MarleyEternit

CEDRAL

Fixing guide

Cedral Lap and Cedral Click

The ideal, low maintenance, rot-free alternative to traditional timber weatherboarding. With the visual appeal of natural timber, simplicity of installation and resistance to rot, Cedral is an attractive, low maintenance alternative to PVCu.

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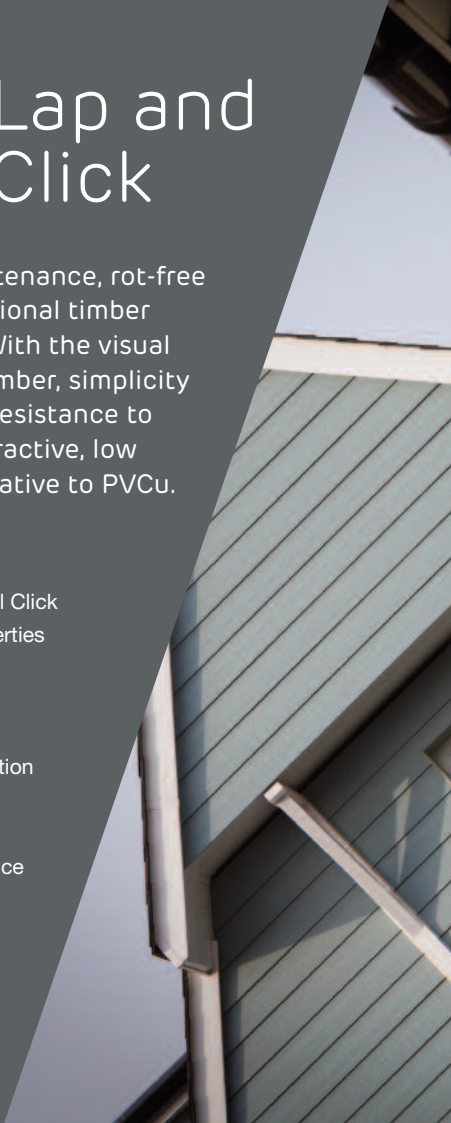


Product features

- Choice of two applications within the range (Click and Lap)
- Resistant to rot, immune to attack by pests and insects
- Stands up to the harshest weather conditions
- No routine maintenance required
- Easy to install
- Range of complementary aluminium trims available
- Use in the same way as wood
- Class 0 and EN 13501-1 fire performance and classified to A2-s1, d0 limited combustibility
- Ideal for use where traditional timber boards might be used, especially for facades and window and door surrounds
- Can achieve an A+ rating in the BRE's Green Guide to Specification*
- BBA Certificate No. 06/4299

* Based on generic rating for autoclaved fibre cement (calcium silicate) cladding (Element ref. 806220701, 806220675, 806220676)

Cedral Lap

Ideal low maintenance, rot free alternative to weatherboarding. Fitted in traditional lapped style and with the visual appeal of natural timber, Cedral Weatherboard is an attractive, low maintenance alternative to all types of weatherboarding.

Cedral Click

Cedral Click is the UK's first fibre cement tongue and groove weatherboard solution.

With the same performance benefits and textured surface finish as Cedral Lap, Cedral Click is supplied with a simple 'Click Clip System', which makes installation quick and easy.

Fitted in a contemporary flat finish rather than traditional lap, Cedral Click is available in seven of our most popular colours.

Cedral Lap detail

Cedral Click detail

Dimensions

	Cedral Lap	Cedral Click
Length	3600mm	3600mm
Width	190mm	186mm
Thickness	10mm	12mm
Weight per board	11.2kg	12.2kg

Properties (air dry)

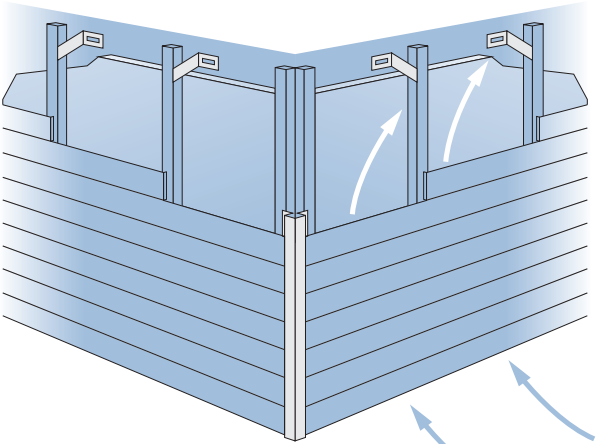
	Cedral Lap	Cedral Click
Installed weight	19.3kg/m^2	17.8kg/m^2
Density	1300kg/m^3	1300kg/m^3
Bending strength: Longitudinal Transverse	 23N/mm^2 11N/mm^2	 23N/mm^2 11N/mm^2
Modulus of elasticity: Longitudinal Transverse	 7500N/mm^2 5500N/mm^2	 7500N/mm^2 5500N/mm^2
Expansion from dry air to saturated	1.75mm/m	1.75mm/m
Thermal conductivity	0.212W/mK	0.212W/mK
Reaction to fire: Building Regulations	 Class 0	 Class 0
EN 13501-1	A2-s1, d0	A2-s1, d0

System principle: ventilated rainscreen

Cedral Lap and Cedral Click are installed to the ventilated rainscreen principle. This means air can flow in at the base of the system, behind the cladding and then out, over the top of the Cedral weatherboard system.

A minimum 30mm ventilation gap must be left behind the boards with a minimum 10mm gap left at the top and bottom of the system for full circulation.

The air flow behind the Cedral weatherboard enables the system to remove moisture. Impeding this process could lead to moisture problems within the system.



Cedral Lap colour range

Earth tones

C03 Grey Brown

C61 Burnt Red

C14 Atlas Brown

C104 Light Oak*

C55 Taupe

C105 Dark Oak*

Forest tones

C07 Cream White

C57 Sage Green

C02 Beige

C60 Forest Grey

C08 Sand Yellow

C04 Dark Brown

Mineral tones

C01 White

C52 Pearl

C51 Silver Grey

C54 Pewter

C05 Grey

C50 Black

* Woodstain finish

Ocean tones

C06 Grey Green

C15 Dark Grey

C10 Blue Grey

C18 Slate Grey

C62 Violet Blue

Cedral Click colour range

C01 White

C07 Cream White

C05 Grey

C02 Beige

C18 Slate Grey

C03 Grey Brown

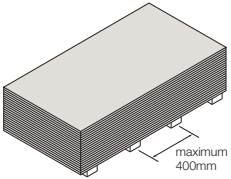
C50 Black

Storage and handling

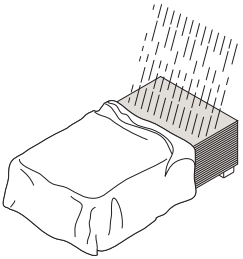
Storage

Cedral should be stored under cover on the pallets on which they are supplied. Any temporary transportation hoods should be removed to release any trapped moisture and the pack recovered with an opaque tarpaulin.

