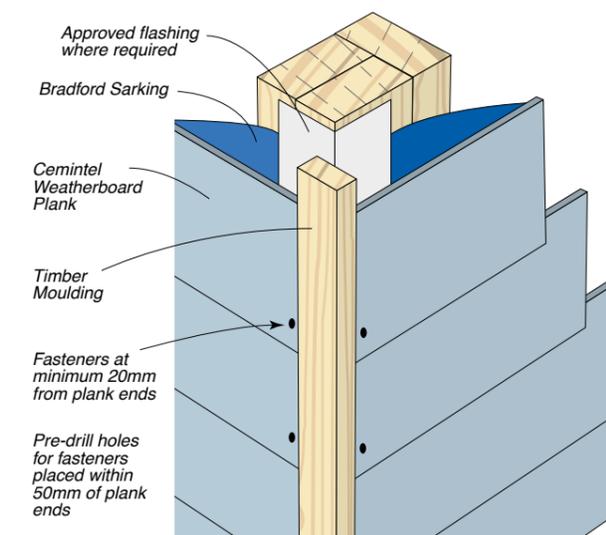


FIG 40: Internal Corner using Timber Moulding

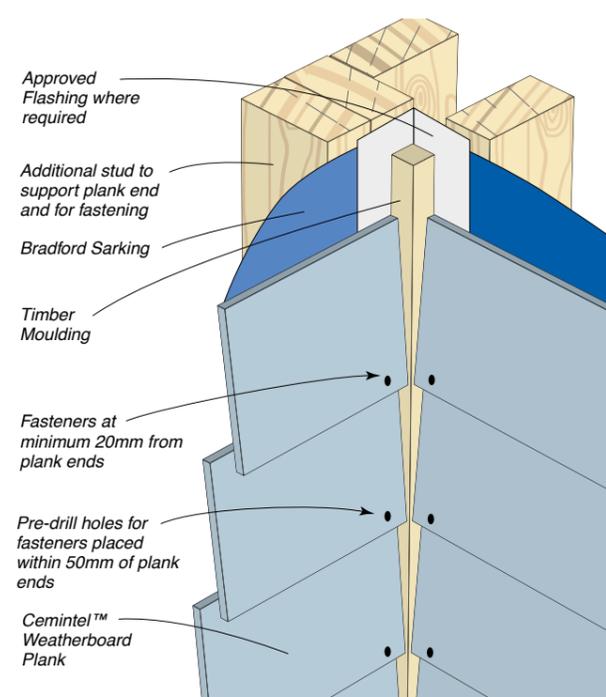


FIG 41: External Corner using Two-piece Moulding

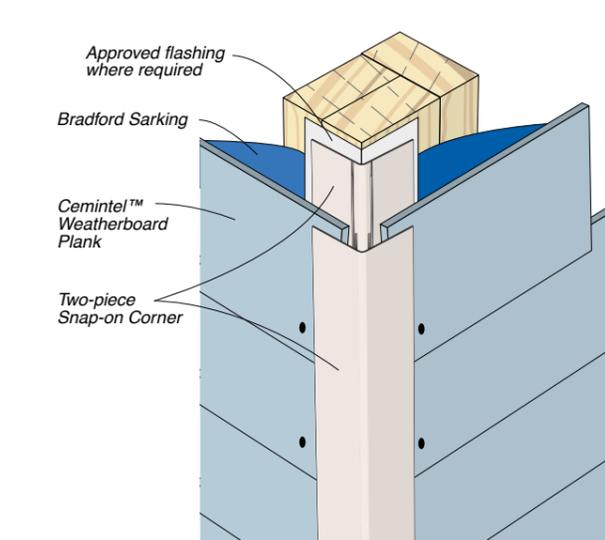


FIG 42: Internal Corner using Two-piece Moulding

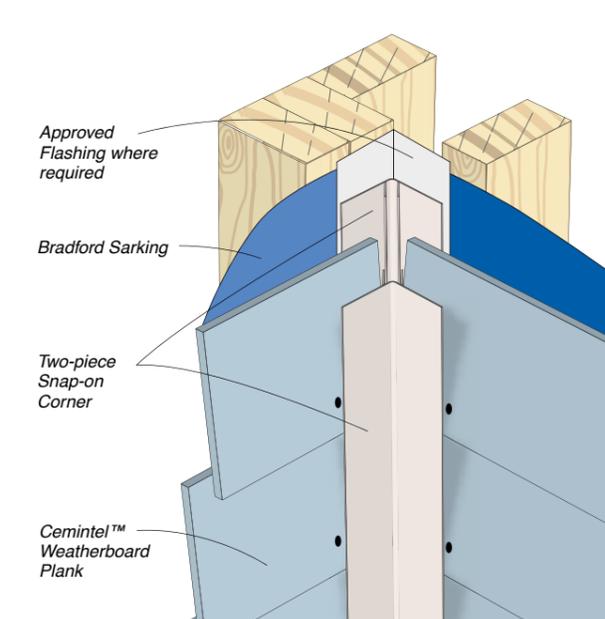


FIG 43: External Corner using Preformed Corner

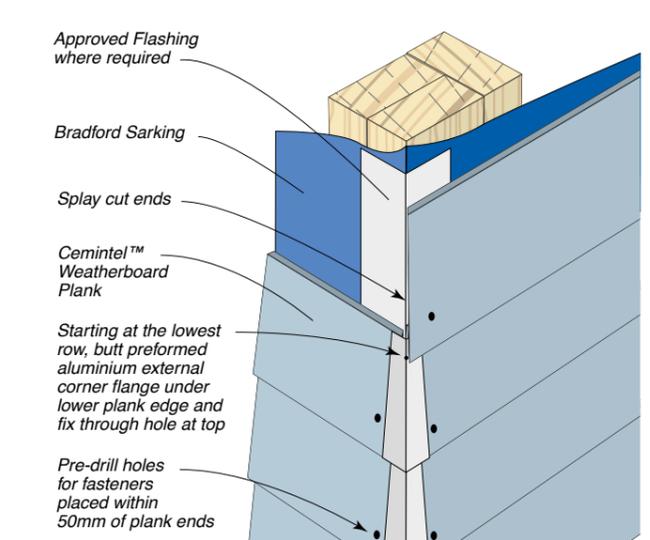


FIG 44: Internal Corner using Preformed Corner

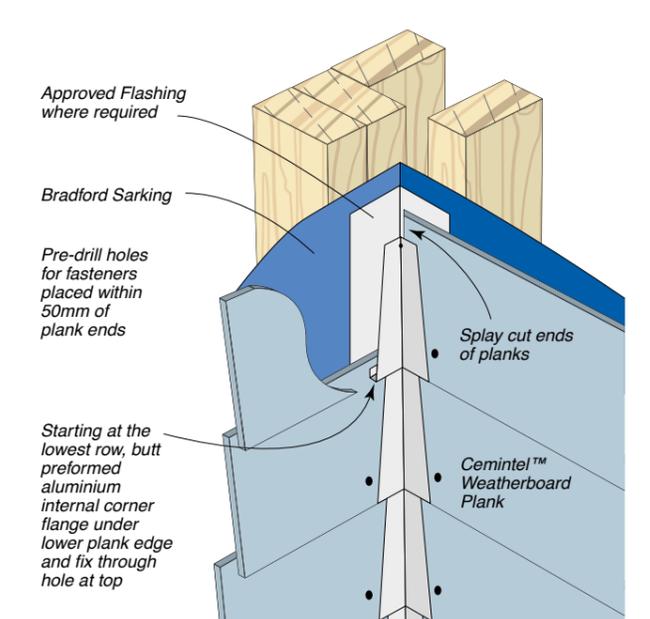


FIG 45: Timber Window Head/Sill Detail

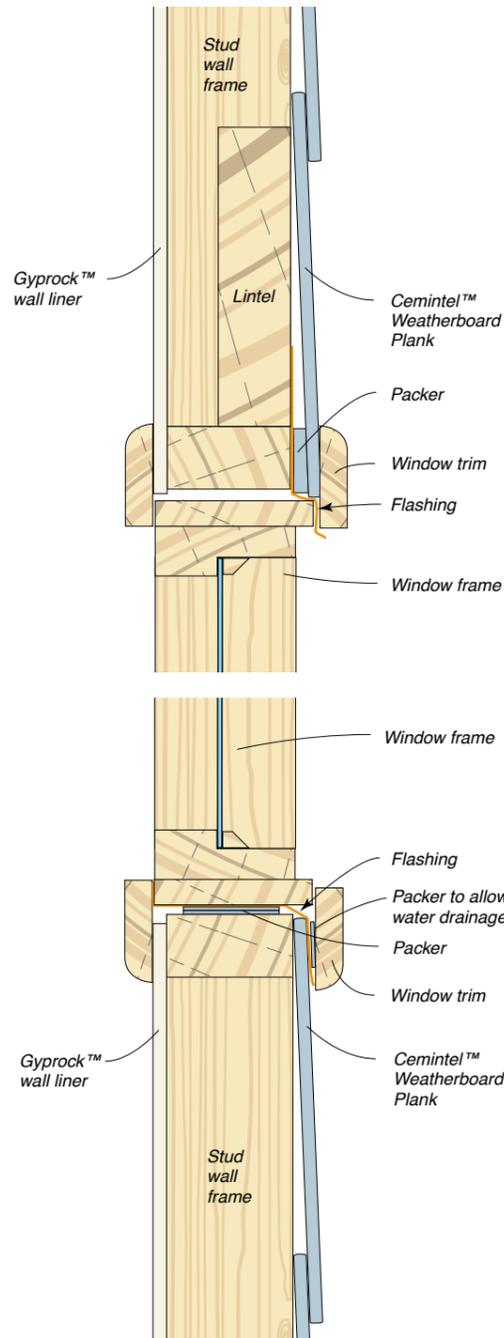


FIG 46: Timber Window Jamb Detail

