millboard
Live. Life. Outside.

EDITION 1.0 — MAY 2024

Millboard Envello Shadow Line+ Installation Guide

forté

0508 35 66 77
info@forte.co.nz
forte.co.nz
@forteflooring

1. About Millboard cladding

Millboard cladding uses a unique material, unrivalled across the globe. Take a closer look at the construction and performance of this stunning yet functional cladding.

Tough	The unique surface layer is more resistant to scratches and is designed to better withstand demanding outdoor environments.
Enduring	The dual-tone surface layer is hand coloured using pigments designed to improve resistance to sun damage and fading.
Beautiful	Each length is hand moulded using specially selected timber masters for an unrivalled organic wood-grain appearance in a composite material.
Fire Rated	Shadow Line+ is fire rated to Euroclass D (BS EN 13501-1) for added assurance and quality.
Durable	Millboard will not split, rot or harbour insects like timber does.
Lightweight	Our unique closed 'cellular' internal structure reduces weight while maintaining strength and increasing thermal performance.
Stronger	The structural core is a blend of natural minerals bonded in a polymer resin with renewable biopolymers and fibre reinforcement for added strength and durability.
Wood Free	Millboard cladding is wood-free and non-porous which, in comparison to timber, means there's no leaching or releasing of tannins to other surfaces.

MADE IN BRITAIN®

A smooth and authentic timber-look cladding board with an enhanced offering.

The Shadow Line+ board has been designed to perfectly replicate smooth timber with a flat grained finish, giving a clean authentic look. The increased width of Shadow Line+ boards, compared to standard timber boards, ensures larger grain detail and enhanced visual impact, without the risk of the board twisting or warping over time. The indent created between boards gives definition to the individual grain patterns, adding to the overall authentic timber-look aesthetic.

Another key feature of Shadow Line+ is its weather resistance. Each board has been profiled with oblique angles to prevent water collecting between two profiles, ensuring rainwater washes over the face of the cladding. As with Millboard's decking composition, Shadow Line+ is formulated with the same unique resin mineral mix, further developed to achieve the required fire rating.

Hand moulded and coloured
Skilfully hand-moulded and authentically coloured, replicating timber in the most realistic way.

Impact and weather resistant
A durable coating and elastomeric surface ensures increased resilience against the elements and natural weathering.

Moisture resistant
Envello's non-porous composition ensures no sealing is required, unlike other cladding products on the market.

Easy to install
No specialist tools required, Envello can be cut and installed in the same way as traditional timber.

UV stability
Specially formulated with a UV stabilised for better performance and fade resistance over time.

Wood free
Envello features a durable composition, strengthening the boards and preventing rotting and warping which timber is susceptible to.

Increased thermal performance
The unique composition helps to enhance the thermal performance of Envello clad buildings in both winter and summer.

Fire rated system
The unique composition helps to enhance the thermal performance of Envello clad buildings in both winter and summer.

Crafted to be perfectly imperfect

The moulds used to create Envello cladding boards have been specially crafted from carefully selected oak timber. The fine detail and natural imperfections of the oak ensure each board has an authentic timber-look. From the initial laying of the elastomeric surface, right through to the pouring of the fibre-reinforced resin mineral, and hand-colouring each board individually, Envello guarantees a quality, unique finish with added durability due to enhanced technology and craftsmanship.

2. Product Suitability

Intended Use

Millboard Envello cladding has been designed as a cladding system for low-rise residential and select commercial buildings that are;

- Up to 10m in height and greater then 1m from the boundary
- In wind zones up to and including extra high as defined in NZS 3604:2011
- To design wind pressure (ULS) of 2.1kpa

To ensure the best installation and long-term performance, Envello cladding is to be installed by a professional or experienced trades person LBP.

It is the property owner's responsibility to make sure that the plans meet relevant NZBC building codes before the installation of the Envello cladding System commences. Envello cladding must also be supported by a suitable substructure that is in accordance with the NZBC (New Zealand Building Code) NZS 3604:2011

Envello cladding is a rainscreen cladding system which can be described as 'a wall comprising of an outer skin of cladding boards and a wind-tight insulated backing wall separated by a ventilated cavity'. Some water may penetrate into the cavity but the rainscreen cladding is intended to provide protection from direct rain, therefore a well-ventilated, free-draining cavity should always be included in the detailed design of the building. It is not recommended to use Envello Cladding in structural applications as it would need to be fixed to a structural frame of battens.

Performance

When installed and maintained by a qualified trades person, using accepted trade practices as specified in this manual, it will meet the applicable requirements of the NZBC;

- B1 Structure
- B2 Durability
- E2 External Moisture
- F2 hazardous Building Materials.

Warranty

The Millboard Envello cladding System has a 15 year limited structural warranty. Refer to www.knowledge.forte.co.nz/resources for more details.

Limitations

This installation guide is not exhaustive as the responsibility for design lies with the specifier or responsible party for the project to ensure the final design meets the requirements of the intended application and relevant building codes.

It is the responsibility of designers, installers, and owners to ensure that the information in this manual is current, by checking with Forté or referring to our website. As new technology is introduced or industry standards are altered, Millboard reserves the right to alter existing specifications and remove products without notice. Visit the Forté website at www.forte.co.nz for more information.

The use of this manual does not guarantee acceptance or accreditation of a design, material or building solution by any entity authorised to do so under law; does not mean that a design, material or building solution complies with the building codes; or does not absolve the user from complying with any local, or Government legal requirements.

3. Pre-Installation

3.1
STORAGE AND HANDLING

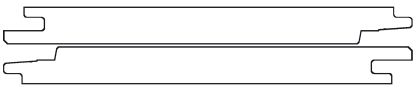
Envello cladding boards should always be stored on a flat surface at a maximum of 400mm apart. The boards must be stacked face-to-face, not back-to-face and both external and internal corner profiles should be fully supported along their length.

When loading and unloading by hand, ensure both ends of the board are lifted on the edge to avoid permanent deformation and/or damage.

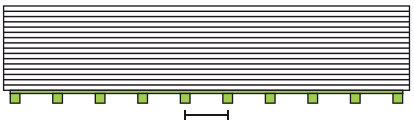
The boards should only be lifted off the stack, not dragged, to eliminate the risk of marking the surface. The boards should be carried on their side, by two people, for increased rigidity. It is recommended that gloves and long sleeves be worn when handling the boards and extra care is taken when lifting and carrying them.

It is recommended that the cladding boards are stored on site at least 72 hours before installation to allow the boards to acclimatise.

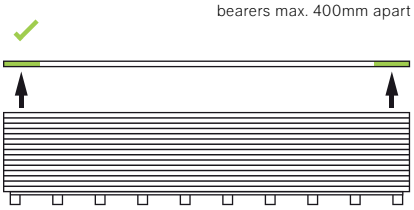
Forté do not take responsibility for damage caused by improper storage and handling of the product.



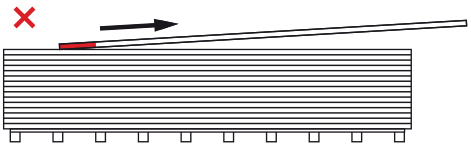
Stack boards face-to-face



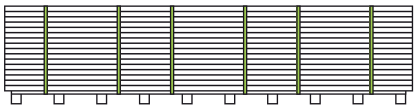
Ensure boards are on a flat surface or bearers max. 400mm apart



Lift boards on the edges using 2 people to lift at a time



Do not drag the boards off the stack



Ensure boards are secured to the pallet before transporting

Tolerances

There will always be a slight variance in the board's dimensions due to the boards being moulded from natural oak, and the pressure of the moulding process. Despite this, each board is calibrated to ensure a consistent profile is maintained.

The manufacturing tolerances are: Width: ± 2mm. Length: ± 5mm. Thickness: ± 2mm.

When working with the boards, a level may be required to help keep the boards running upright. In order to achieve straight and consistent 5-6mm gapping between boards, it may be necessary to use Millboard Multi-Spacers during the installation process.

3.2
TOOLS & PPE REQUIRED

Please refer to the below tools and PPE required to install Envello cladding.

If you are unsure on how to use any tools, please consult the manufacturer's user manual.

- **Mitre saw/jigsaw/handsaw:** Envello cladding products can be cut with standard wood cutting tools. We recommend using a carbon-tipped saw blade to cut the boards and an aluminium cutting blade for the metal trims.
- **Tool set:** Standard carpentry tools will be needed to complete the installation, including a tape measure, pencil, set square, planer, stanley knife, surform and a drill bit set.
- **Spirit level:** A spirit level is used to ensure that the battens are upright and the starter trims are level.
- **Personal Protective Equipment:** When handling Millboard products, it is advised to wear long sleeves and gloves. When cutting products, we recommend wearing a FFP3 dust mask, ear defenders and safety glasses.
- **Power drill and driver:** Standard power drill drivers can be used to fix the cladding boards. A second fix nailer can be used with stainless steel brads when the board tongue is taken off.
- **Laser level/line:** If available, a laser level can be used to ensure the starter trims are installed level.

3.3
CUTTING

When cutting Envello boards or corner profiles with standard wood cutting tools, we recommend using a carbon-tipped saw blade (a dust bag or vacuum must be used on mitre saws). For the metal trims, an aluminium cutting blade should be used. Ensure the boards are adequately supported when cutting with the boards facing up for a cleaner finish.

When the board is cut, touch-up coating should be used if the cut is visible and exposed to UV. Dispose of the off-cuts as general waste, don't burn them at home.

Tip: If there is a breeze/wind when cutting the boards, locate the saw downwind so the excess dust is blown away from the operator and the project.

3.4
FIRE PERFORMANCE

Millboard Envello Shadow Line+ cladding boards are crafted with fire retardants in the board composition and have been tested to BS EN 13501-1 ensuring they have a classification of D-s3, d0.

In general, Shadow Line+ cladding can be used on low rise residential and some commercial properties that are below 10m in height and are more than 1m from the boundary. The responsibility for the cladding's suitability in the required location is to be determined by a certified building professional (building control, building insurance, fire officer).

Forté does not take responsibility for incorrect specification, application, or product installation in areas not in accordance with NZ government guidance. Current guidance should be gained from the government website relating to the geographic location of the project.

4. Materials

4.1
COLOUR CHARACTERISTICS

Great care and consideration go into ensuring each Envello cladding board has a unique timber-look appearance. To achieve the look of natural timber, secondary toning colours are used, which may result in colour variance within the same board or between boards.

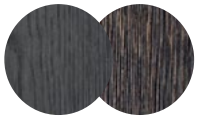
Envello cladding has been designed to replicate the natural variances of timber and is manufactured to have tonal variance in the colour.

To reduce the amount of variation between boards, Envello cladding product should be purchased in one order to ensure the colour is consistent. If you have multiple batches for your project, purchased at different times, it is recommended to mix the boards from different batches to help with balancing out the colour variation.

It is important to note that the Antique Oak cladding product has more tonal variation per individual board than any of the other colours in the Millboard range. As with all products exposed to the sunlight (UV), Millboard will naturally weather and tone down over time. Loss of gloss is perfectly normal and will not affect the performance of the products.

Upon delivery, if you find the colour unacceptable or believe them to be defective in any way, please contact a Forté representative. If there are any unforeseen issues with the boards, this should be highlighted with Forté before installation.

Millboard Envello cladding is made to last. The careful steps taken to hand-mould and colour each board, further enhanced by its high performance, durability and low-maintenance, ensures it outperforms any other timber alternative products on the market.



Colour tone may vary from batch to batch.
Antique Oak has more variance between boards.