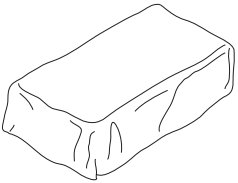
The boards should be protected from mud staining.



Ensure sufficient bearers, stack on a level surface and never stack against a wall



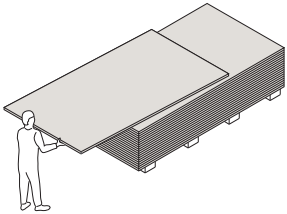
Must be protected from the weather



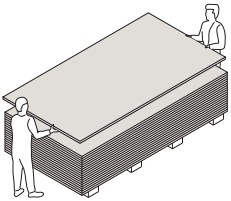
Store under cover

Handling

Care should be taken at all times when handling Cedral on the flat, as it can break. While Cedral is stored on the flat, it should be fully supported along its full length on purpose designed pallets. Manual handling is best carried out with the boards carried on their sides. When a single person is carrying a board, it should be turned on to its side before being lifted off the stack, and then the handler must keep their hands as far apart as possible to provide maximum support for the board.



Do not drag sheets off the stack



Sheets must be lifted off the stack

Carry on edge but do not store on edge

General fixing information

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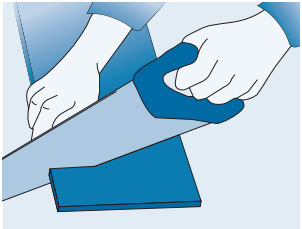
14 Screwing
14 Nailing
16 Scoring/breaking
16 Health and safety
16 Wind loading
17 Surface mounted features
17 Ventilation

Cutting

The method of cutting is dependent on the amount there is to be done. It is possible to cut the board with a handsaw, an electric jigsaw or a circular saw.

Note: Cutting and drilling must take place in a dry environment



Handsaw

This method requires a hardened point saw and is recommended for small amounts of cutting.

Guillotine

Cedral can be cut with a specially manufactured guillotine.

Hand held circular saw

Using a hand held circular saw gives the best results and is the recommended method of cutting large quantities. The grade of dust is 36-44 grit; these blades are available from local suppliers.

A diamond-dusted blade

Used with a tungsten tipped blade of 36 teeth on a 180mm diameter blade is recommended for moderate amounts of cutting. Also with this method, cutting from the back of the board is advisable as the saw guide leaves marks across the board surface. A trial cut is suggested.

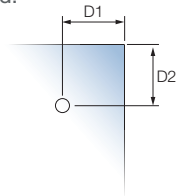
Screwing

Screw fixing to the support structure can be achieved without Pre-drilling where fixings are at least 50mm from the end of the board (screw gun required). Where screws are to be within 50mm of the end of the board then a pre-drilled hole and countersink is required to suit the screw size. Screws must be stainless steel min. size 4.0 x 45mm.

The following minimum distances from the edge to the screw and nail must be respected.

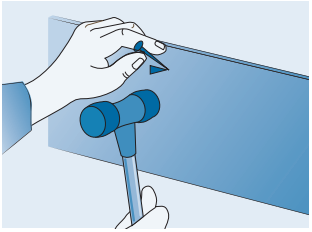
Edge distance

D1	20mm
D2	20mm



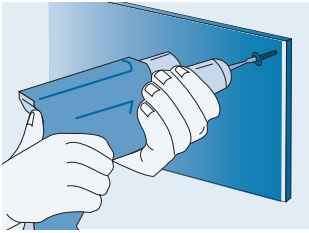
Nailing

By hand



The board can be hand nailed without pre-drilling when the nails are at least 50mm from the end of the board. For nails closer than 50mm to the end, nail positions need pre-drilling with a 3mm drill bit. Normal HSS drill bits can be used but they will need regular sharpening. Nails should be stainless steel ring shank, minimum size 2.8 x 45mm with 7-10mm head.

Pneumatic nailing



Cedral can be pneumatically nailed. There is a large selection of guns on the market. Stainless steel fixing is a must, as they last as long as the board. The nail length should be 50mm and be 2.8mm dia. A ring shank nail is preferred and has a full round head of 7mm dia. The type of gun nail which has a narrow head (The nail looks more like a “T” section) is not acceptable. Nails with a “C” shaped head are acceptable but should be minimum 7mm-dia head.

Trial nailing should be conducted to set the depth of the fixing, and how close to the edge of the board nails can be placed.

Any pneumatic gun which is being considered, must be adjustable otherwise the nails could either be fired right through the board or left proud of the face of the board (check with manufacturer).

Scoring/breaking

Cedral can also be scored on both sides with a Stanley knife and then broken over a hard edge. This process is only used for edges which are butting up to corner profiles or brickwork. Not recommended for mitre corners as the break is not as clean as a saw cut.

Health & safety

Dust can be released while the sheets are being processed which can irritate airways and eyes. It is recommended that a dust mask and safety goggles be worn. Appropriate dust extraction or proper ventilation is to be provided depending on the room in which the work is being carried out or the equipment being used. Long-term exposure to dust can be harmful to health.

High wind loading or exceptional impact requirements

Should wind loading exceed 1.0kN/m^2 please consult the Technical Department (01283 722588). Where exceptional impact loads to the Cedral planks can be anticipated (i.e. low level applications near pedestrian access, schools, leisure facilities etc.) additional timber battens can be incorporated, between the fixing battens, to increase the plank resistance.

Surface mounted features

Where other building features (I.e. signs, gutters, canopies etc.) are to be fixed then additional batten work should be included and clearance holes must be provided through Cedral. Under no circumstances should the Cedral planks receive additional structural loads.

Ventilation

To avoid interstitial condensation, a minimum 30mm free flow cavity should be provided behind the Cedral with a minimum 10,000mm^2/m run of ventilation at the top and bottom of the installation.

The use of 38mm deep battens will provide the necessary cavity and will be of minimum sufficiency to resist the pull-out loads generated by the planks.

Installing Cedral Lap

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40 Additional insulation

There are a number of fixing variants for Cedral, but the general principle is the same for all.

Cedral needs to be fixed to vertical timber battens (preservative treated and planed on 2 sides) of at least 50mm wide, spaced at a maximum of 600mm across the elevation. Cedral should be fixed to at least three battens: if it is only fixed to two, then the batten spacing should be reduced to 400mm.

A minimum 30mm clear cavity must be provided behind Cedral with a 10mm opening at the base, head and at the window and door heads and cills.