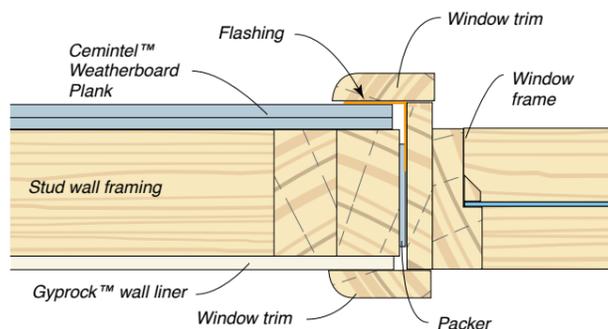


FIG 47: Aluminium Window Head/Sill Detail

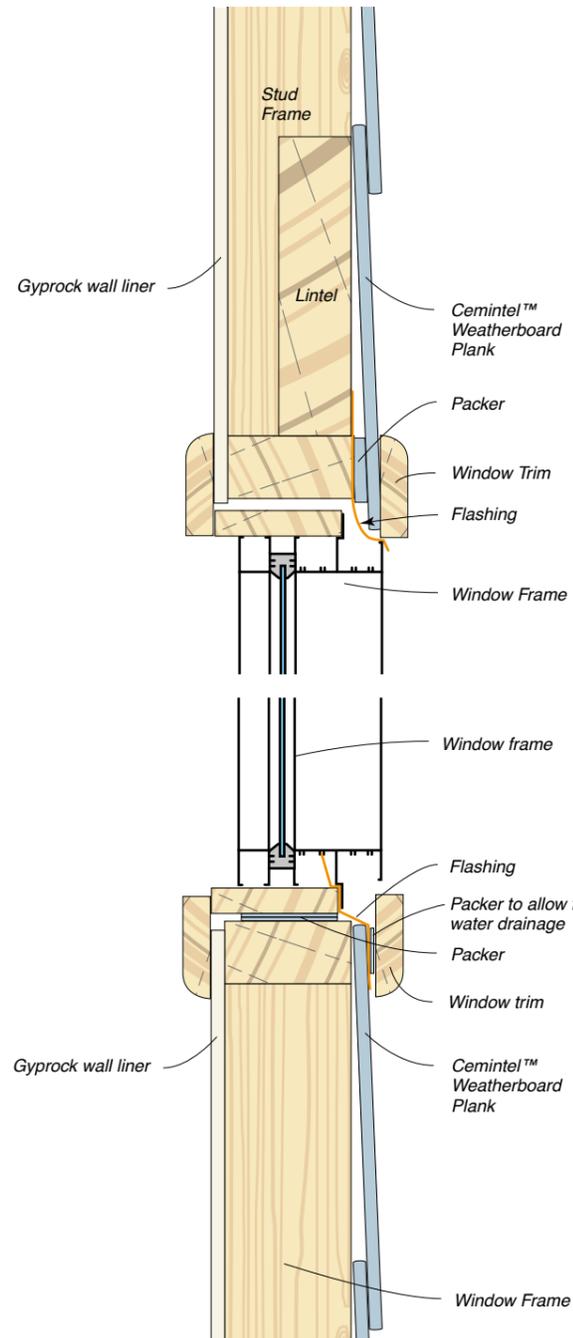


FIG 48: Aluminium Window Jamb Detail

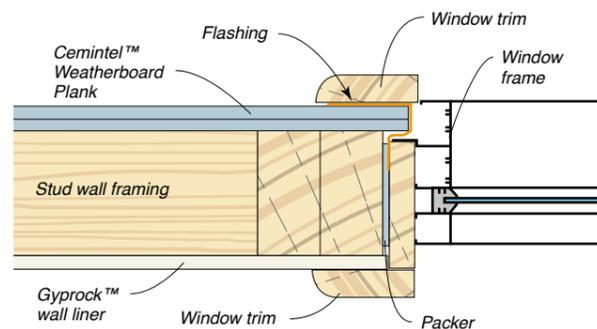


FIG 49: Window Head Flashing Detail

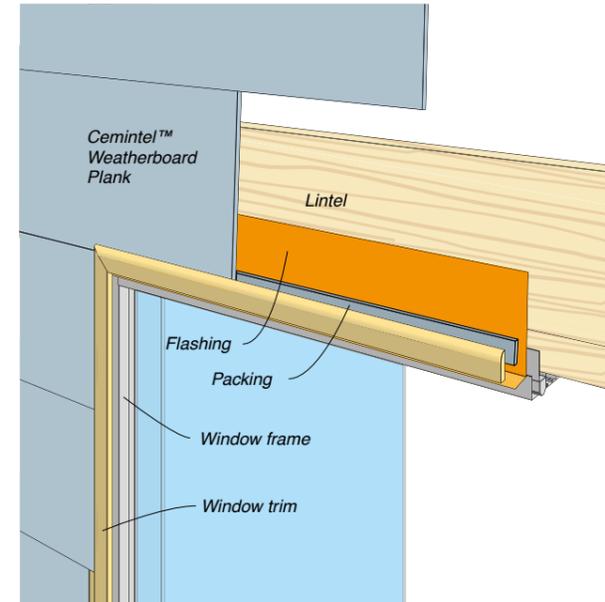
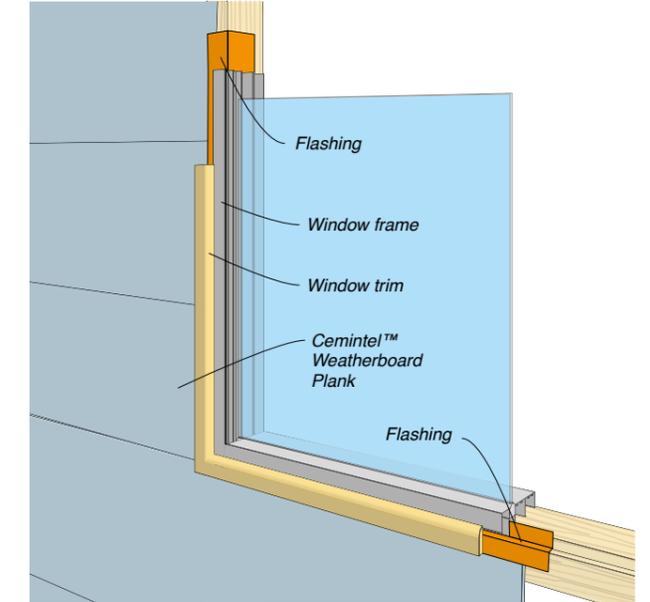


FIG 50: Window Sill and Jamb Flashing Detail



FIRE RATED TIMBER FRAME EXTERNAL WALL SYSTEMS

System Specification		Typical Layout (csr 900a shown)	Acoustic Opinion				
<ul style="list-style-type: none"> • CSR Cemintel Plank/Weatherboard cladding on battens. • Sarking. • Lining