LIMED OAK


SMOKED OAK


GOLDEN OAK

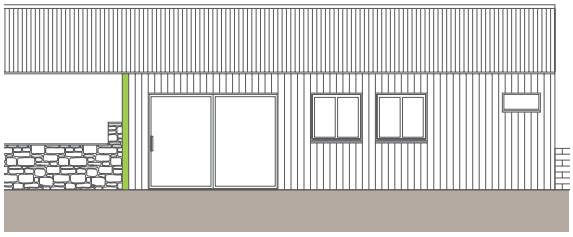

ANTIQUE OAK


BURNT CEDAR

4.2
MATERIAL CALCULATOR

The area (m2) is the total wall area to be clad.

- Area (m2) = [(width x height) – (area of any windows & doors)]
- Number of boards = m2 x 1.53



Vertical Installation

Perforated closures will be needed at the top and bottom of the cladding, any windows and the top of any doors

Number of perforated closures =

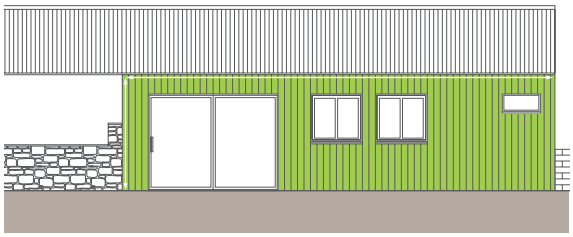
$$\frac{[(\text{width of cladding area} \times 2) + (\text{width of all windows} \times 2) + (\text{width of all doors})]}{3}$$

Corners

External/Internal Corner Profiles =

$$\frac{\text{total linear m for corners}}{3}$$

Extra perforated closures = Number of corner profiles



Fixings

Number of boxes

75mm fixings =

$$\frac{\text{number of cladding boards} \times 10}{250}$$

20mm fixings =

$$\frac{\text{number of perforated closures} + \text{corner profiles} \times 14}{250}$$

Envello Coloured Head Screws =

$$\frac{\text{number of cladding boards}}{100}$$

Tip: Allow extra material for wastage and offcuts. We would recommend adding at least 10% to the quantities, as complex designs may require more material

4.3
CLADDING BOARDS & ACCESSORIES

Envello Shadow Line+ Cladding boards

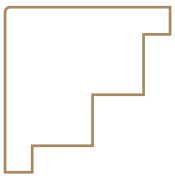
Dimensions	200 x 18 x 3600mm	
Effective Colour	181mm	
Boards per m²	1.53	
Colours	Smoked Oak	ESL-S
	Antique Oak	ESL-A
	Golden Oak	ESL-G
	Burnt Cedar	ESL-BC
	Limed Oak	ESL-L
Fixings	30mm fixings, Coloured Head screws	

Millboard Reveal Boards

Dimensions	146 x 16 x 3600mm	
Colours	Smoked Oak	ERB-S
	Antique Oak	ERB-A
	Golden Oak	ERB-G
	Burnt Cedar	ERB-BC
	Limed Oak	ERB-L
Fixings	Coloured Head screws.	

Reveal boards may be required for soffits or finishing trims.

Shadow Line+ External Corner Profile



Dimensions	50 x 50 x 3050mm	
Colours	Smoked Oak	EEC-S
	Antique Oak	EEC-A
	Golden Oak	EEC-G
	Burnt Cedar	EEC-BC
	Limed Oak	EEC-L
Fixings	Perforated closure, 20mm fixings.	

Profile used to finish off the external corner of the building.

Shadow Line+ Internal Corner Profile

Dimensions	38 x 38 x 3050mm	
Colours	Smoked Oak	EIC-S
	Antique Oak	EIC-A
	Golden Oak	EIC-G
	Burnt Cedar	EIC-BC
	Limed Oak	EIC-L
Fixings	Perforated closure, 20mm fixings.	

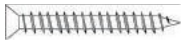
Profile used to finish off the internal corner of the building.

Cladding Accessories Fixings

Dimensions	3.5 x 20mm
Quantity	Box of 250
Fixings	EA-F20

A2 Stainless Steel fixings used to fix the corner profiles, starter trims and perforated closures.

Cladding Board Fixings



Dimensions	4.2 x 75mm
Quantity	Box of 200
Fixings	EA-F75

A2 Stainless Steel fixings used to fix the Envello cladding boards on to the battens, fixing through the tongue of the boards.

Coloured Head Screws

Dimensions	3.5 x 40mm
Quantity	Box of 100

A2 Stainless Steel fixings used to fix the corner profiles, starter trims and perforated closures.

Product Code	Smoked Oak	EA-CHS-S
	Antique Oak	EA-CHS-A
	Golden Oak	EA-CHS-G
	Burnt Cedar	EA-CHS-BC
	Limed Oak	EA-CHS-L

Perforated Closure

Dimensions	50 x 25 x 3000mm
Product code	EA-PCT
Fixings	20mm fixings

Aluminium closure used to prevent insects/rodents getting into the ventilated cavity behind the boards, but allowing airflow. Fixed at the bottom of the cladding with the starter trim, also at the top on its own, as well as with the corner profile.

4.4
TOUCH-UP COATING

Touch-up used for coating any exposed cuts or edges on the Millboard Envello Cladding boards, corner profiles or reveal boards.

Additional items that may be required (supplied by others):

- Flashing/drip profiles (around windows/doors/openings or at the bottom of the cladding)
- Fixings for installing the battens on to the structure (suitable type of fixing for the structure and battens used)
- Screws for fixing the battens together (suitable type of screw for the location and battens used)
- Clear high performance sealant adhesive (MS/Hybrid polymer adhesive)
- Super glue (used when joining corner profiles)
- Suitable H3.2 treated timber cavity battens

Smoked Oak
500ml MT-S

Antique Oak
500ml MT-A

Burnt Cedar
500ml MT-BC

Golden Oak
500ml MT-G

Limed Oak
500ml MT-L

5. Preparation

5.1
VENTILATION

Ventilation for the control of moisture is a key element in the design and construction of cladding. It is a requirement (as per NZBC E2.3.2 to E2.3.7) not an option and should not be overlooked. A continuous airflow from bottom to top is vital for long term durability.

As a rainscreen system, it is assumed that the cladding will always be subject to some moisture penetration, therefore the surface that the battens will be fixed to will need have a waterproof finish.

Where the substrate is an existing building with solid walls (i.e. no cavity), to prevent water penetration the walls should be given a waterproof coating or fitted with a breathable membrane.

Whatever system is used, a 18mm minimum open cavity should always be provided behind the cladding and a 5mm minimum continuous gap left at the top and bottom of the system for full ventilation and to dissipate any condensation or drainage at the bottom (see Fig.1 & Fig2).

Cavity closures should always be used to create drained and vented cavities. Where possible, ventilation pathways for cavities should be provided at the top and bottom of the cladding.

Insect and rodent invasion should also be considered, and a perforated closure should be used to counter these threats where there is the required air gap, whilst still maintaining the required air flow.

FIG.1 BASE OF WALL

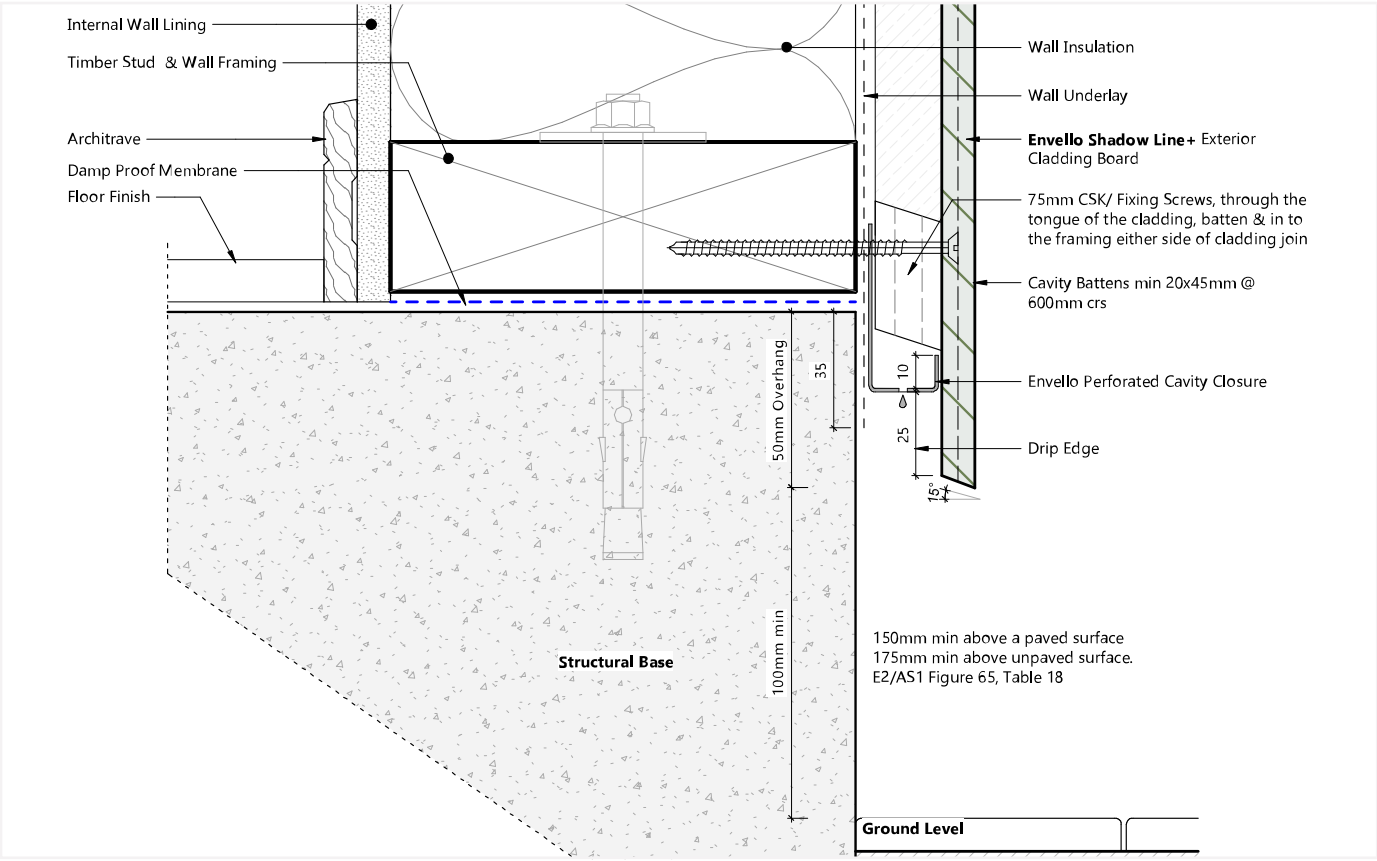
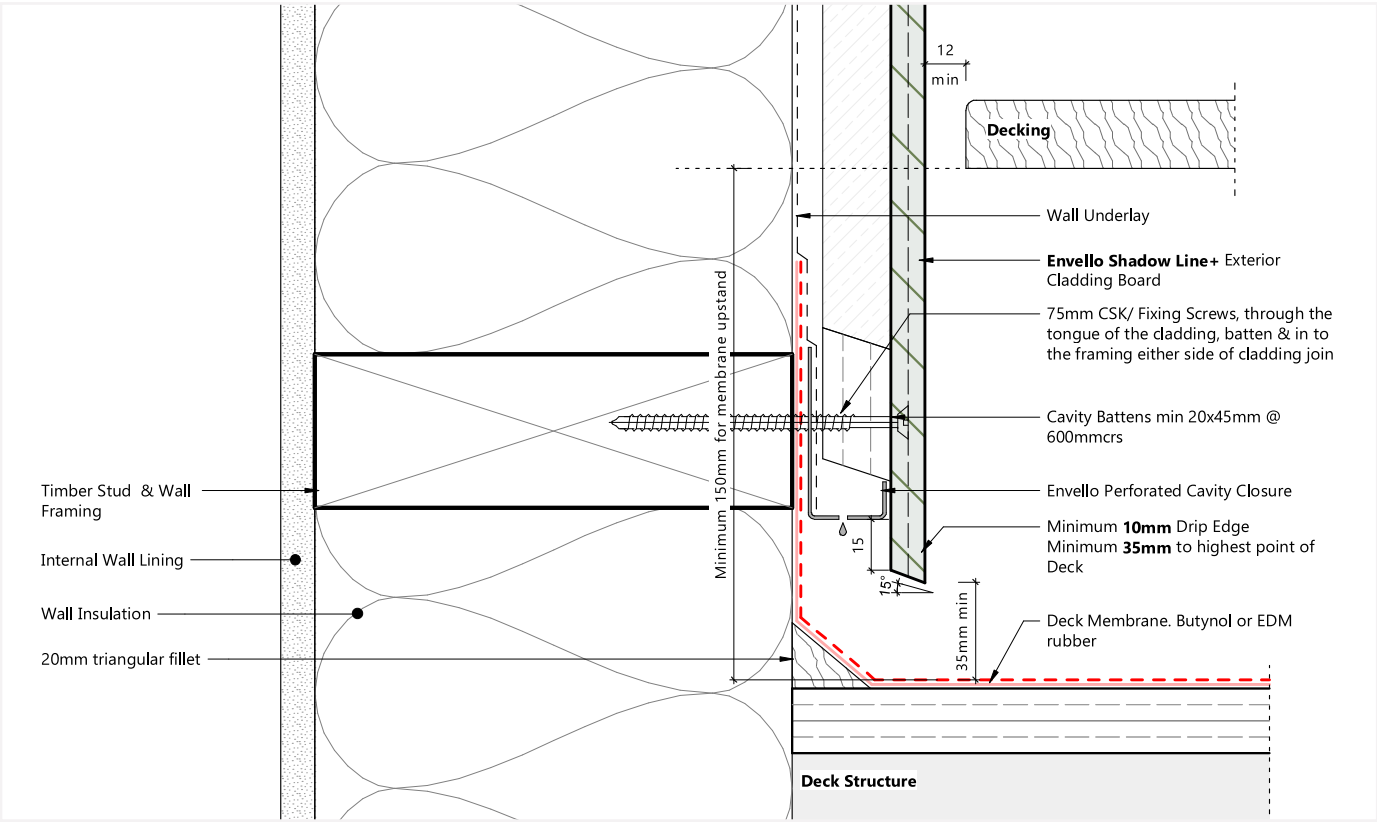