7 step installation procedure

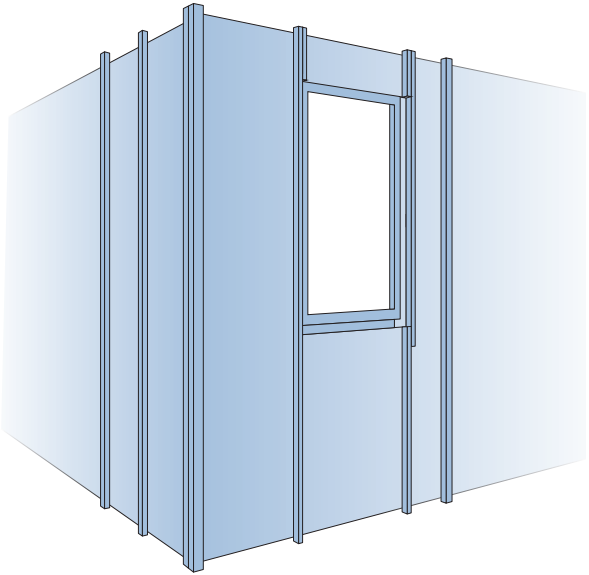
1. Fix battens to wall
2. Attach perforated closures to top and bottom of battens
3. Fix vertical profiles
4. Fix horizontal starter profiles
5. Cut and fix Cedral Lap planks
6. Corner options
7. Finishing and decoration

Position and fix the vertical battens*

Battens to be spaced a maximum of 600mm apart (reduce this in very high windload areas).

Batten sizes

- Standard fixing – 50mm x 38mm
- Joints/corners – 75mm x 38mm



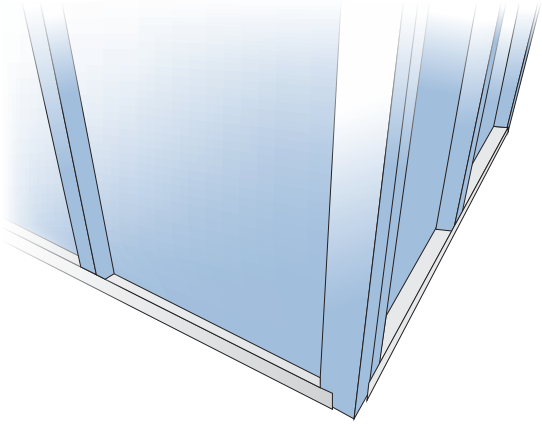
* For solid walls, timber frame and metal stud constructions it is good practice to include a breathable membrane behind the battens. Generally for unfilled/partially filled cavity walls there us no requirement to do this.

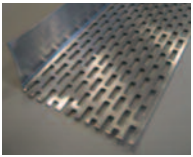
Perforated closures

Galvanised finish 2.5m length.

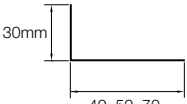
Perforated closures should be screwed or nailed to both the top and bottom of battens. They are designed to protect against birds, rodents and some insects while still allowing air to flow through the system.

Available in depths of 40mm, 50mm, 70mm and 100mm to allow for coverage of external insulation.

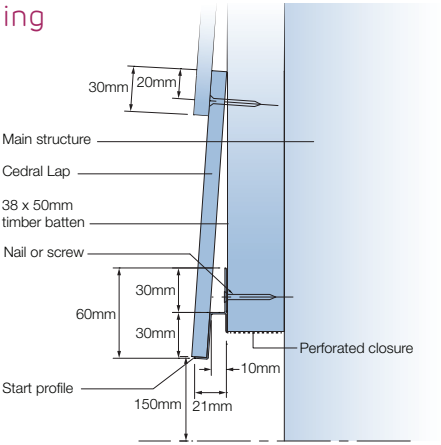




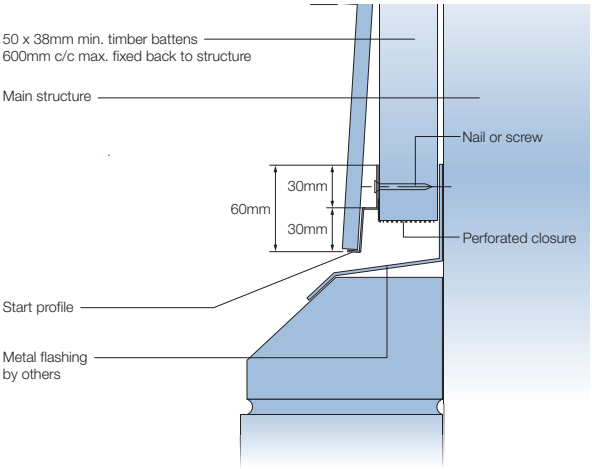
Perforated closure



Base of cladding

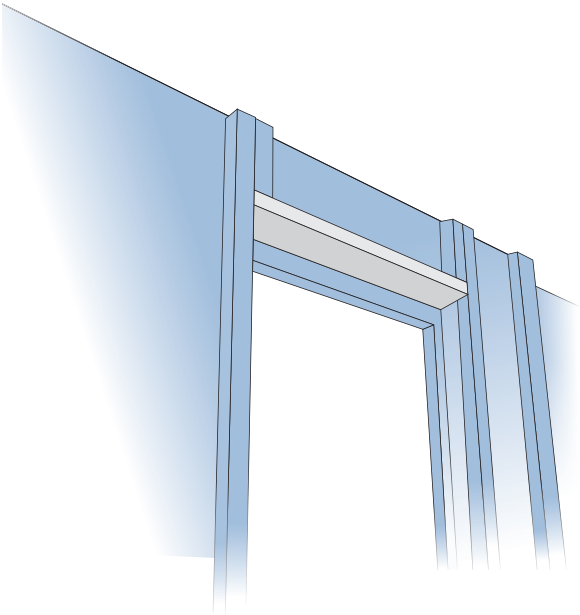


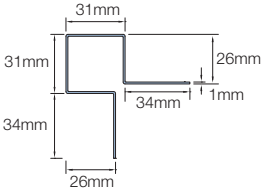
Plinth detail



Perforated closures

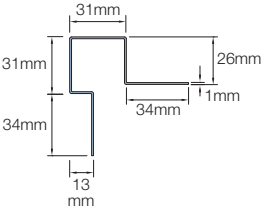
Perforated closures should also be attached to each door and window head, to prevent animal and insect ingress whist allowing ventilation paths to be maintained.





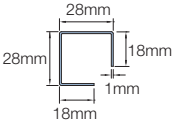
External corner (symmetric)

This universal trim can be used to provide protection on external corners and for stop profile applications.



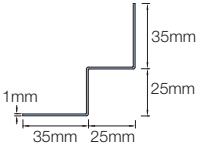
External corner/window reveal (asymmetric)

Can be used as an external corner or where detailing on a window reveal.



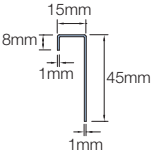
External corner junction

Used as a corner joining piece. Only available in black. 300mm length.



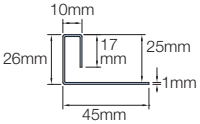
Internal corner

To finish the corner where Cedral meets an internal corner forming a seal between the trim and the corner.



Connection profile

End trim to finish Cedral when used as a single piece on a window reveal or soffit.