material as per system table to external side. • Timber studs at 600mm maximum centres. • Cavity insulation as per system table. • Lining material as per system table to internal side. <p>Note: *ACR = Axial Capacity Reduction. (Refer to GYP500 The Red Book, Table C3).</p>			PKA-065				
FRL Report/Opinion	System N°		Wall Linings	Stud Depth (mm)	90		
60/60/60* (from outside only) * ACR Group 2 FAR 2303	<p>CSR 900</p>	<p><i>Internal wall side</i></p> <ul style="list-style-type: none"> • 1 x 10mm GYPROCK Plasterboard CD. <p><i>External wall side</i></p> <ul style="list-style-type: none"> • 1 x 16mm GYPROCK FYRCHEK MR plasterboard 	Cavity Infill	Rw			
			<p>(a) Nil</p> <p>(b) 75 Gold Batts™ 1.5</p> <p>(c) 75 Soundscreen™ 2.0</p> <p>Typical Wall Thickness (mm)</p>	36	39	40	151
60/60/60 FAR 2303	<p>CSR 901</p>	<p><i>Internal wall side</i></p> <ul style="list-style-type: none"> • 1 x 16mm GYPROCK FYRCHEK plasterboard. <p><i>External wall side</i></p> <ul style="list-style-type: none"> • 1 x 16mm GYPROCK FYRCHEK MR plasterboard 	<p>(a) Nil</p> <p>(b) 75 Gold Batts™ 1.5</p> <p>(c) 75 Soundscreen™ 2.0</p> <p>Typical Wall Thickness (mm)</p>	38	41	42	157



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