FIG.2 BASE TO DEC



5.1
CLADDING SUPPORT BATTEN

The time and care taken on setting and fixing the support system correctly will be reflected in the finished result. Time spent ensuring corners are upright and battens are straight on undulated walls will allow easier and faster installation and achieve a superior finished result.

Suitable H3.2 treated timber battens can be used as the cavity battens for the cladding boards. All cavity battens and details should comply with B2/AS1 as per E2/AS1 9.1.8.4. The cavity battens should be a minimum size of 18mm thick & 45mm wide, structural castellated cavity battens are shown throughout this guide. If standard non-castellated battens are used, there needs to be vertical battens structurally fixed to the building with horizontal cross battens structurally fixed to these at the appropriate centres.

The maximum support spacing for the battens is 600mm centres, for areas of high wind loading exceeding 1.0kN/m2, severe weather exposure or where exceptional impact loading requirements are anticipated (i.e. lowlevel applications near pedestrian access, schools, leisure facilities etc.) batten support spacing should be reduced to 400mm centres. The battens need to be fixed into either the main framework of the building structure or to the noggins at centres suitable for the battens, the battens need to be structurally fixed into the building framework to allow the Envello cladding boards to fixed to these.

Where there is cladding up into a gable end, there should be castellated battens that run up the diagonals to support the ends of the boards. If using cross battens, ensure that these don't block the flow of air but allow enough support for the ends of the boards to be fixed to. See Fig. 4.

The batten layout around windows/doors/soffits should be that it allows the continuous airflow behind the boards, a 5mm gap should be left between the underside of the windowsills or soffits and at the head of windows/doors (see Fig. 5). The battens at the top and bottom of the window/doors should be so that the board ends are supported; all horizontal battens should be level.

Table 1

Product	Shadow Line+
Maximum Support Centres	600mm
Support Centres for high load areas	400mm

The perforated closure should be used in all areas where there is an opening to the ventilated cavity, to prevent insects entering. The Millboard Perforated closure is suitable for batten sizes of 25 or 50mm, if battens used are different to these sizes, then perforated closures or flymesh sourced by other suppliers should be used. It is best for the perforated closure to be held between the back of the battens and the wall. This should be taken into consideration when fixing the battens, alternatively they can be fixed to the front of the battens using the 20mm accessory fixings.

Determine at what height the cladding is to start at. The bottom of the cladding boards should have sufficient clearances from other surfaces and should be in accordance with E2/AS1 9.1.3, see Fig 1 & Fig 2

- A minimum clearance of 175mm above unpaved ground and 100mm above paved ground,
- An overlap of 50m is necessary.
- Above decking, a 35mm gap with a 12mm standoff is required.
- Use a laser line or level, mark up a level line around the building or along the wall that is to be clad. This line will be the bottom of the first batten.

Battens should be fixed to the structural wall using suitable external grade fixings.

- For fixing to a timber frame, the battens should preferably be fixed into the timber studs of the frame or into the noggins, according to the structural integrity of the battens.
- The battens should be fixed level and packers may be needed for these if the wall is undulating.