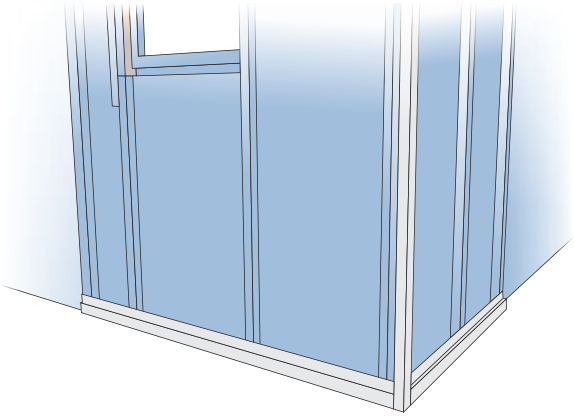


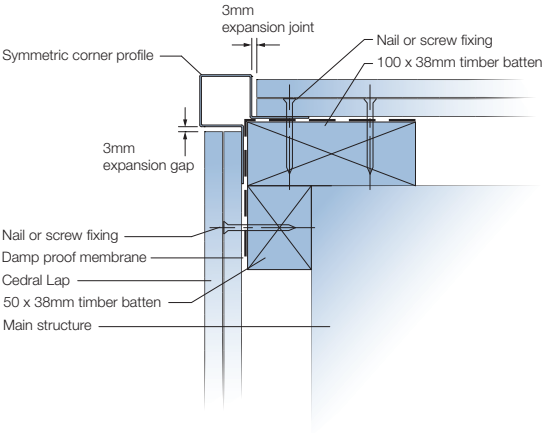
End profile

Hides any sharp corners and protects the Cedral edges from wear and tear.

Fix vertical profiles

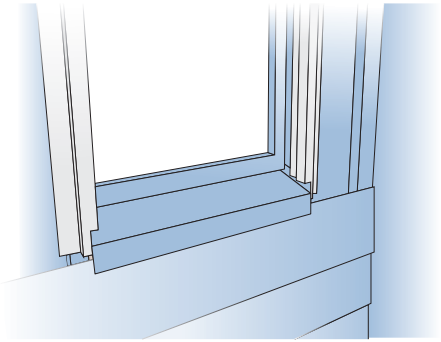
Position, level then screw or nail end profiles, corner profiles and window profiles into place.

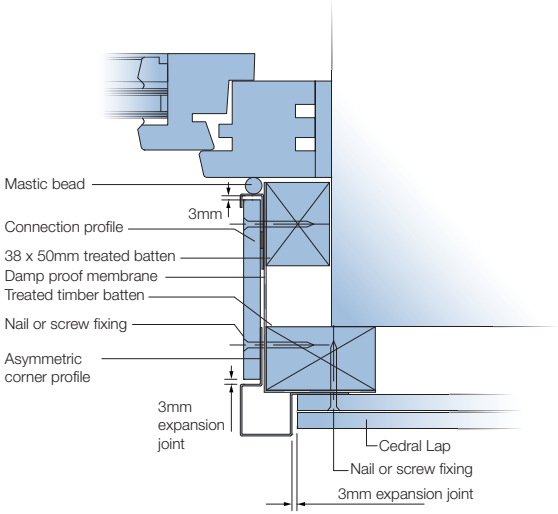




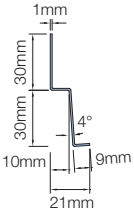
Fix vertical profiles

Fix external window (asymmetric) profiles to the sides of the window.



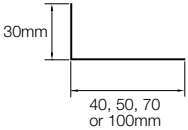


Horizontal profiles



Start profile

Used to start a cladding run with a lip to cover the first batten.

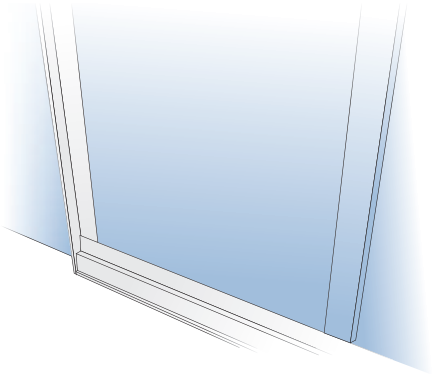


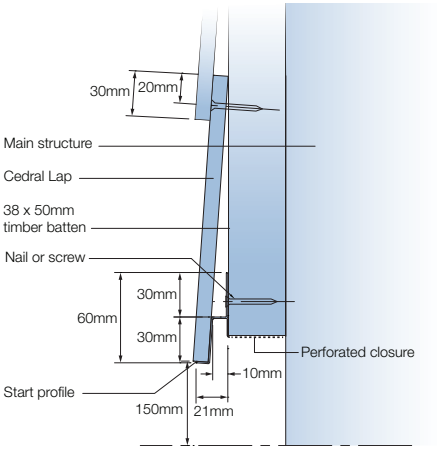
Perforated closure

Designed to protect against vermin and some insects while still allowing air to flow through the system.

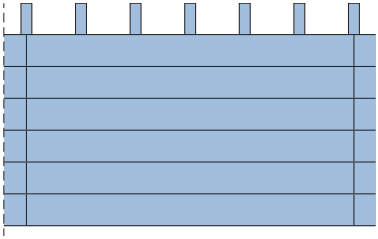
Fix horizontal starter profiles

Ensure starter profile is level then screw or nail into place. The starter profile will 'kick out' the first plank to ensure the look is uniform with the rest of the installation.

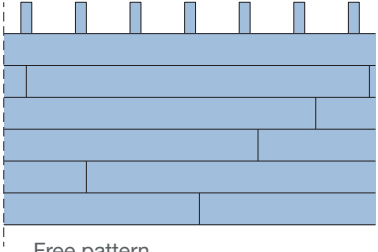




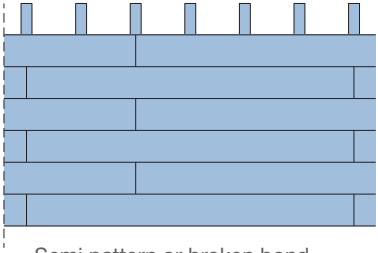
Choose your horizontal laying pattern



Straight or butt jointed



Free pattern



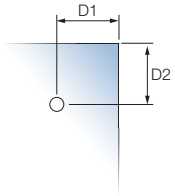
Semi pattern or broken bond

Start installation

Place the first cedral plank onto the starter profile, then fix into place, every batten should be fixed into.

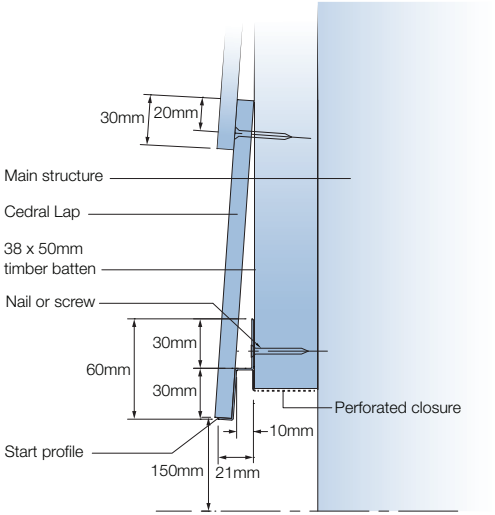
At least 3 battens should always be used.

Fixings must be a minimum of 20mm from the edges of the Cedral plank:



Edge distance

D1	20mm
D2	20mm



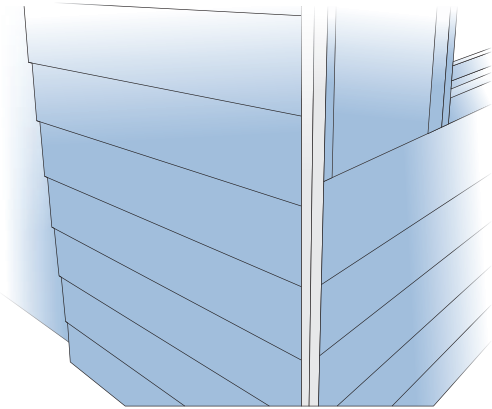
Cedral installation

Overlap the next plank by 30mm, fix into place then continue fixing Cedral up the wall using the same method.

Each plank must be fixed at least once to every support. The end of every plank must also coincide with a support. Where specified, install vapour barrier or breather membrane over the wall or framework behind the timber studs.

Allow at least 150mm between bottom edge of Cedral and the ground. Fixing is done through the upper edges. There is no side overlap, the strips being simply loose butted against one another, and the joint must coincide with a timber support.

A strip of black polyethylene soaker should be applied under the vertical joints to protect the batten.



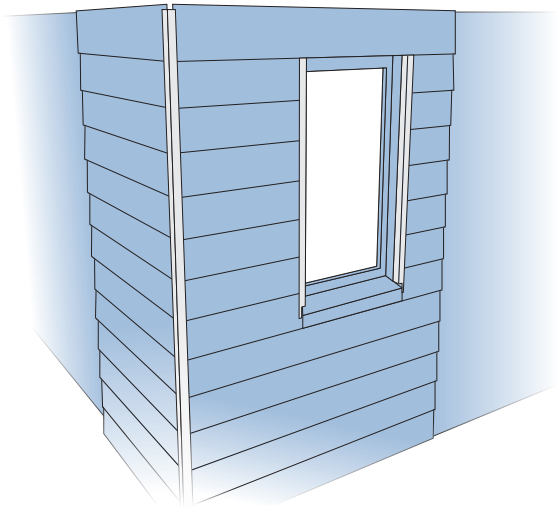
Jointing of Cedral

When 2 planks of cedral are joined together and fixed to one batten, a protective strip should be placed onto the batten to guard against moisture ingress.

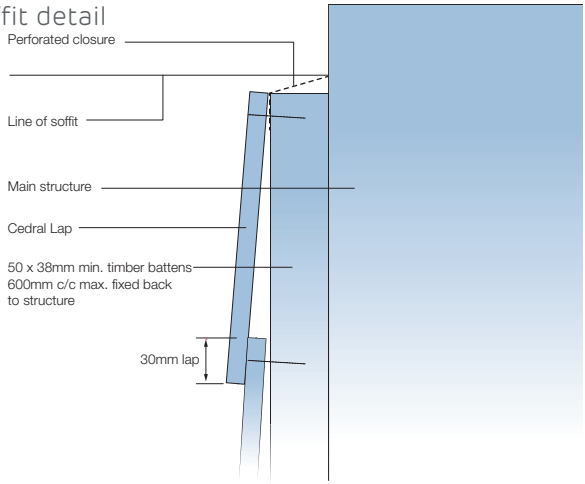
Planks should be loosely butted together, do not use force.

Finishing Cedral at top of wall

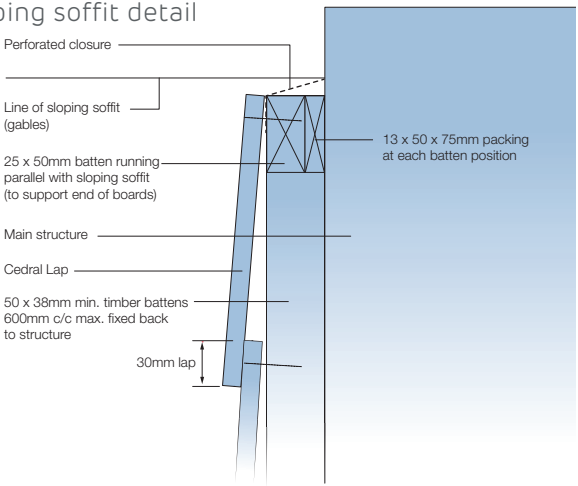
When you get to the top plank, the fixings will remain visible. For best results use colour matched Cedral board screws.



Soffit detail



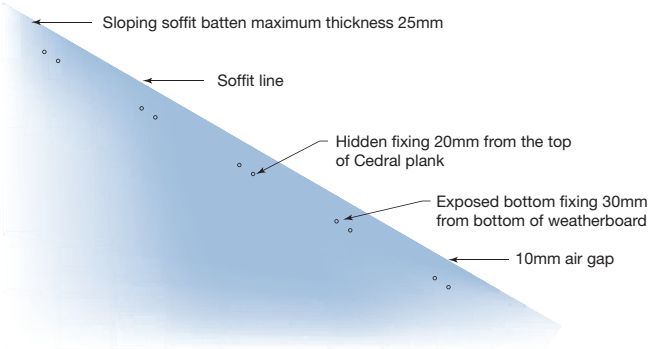
Sloping soffit detail



Finishing Cedral at top of wall: abutments and gables

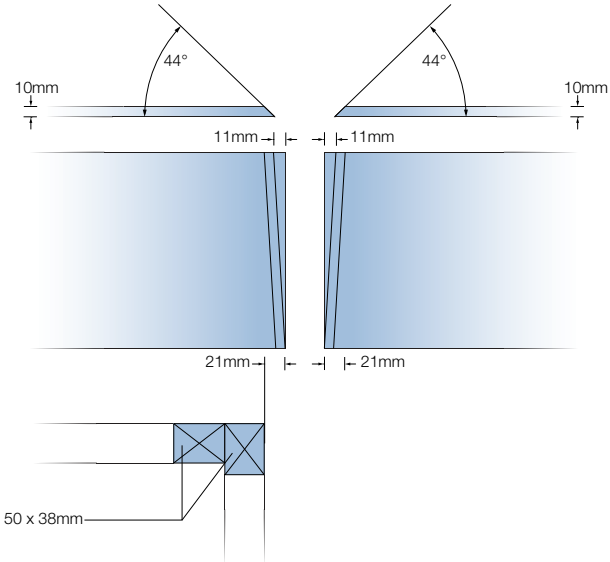
Where Cedral abuts another material and when no end trims are required, the end of Cedral must not be more that 100mm past the last fixing point.

On the gable ends with the triangular end, Cedral needs to be fixed top and bottom to the batten that is parallel to the roof slope. If the bottom edge is not secured, curling can occur in certain conditions.



Corner options

There are a number of ways of finishing both external and internal corners using Cedral.