FIG.3 BATTEN LAYOUT

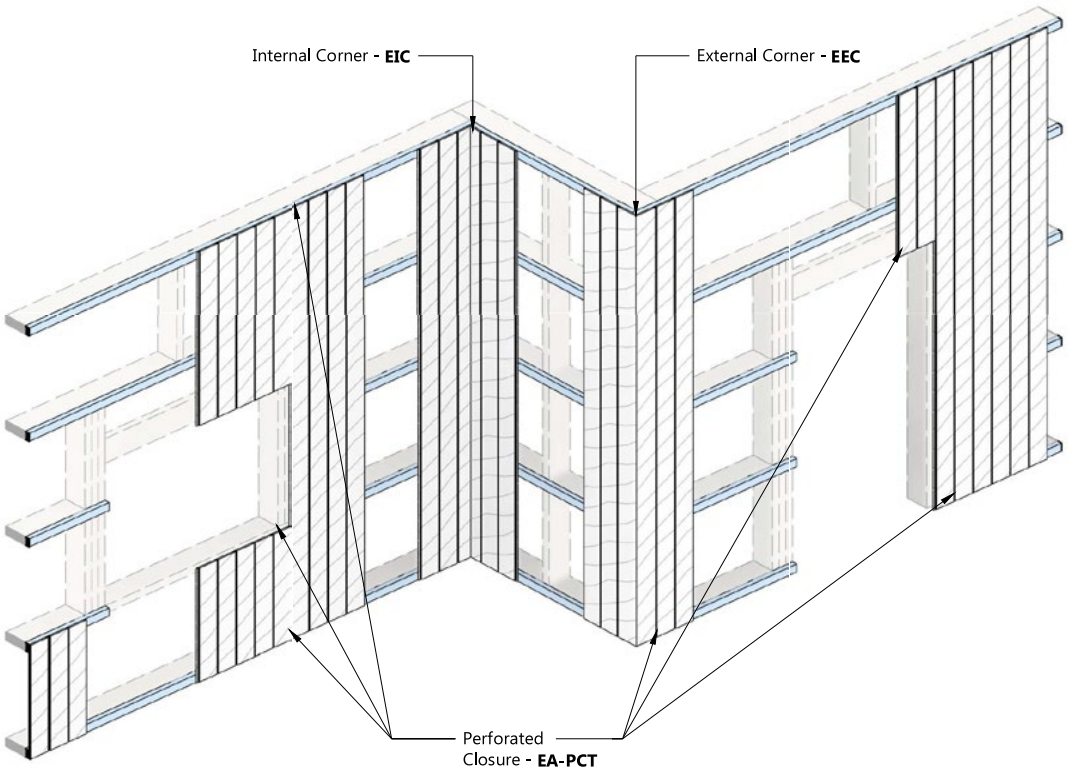


FIG.4 BATTEN LAYOUT AROUND AN OPENING

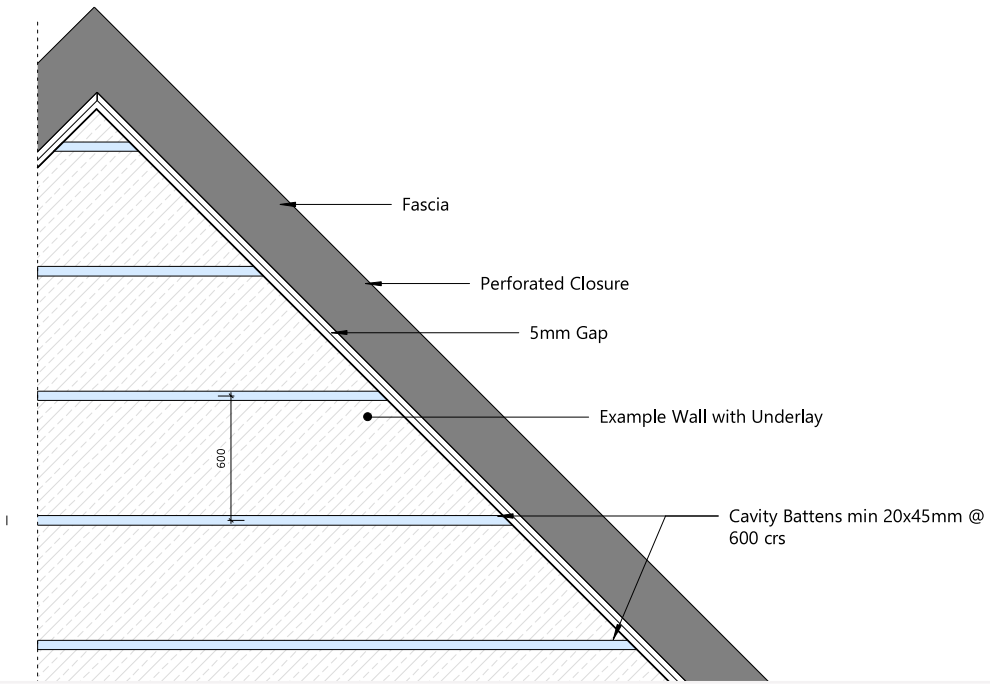


FIG.5 BATTEN LAYOUT AT A GABLE END

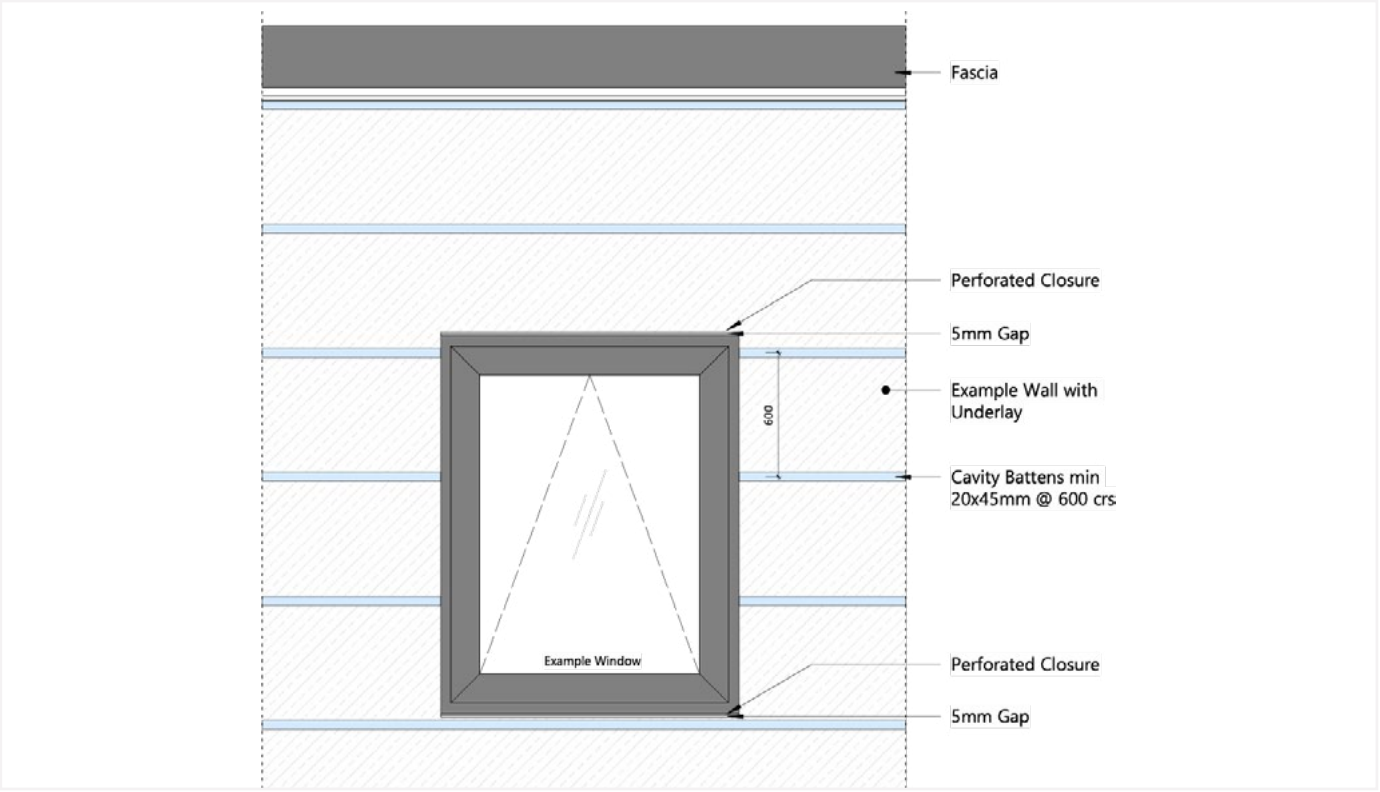
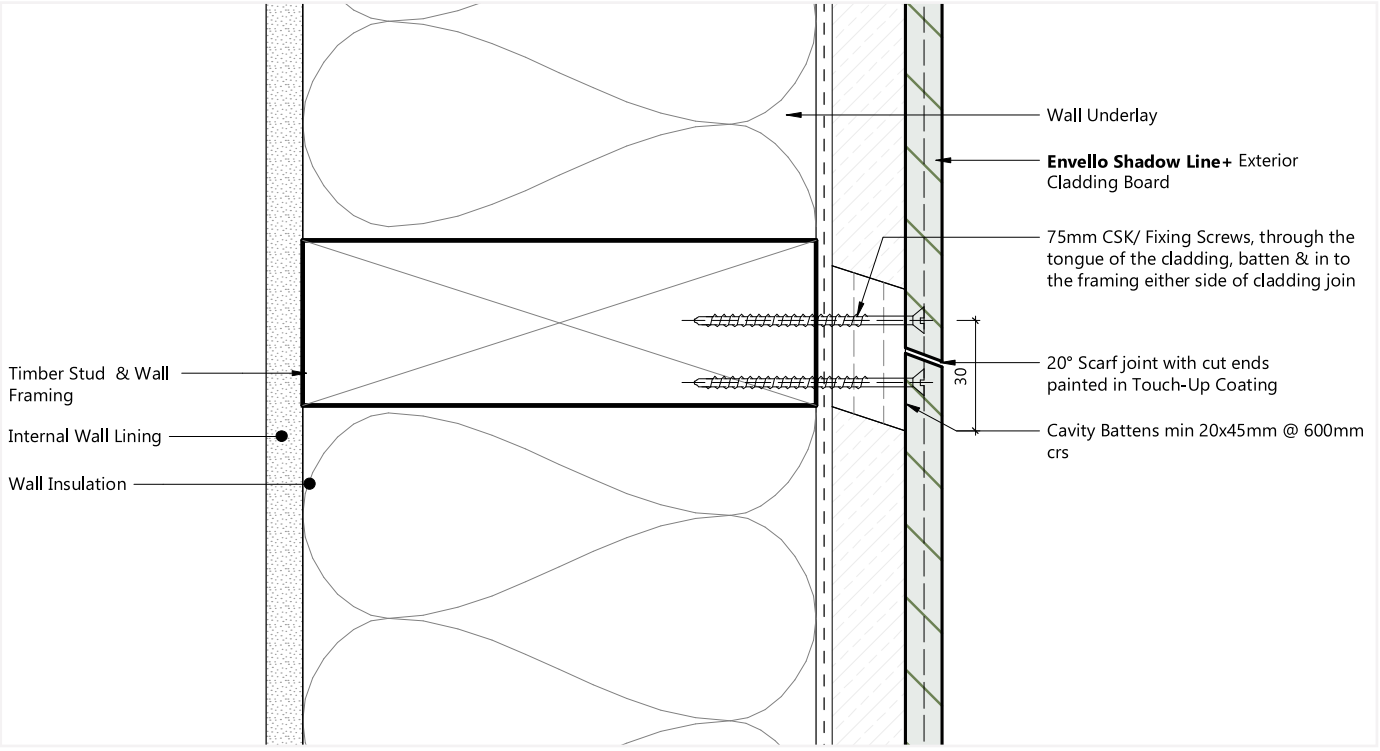


FIG.6 BATTEN LAYOUT BELOW A SILL



6. Installation

Before starting to install the main cladding area, it is important to take into consideration how the corners of the building will be detailed.

6.1
CORNERS OF THE BUILDING

The perforated closure is fitted to the back of the corner profiles using the 20mm accessory fixings at 200mm centres. These are then fixed to the battens on the corner, as shown in Fig. 8-10.

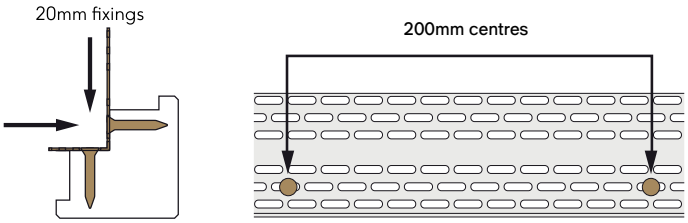


Fig. 7 - Use of perforated closure on corner profiles

6.2
JOINING CORNER PROFILES

When joining two corner profiles to make a longer length, they should be joined on a 20° scarf joint. The profiles will then need to be dry fitted to ensure they align and should be bonded together using superglue. Once the profiles are bonded, they will need to be pressed together to ensure the faces line through. Once the adhesive is set, they must be joined so that the perforated closure connects both profiles together.