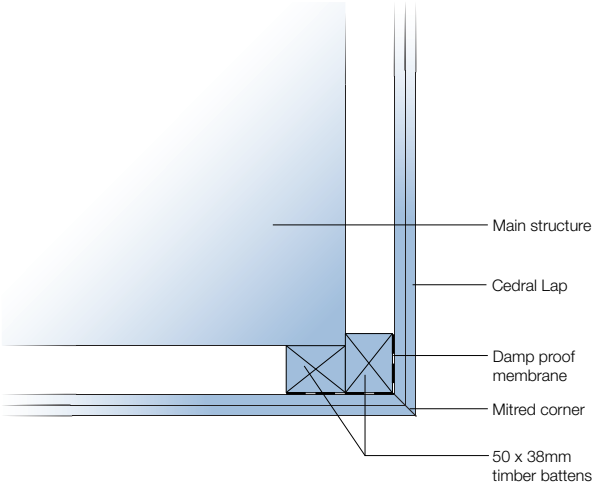


Overlapping corner

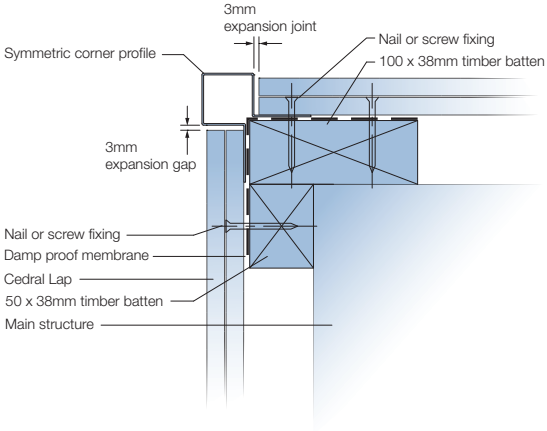
This is when the board of one side overlaps the end of the plank on the other side. There will always be one end of plank showing with this method. These ends need to be decorated to match the finish on Cedral. The transverse cuts of the plank at the corner positions will not be perpendicular with the sides of the boards.

Mitred corner

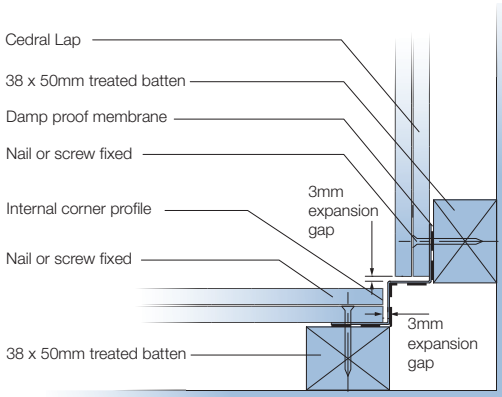
To form the mitre the planks have to be cut 23mm longer on the bottom edge, 13mm longer on the top edge than the dimension to the corner of the support battens. This cut is also cut at an angle of 44° through the thickness of the plank (we suggest marking plank at 45° and under-cut). The above only works on a true 90° corner, other corners angles will be by trial and error.



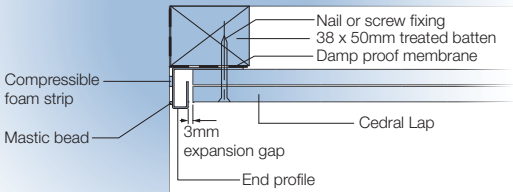
External corner detail



Internal corner detail



Corner/abutment with end profile



Finishing and decoration

Touch up paint is available in all colours of Cedral Lap. This should be used sparingly only where there is damage to paint or on cut edges,

LUKO solution (for woodstain only):

Should be used on cut edges of woodstain effect Cedral, protects against:

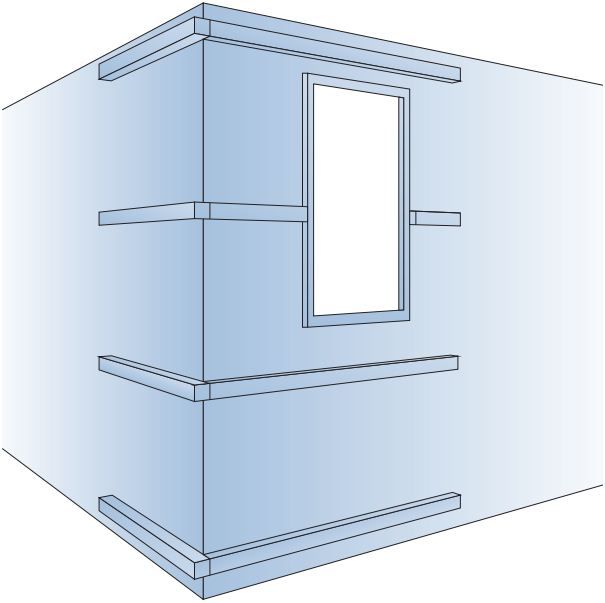
- Efflorescence
- Edge staining post installation

Additional insulation

Should insulation be required additional cavity depth can be gained with the use of cross battens or adjustable brackets.

Securely fix horizontal battens on wall/substrate*

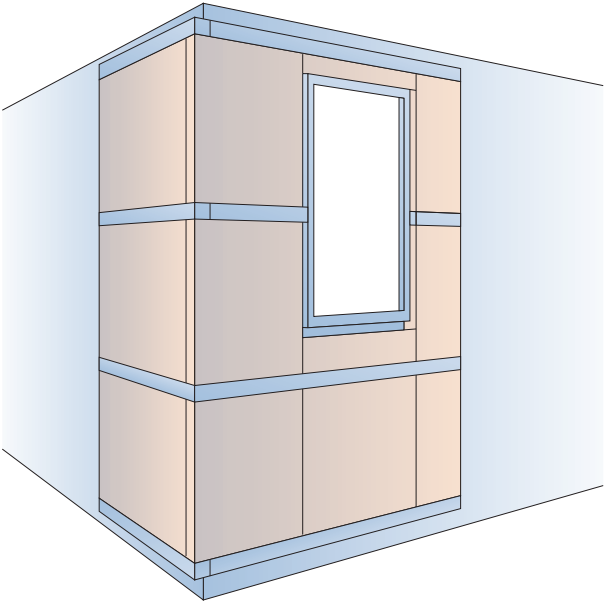
These will accommodate any insulation required and also support the vertical battens to which the Cedral planks will be fixed.



* For solid walls, timber frame and metal stud constructions it is good practice to include a breathable membrane behind the battens. Generally for unfilled/partially filled cavity walls there us no requirement to do this.

Fix insulation to the wall between the battens or angle brackets

Make sure there are no gaps. Alternatively, use adjustable wall brackets to fix battens if greater thickness of insulation is required.



Adjustable wall bracket

Installing Cedral Click

43 Introduction
44 Batten fixing
45 Attach perforated closures
46 Fix vertical profiles
47 Fix horizontal profiles
48 Installation

5 step installation procedure

1. Fix battens to wall
2. Attach perforated closures to top and bottom of battens
3. Fix vertical profiles and horizontal (starter) profiles
4. Cut and fix Cedral click planks
5. Other detailing

Fix battens

Position and fix the vertical battens. Battens to be spaced a maximum of 600mm apart (Reduce this in very high windload areas).