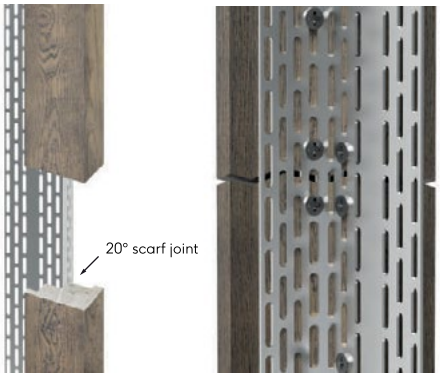


FIG.8 INTERNAL CORNER PROFILE

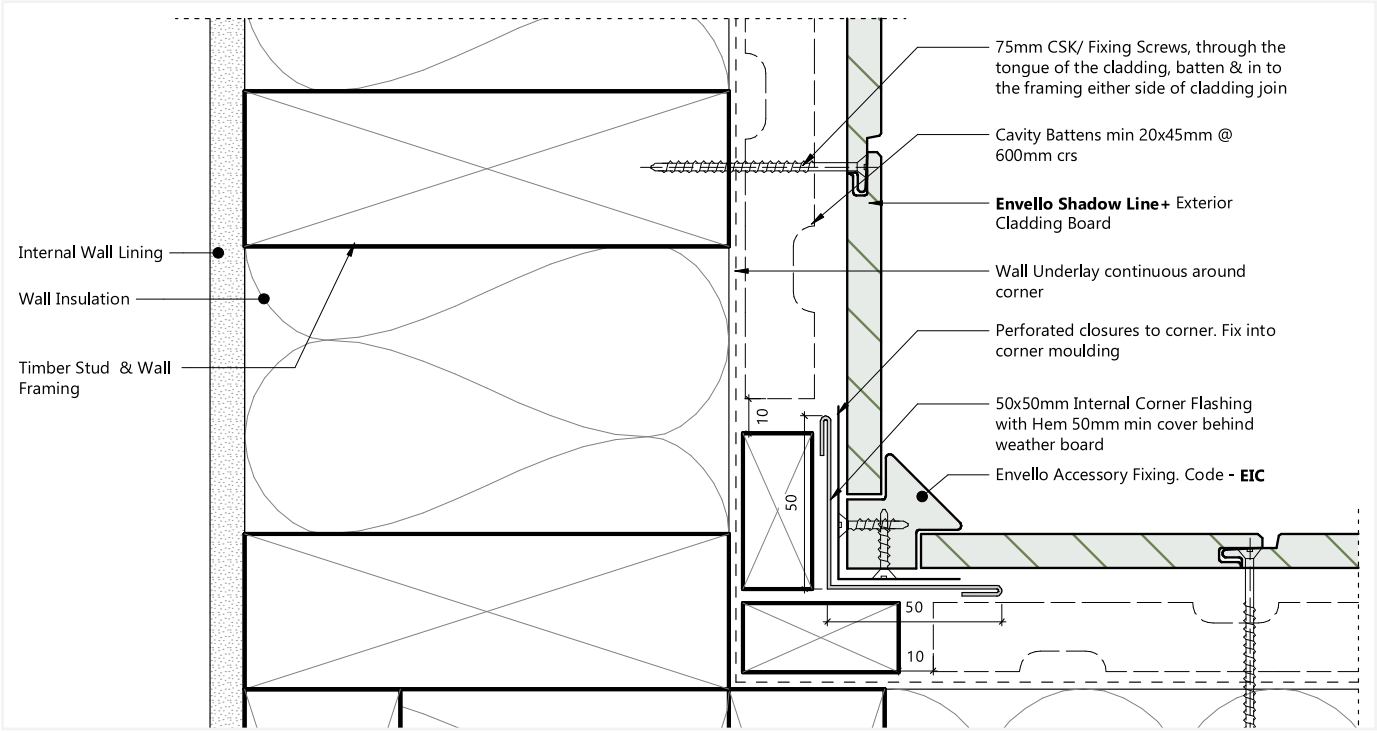


FIG.9 EXTERNAL CORNER PROFILE

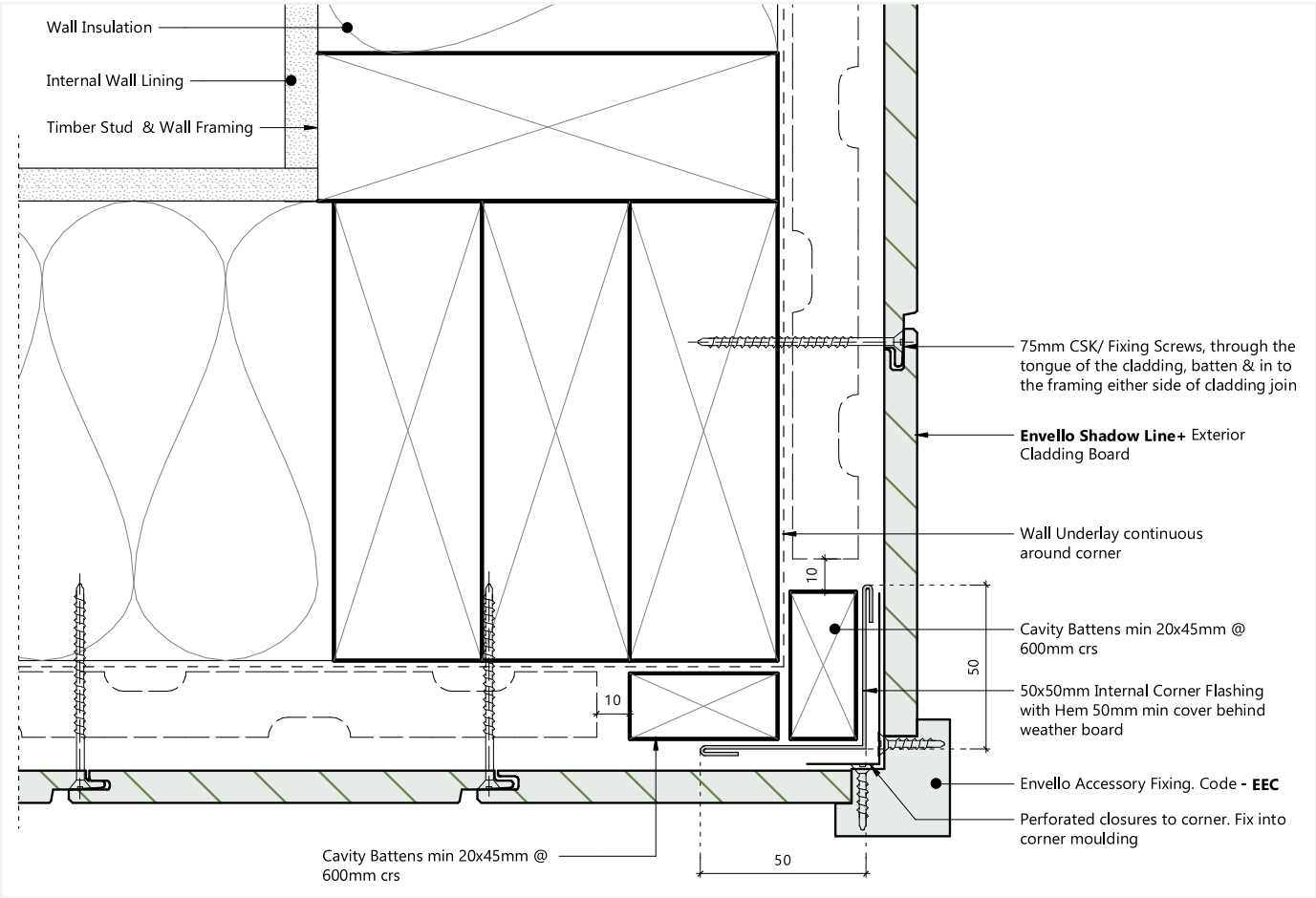
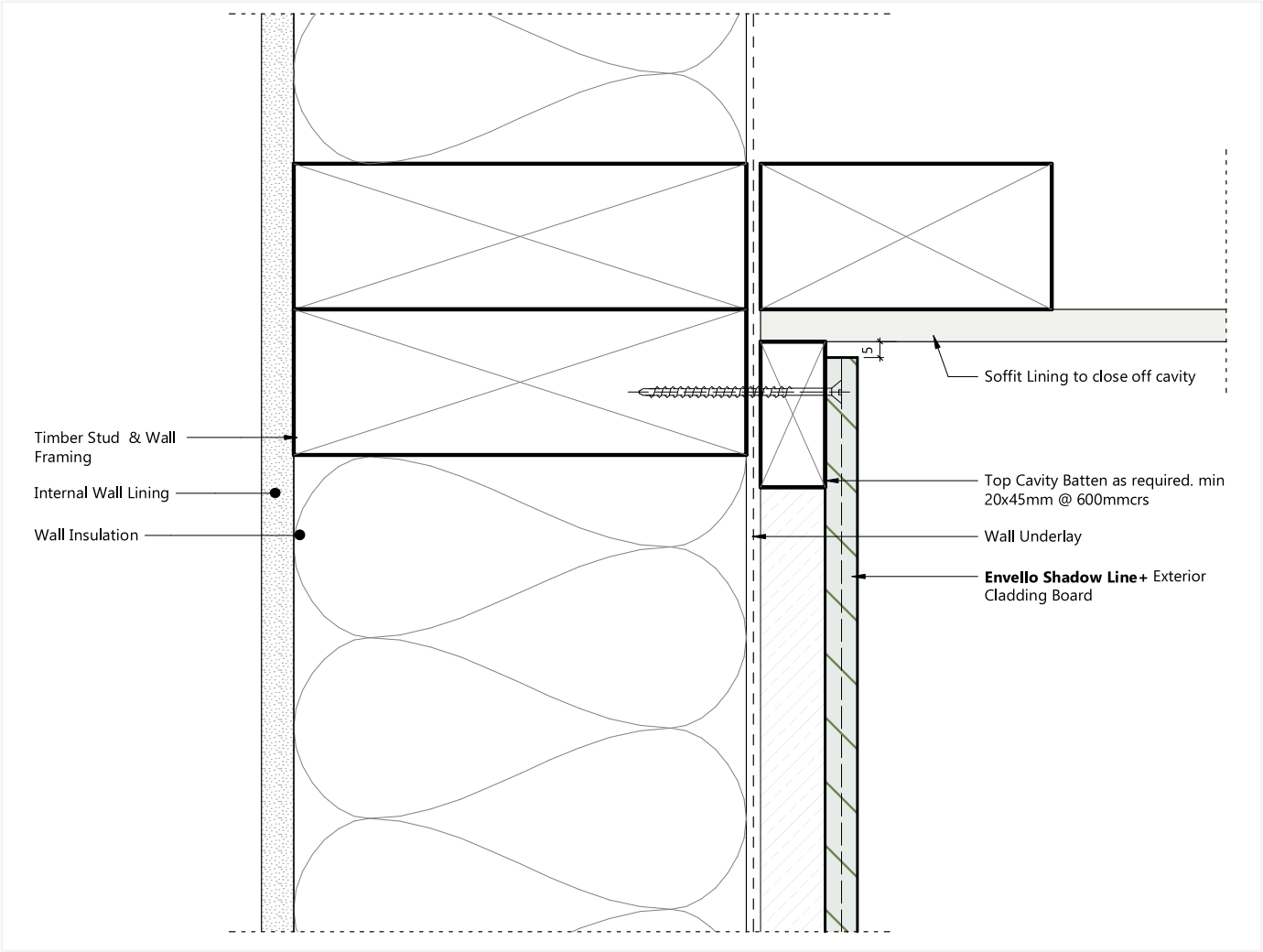


FIG.10 WALL HEAD



6.3
JOINING INTERNAL CORNER PROFILES

Alternatively, the boards can be butted together on internal corner as shown in Fig. 12.

The boards can also be mitred to create the external corner, this would also be applicable if the corner is anything other than 90 degrees as shown in Fig. 11.

FIG.11 EXTERNAL CORNER PROFILE

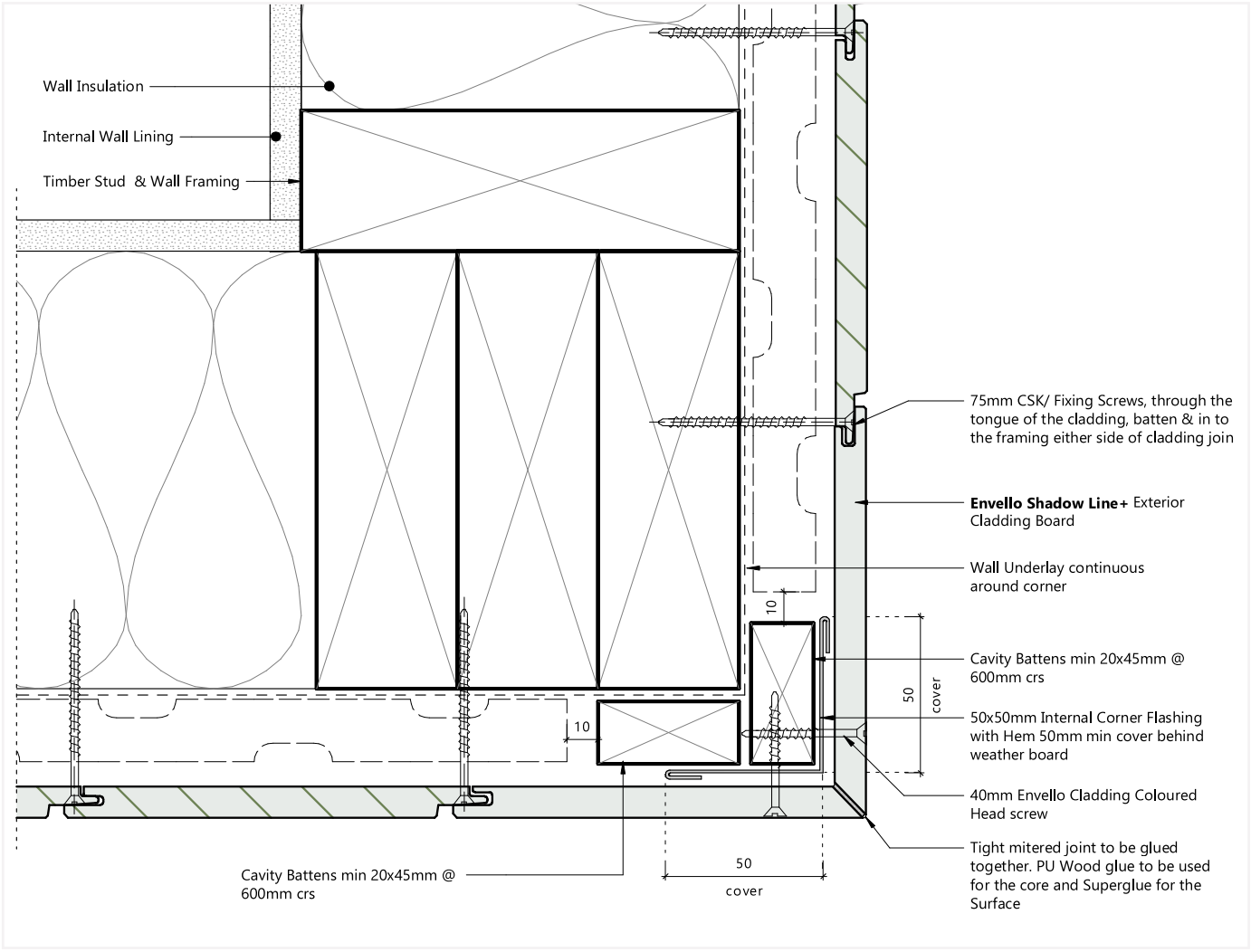
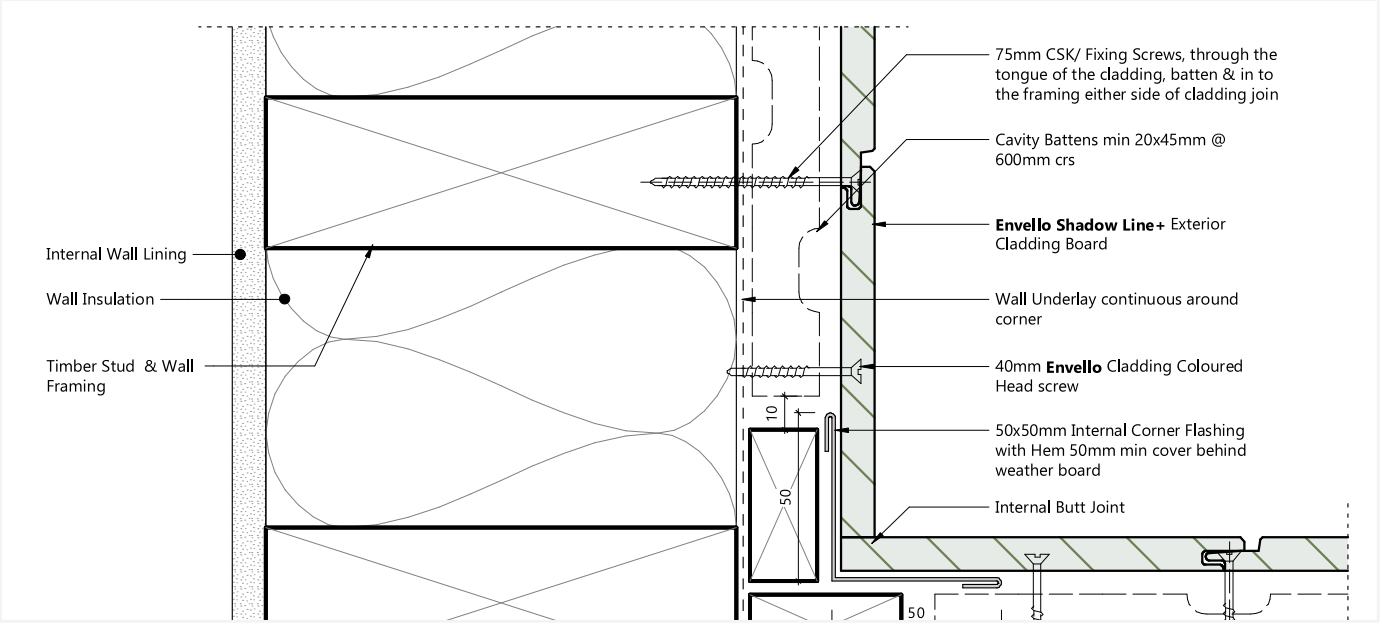


FIG.12 BOARD JOIN



6.3
FIXINGS

Millboard Envello cladding boards must be fixed through the tongue with 4.2 x 75mm cladding fixings. There should be one fixing per batten intersection and two per batten when joining boards. The fixings should be inserted through the fixing guide groove on the tongue and angled towards the board slightly with the head sitting flush with the surface. The fixings do not need to be predrilled or countersunk as the boards will naturally allow the head to slightly countersink. Once the first board has been installed, the second board can be installed beside it, with the groove covering the tongue of the previous board.

It is recommended to check the boards against a level every fourth or fifth board to ensure that the boards are aligned vertically. Adjustments to the spacing between the boards may be required.

When the tongue is taken off the boards to fit around windows and doors, or at the edge of a building, 40mm coloured head screws will need to be used through the board face.

6.4
JOINING BOARDS

When joining boards end-to-end, a batten must be used behind the boards to ensure both ends are supported equally. It is best to not have the joins all in one line, rather spread out across the cladding area.

As the boards are manufactured through a moulding process, we recommend all ends are trimmed before they are installed. Dry fit the boards first to make sure they align, using boards that are of appropriate dimensions to ensure a consistent finish.

We recommend that the boards are joined with a 20˚ scarf joint with one overlapping the other. The front face of the cut should be painted with touch-up coating for the best finish (see Fig. 14).

6.5
INTER STORY JUNCTION

When there is a horizontal joint between cladding areas, a flashing detail should be used to ensure boards aren't affected by any building movement. As Millboard Envello cladding is made from a resin mineral composition, it is more stable in comparison to timber or composites based on timber, and therefore acceptable movement is up to 0.2%.

If using bevelled battens as shown in the accompanying figure, the perforated closure may need to be bent to the bevel to allow the gaps around the flashings to be kept to around 5mm (see Fig 13).

FIG.13 HORIZONTAL JOINT

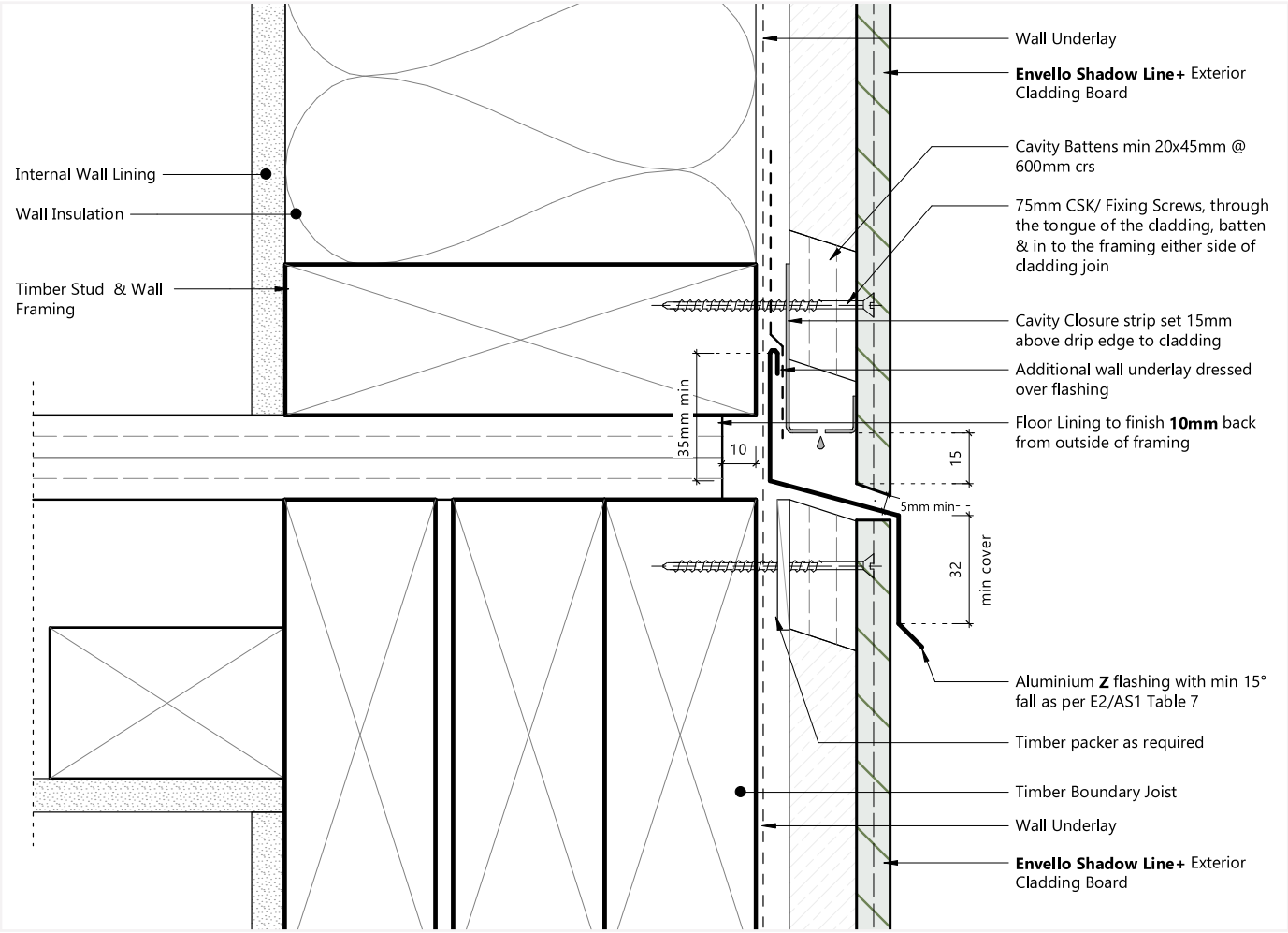
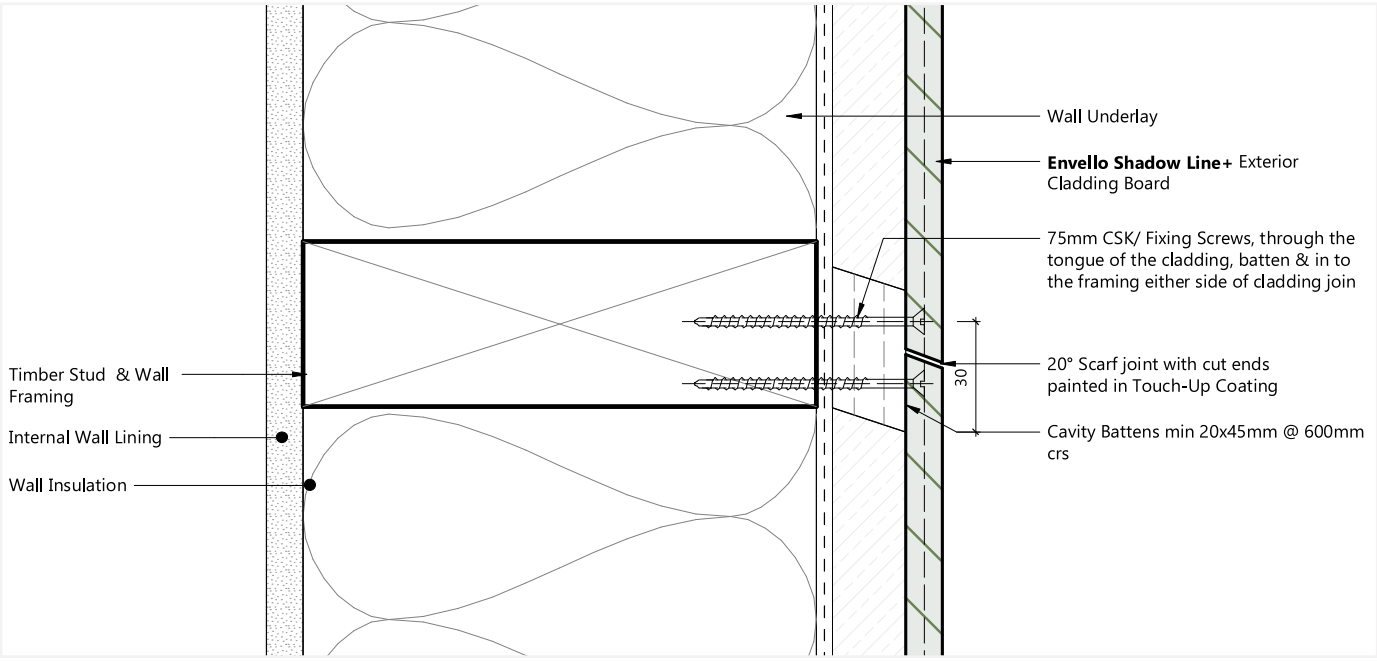


FIG.14 BOARD JOIN



6.6
DETAILS AROUND WINDOWS & DOORS

Flashing trims around windows and doors will need to be sourced from other suppliers (e.g. the window manufacturer or flashing manufacturer). They should be designed to work with the window or door joinery as well as the depth of cladding and battens used. All flashings must be of sufficient grading and should be installed in accordance with E2/AS14.6.1.6.