Batten sizes

- Standard fixing – 50mm x 38mm
- Joints/Corners – 75mm x 38mm

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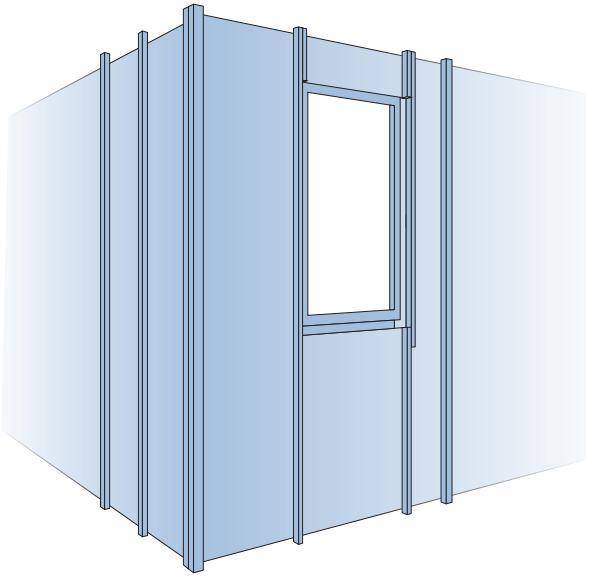
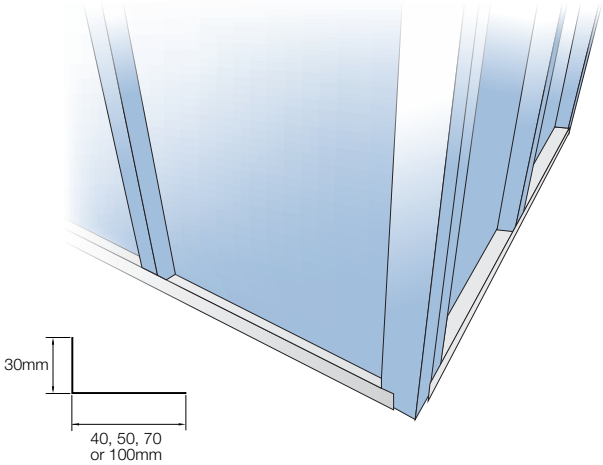


Attach perforated closures

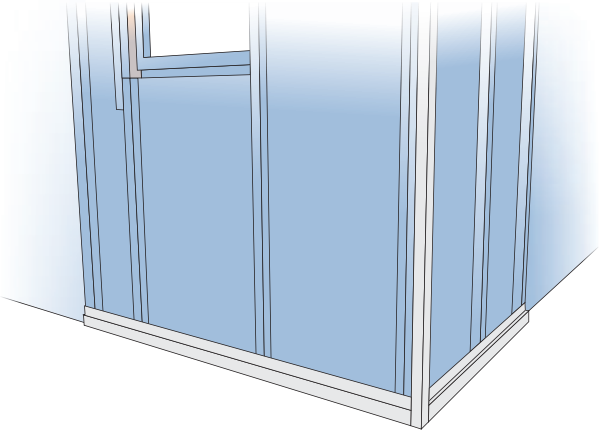
Perforated closures should be screwed or nailed to both the top and bottom of battens.

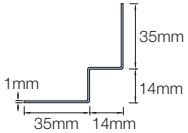
They are designed to protect against birds, rodents and some insects while still allowing air to flow through the system.

Available in depths of 40mm, 50mm, 70mm and 100mm to allow for coverage of external insulation



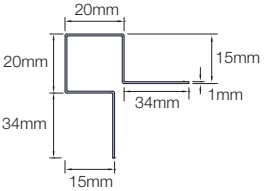
Fix vertical profiles





Internal corner

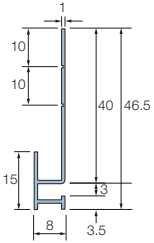
To finish the corner where Cedral meets on an internal corner forming a seal between the trim and the corner.

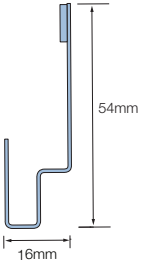


External corner/window reveal (asymmetric)

Can be used as an external corner or where detailing on a window reveal.

Fix horizontal profiles





Start profile

Used at base of the external wall. Installed absolutely level to ensure installation of Cedral Click panels remains perfectly parallel.

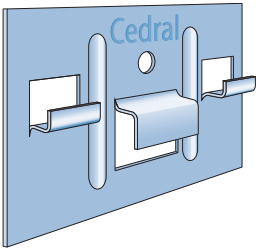
Window lintel profile

Used to finish above the window and to support the next course of Cedral Click.

Installing Cedral Click

All fixing will be achieved with click clips.

These are fixed with stainless steel mushroom-head screws onto timber or with rivets onto metal frame



Fixing clip and special screw fixing

Clip and screw are made of stainless steel 304 (A2).

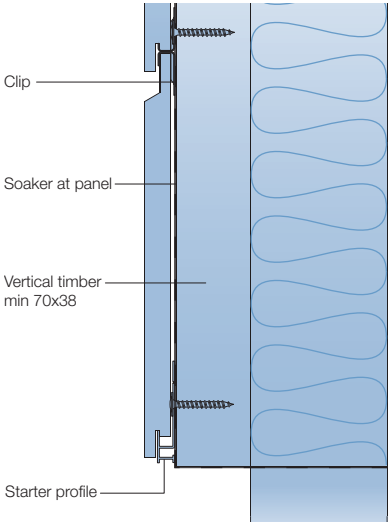
The clip dimensions are: 60 x 40mm with hooks matched to the Cedral Click requirements.

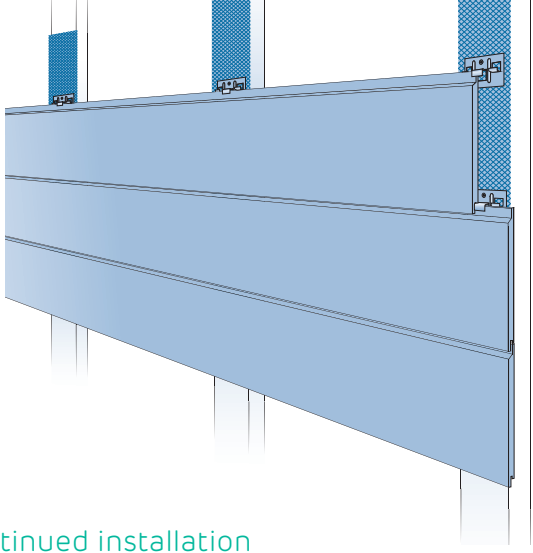
The screw has the following dimensions: 3.9 x 30mm with screw head suited for fastening the clip. This means a flat head with partially flat lower side.