Please ensure that all windows and doors are sealed sufficiently before the cladding is installed to ensure that the cladding detailing doesn't have a detrimental impact on the performance of the windows and doors. Any detailing around an opening should allow for airflow to get to the cavity above and/or below the opening, leaving a clear 5mm gap.

Other details that require flashings will also need to be sourced from other suppliers, such as the flashings around a meter box or inter-storey joining details. The flashings shown throughout this guide are indicative and need to be confirmed by the manufacturer. See Fig, 19-21.

FIG.19 - WINDOW HEAD

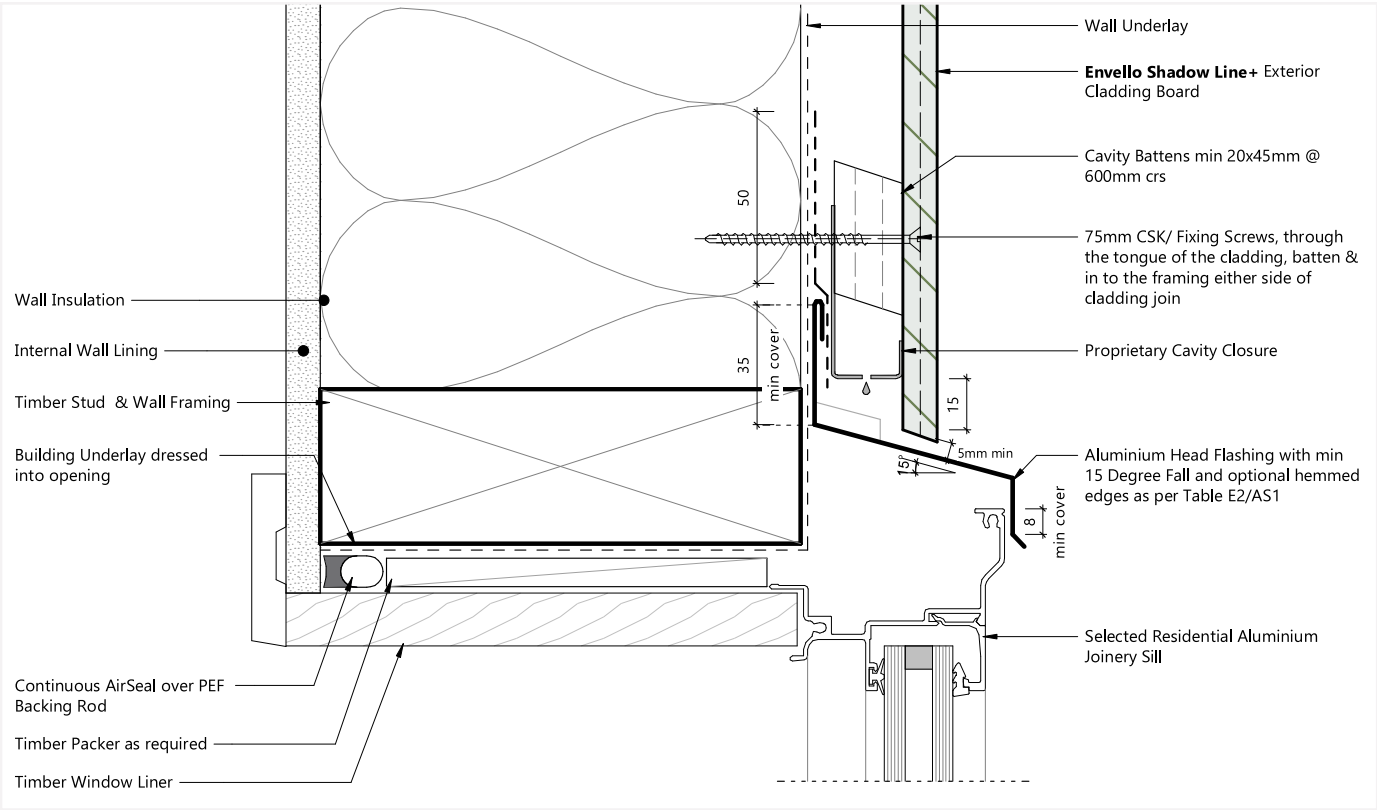


FIG.20 - WINDOW JAMB

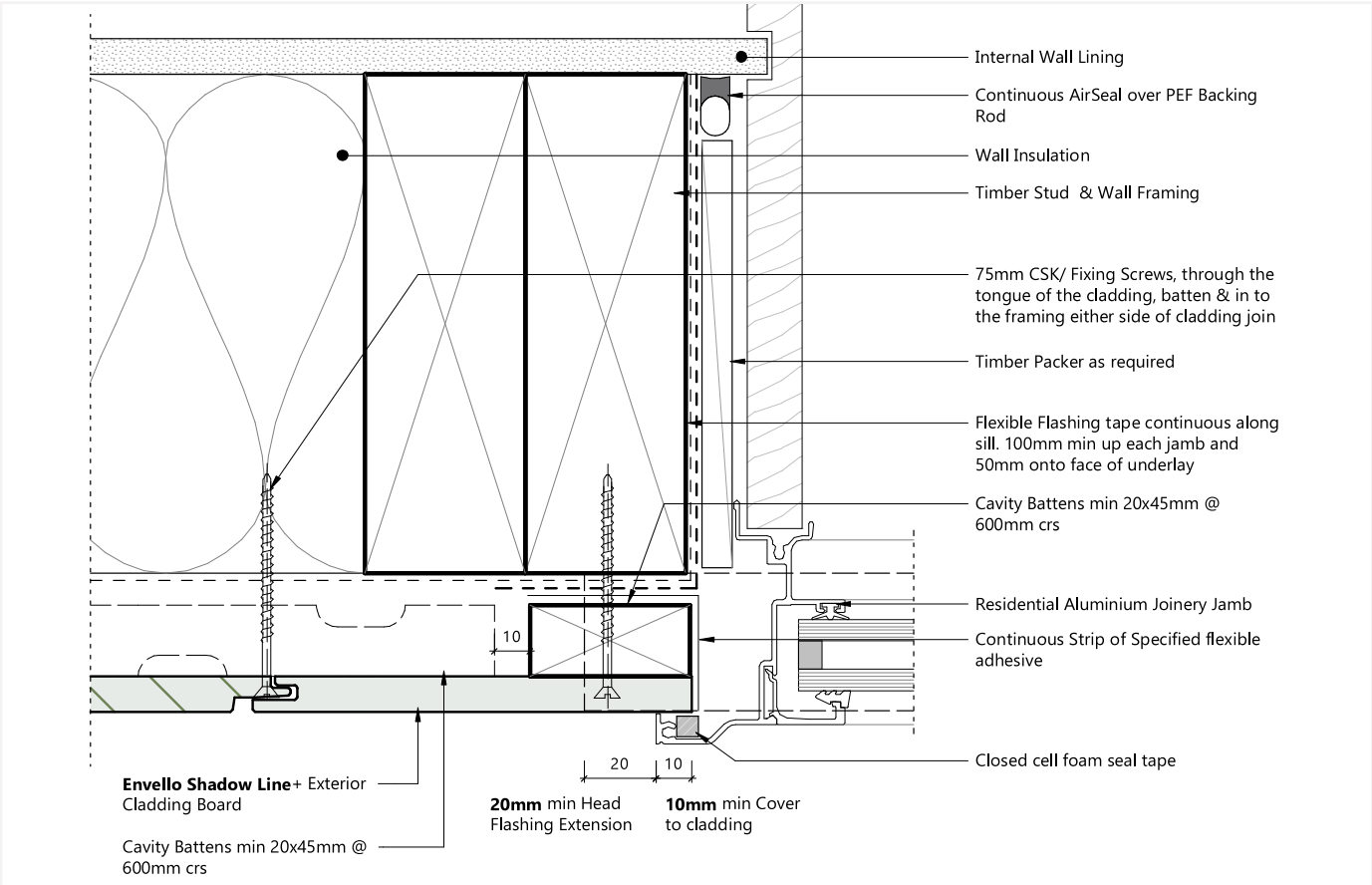
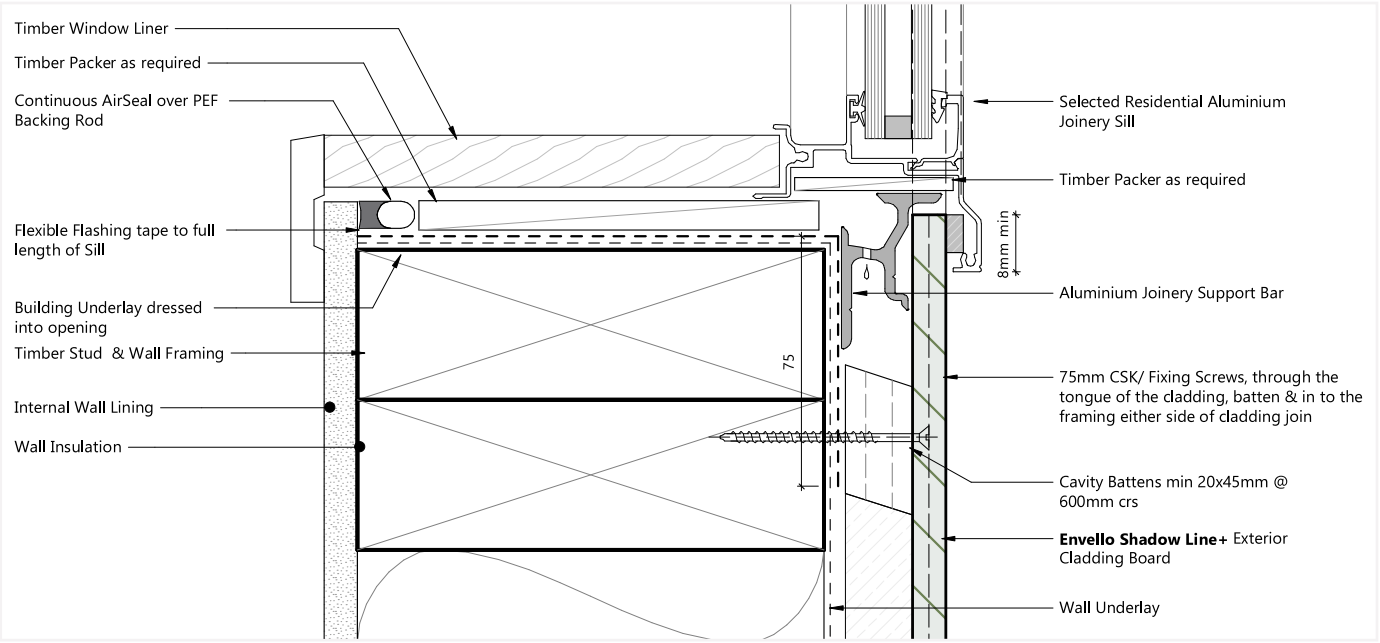


FIG.21 - WINDOW SILL



6.7
DETAILS AROUND WALL PENETRATIONS

When installing around a metre box, the flashing detail must ensure a water and airtight seal whilst also allowing fixing points for the cladding boards. The cladding should be detailed so that the sealing around the meter box is not affected. Please note that the images shown are indicative and should be confirmed by the flashing manufacturer.

When installing cladding around pipes, please ensure the pipes are sufficiently sealed with backing rod and sealant, and that the cladding fixing doesn't affect the performance.

Where there is a parapet wall, the flashing on the parapet wall should be sealed and designed so that it allows for sufficient water runoff. The flashing needs to cover the cladding sufficiently for the wind zone according to NZBC E2/AS1.

Please note that anything that is fixed to the face of the cladding boards should not rely on the boards to be secure. The fixings should be fixed either into the structurally fixed battens or into the building structure, depending on the likely loads applied. If items are being fixed through the boards into the building structure, sufficient packing should be inserted behind the boards to help prevent any board deformation.

6.8
INSTALLATION ABUTTING RENDER

The junction between Envello and render can be achieved in a number of different ways, however we'd recommend finishing the render up to a render stop bead rather than directly up to the cladding, before fitting the Envello cladding.

Please ensure a 5mm gap is left between the render stop and the edge of the cladding / corner profiles to allow for a backing rod and silicone sealant to be used. The junction between the Shadow Line+ boards and render on a corner can be done utilising corner profiles or reveal boards (see Fig. 23).

When installing cladding above the render, it is best to install a flashing detail that goes up behind the cladding battens and protrudes further than the render, to allow rainwater to run off the flashing detail (see Fig. 24).

FIG.23 - PIPE PENETRATION

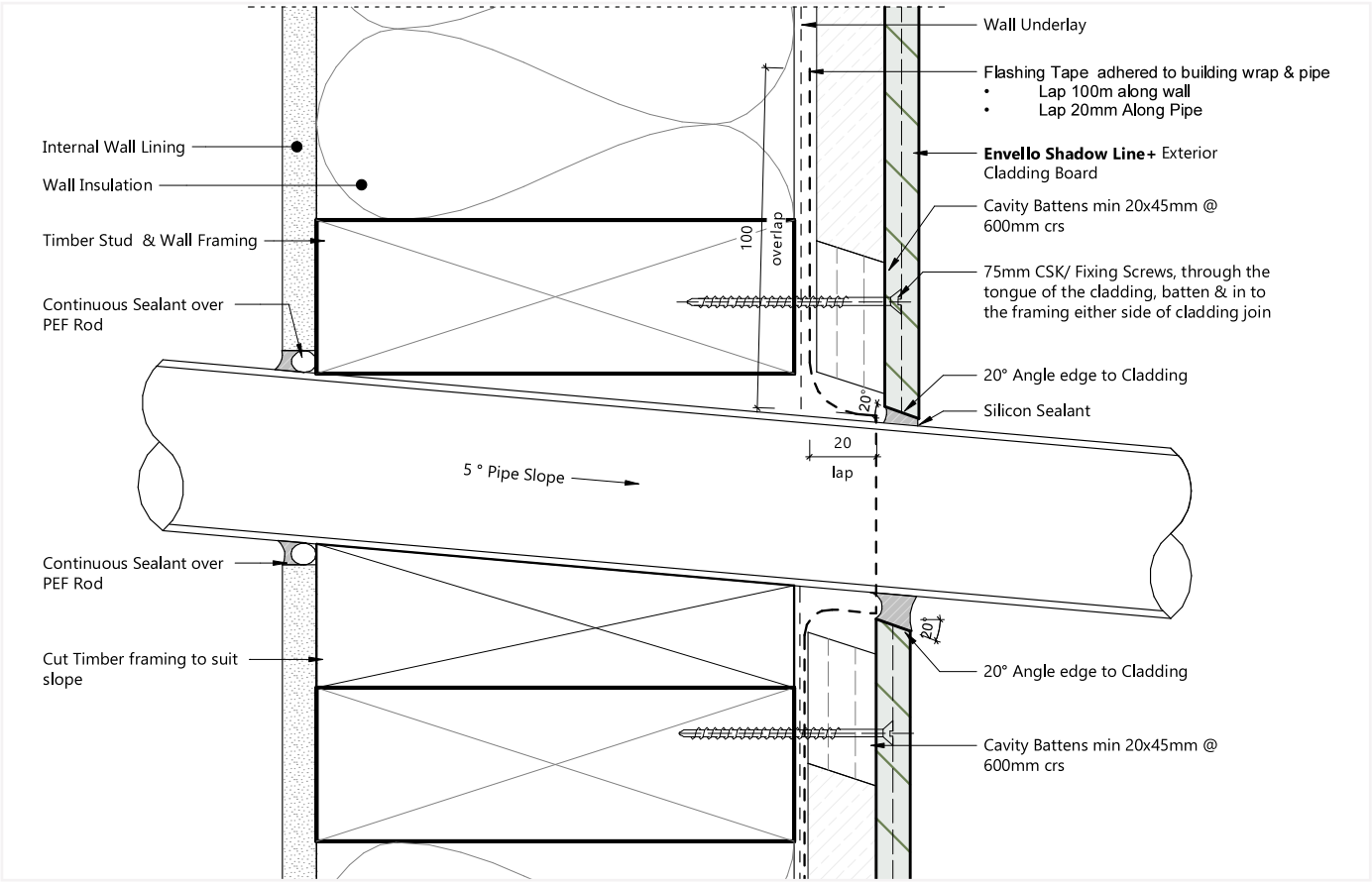
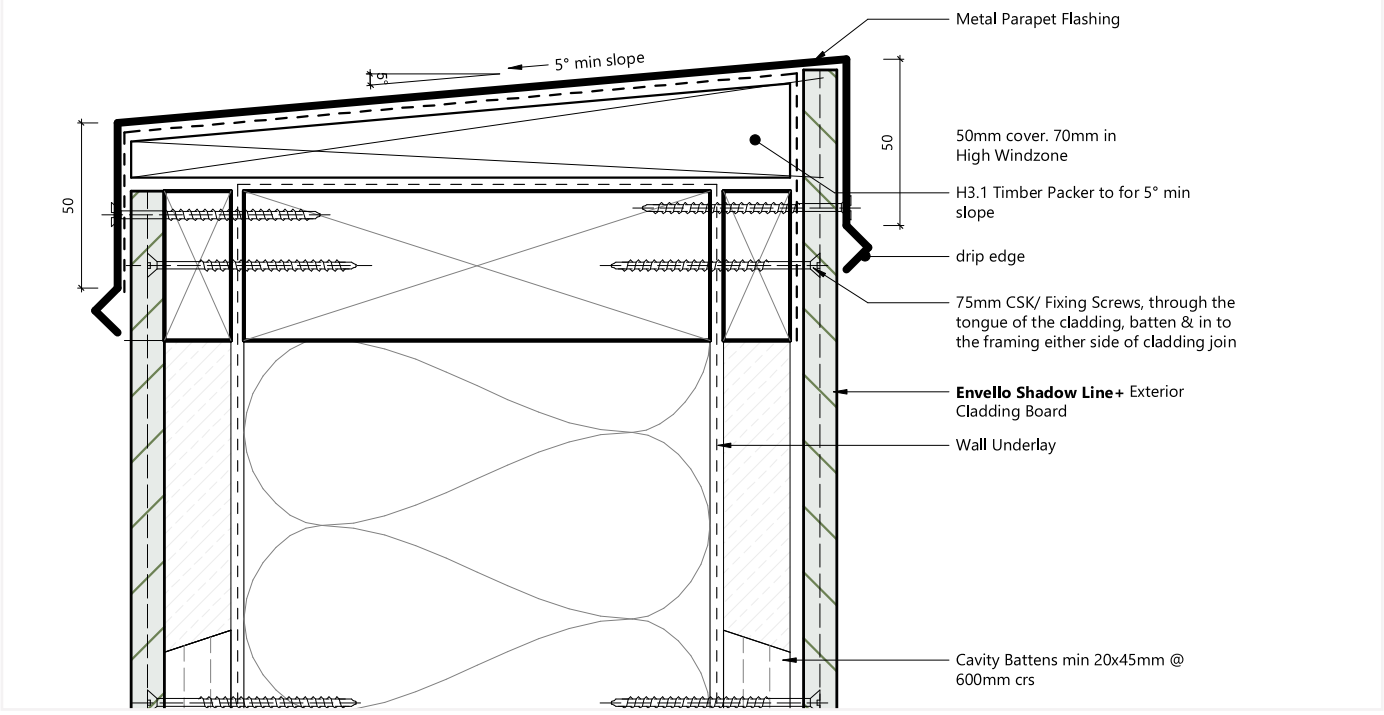


FIG.24 - PARAPET WALL INTERFACE



7. Care and Maintenance

When installing the boards as part of a wider project, we would strongly recommend they are stored away from cement dust or potential debris to minimise lasting damage or marking.

If the boards become dirty during installation, they should be cleaned as soon as possible using warm soapy water and a brush or pressure washer. We recommend that the cladding is cleaned once to twice per year to remove surface dirt and debris.

When cleaning, start at the top of the cladding and work downwards along the grain. It is best to use a brush with an extendable handle to clean the boards. Pressure washers can also be used on Millboard Envello cladding, however they need to have a PSI of no greater than 2000.

A fan tip should be used with a 40 – 60˚ spread, keeping the head 250-300mm away from the surface. Test in an inconspicuous area first as direct and prolonged contact could damage the surface of the boards. Take extra care when using a pressure washer around windows, doors and cut ends of boards.

Stubborn marks may be removed with a range of different cleaners, depending on the mark.

7.1 REPLACING DAMAGED BOARDS

If a board gets damaged and needs replacing, then the following method should be used.

1) Set a circular saw to 45° and to a depth that will cut through the board without damaging the materials behind.
2) Plunge cut the saw into the surface of the damaged board roughly 2/3rds away from the groove side.
3) Run the saw the full length of the board taking care not to let the saw run into the next board and cause damage.
4) Remove the lower part of the board by starting in the middle, then lever the lower part of the board forward and gently pull up. This will pull the ends in as it is lifted.
5) Starting at the end, use a hammer and small block of wood and gently knock the groove of the cut board to pull it off the screws. This may need to be repeated where each screw is, taking care not to damage the board above or beside it.
6) With a multi-tool, cut off each screw that was holding the board.
7) Cut the replacement board to length, with the replacement board laid face down on a flat surface to ensure the face is protected, then cut off the back of the groove.
8) Apply a good bead of silicone into the groove of the existing board the replacement will fit into and the back of the groove of the new board.
9) Push the tongue of the new board up into the bottom of the board that is directly above and beside it, then press into place.
10) Surface fix along the bottom of the new board and the boards directly above and beside it with coloured head screws. Clean down any dust or excess silicone.

Auckland
299 Great North Road,
Grey Lynn, Auckland

Pukekohe
3 Keith Place,
Pukekohe, Auckland

Christchurch
93 Manchester Street,
Christchurch

Queenstown
179 Glenda Drive,
Frankton, Queenstown

forte.co.nz
info@forte.co.nz
0508 35 66 77