Base of wall

A minimum 30mm clear cavity must be provided behind the Cedral Click planks with a 10mm opening at the base, head and at the window and door and cills. Assembly starts at the bottom of the outside wall with the purpose designed Cedral Click plank start profile. The start profile must be perfectly level. Use appropriate countersunk head screws so the screw head does not block the placement of the first Cedral Click plank. The first Cedral Click plank is then fitted on to the start profile and fixed with clips on every support. Then the next Cedral Click plank is put on the first one.

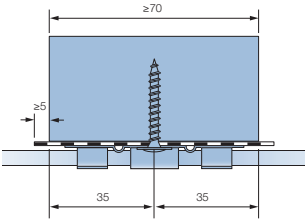
The plank will then be fixed with use of click clips, these will be placed on every batten.

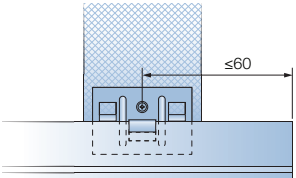




Continued installation

The Cedral Click planks are placed with the ends against each other and always on top of an underlying supporting batten. Not only behind the joints but the entire wooden supporting battens are protected by a joint sealing strip with sufficient stiffness. Because the joint sealing strip is not exposed to light, a black polyethylene (PE) 0.5 mm-thick joint sealing strip is sufficient. If the joint sealing strip is exposed to light, a UV-resistant material such as EPDM must be used.

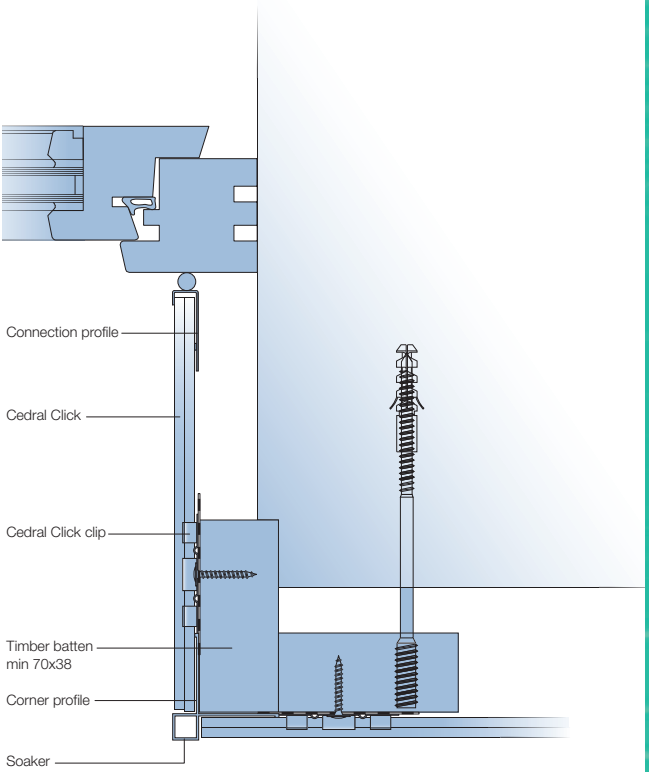




The distance from the edge of the clip to the edge of the Cedral plank should not exceed 60mm

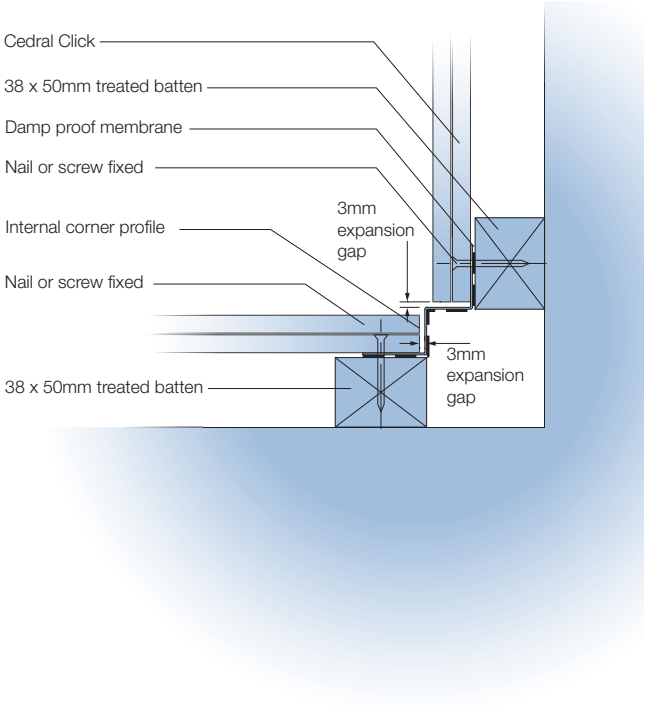
Window detailing and external corner

The vertical reveal sides of a window can be finished with the Cedral Click external corner profile. At the window head (lintel), the lintel profile can be used. This lintel profile can be used with whole Cedral Click planks or with cut planks. Holes in the lower part of the back of the profile prevent water pooling in the profile.



Internal corner

To finish the corner where Cedral Click meets on an internal corner forming a seal between the trim and the corner.



Fixing the last Cedral Click plank

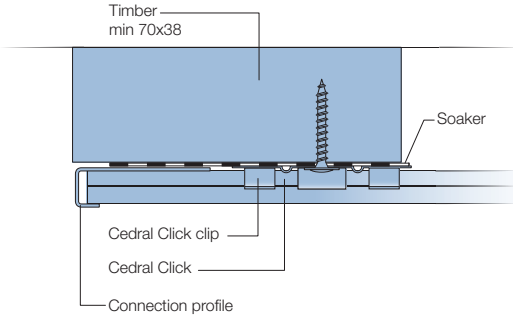
At the top of the facade there are 2 options for fixing the last Cedral Click plank:

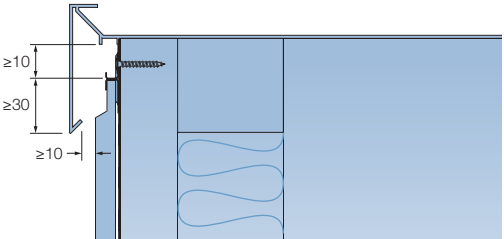
> if the facade finishes with a whole Cedral Click plank it can be fixed with clips, as detailed in number 2.

> if the facade finishes requiring a trimmed Cedral Click plank it should be fixed with coloured mushroom head screws.

The screws must be inserted perpendicular to the panel surface using an electric drill with a high quality bit suitable for the type of screw head.

The screw head should ultimately be covered by the soffit or eaves detailing.





Preventing efflorescence

Efflorescence or 'lime bloom' is an occasional phenomenon that affects all cement-based products. It is temporary and is in no way detrimental to the performance of the product. Water dissolves salts within the product, this salt solution migrates to the substrate's surface, and a salt deposit remains after the water evaporates. Efflorescence is not normally due to faulty materials.

Cement contains an amount of free lime. When water is added, a series of chemical reactions commence which result in the setting and hardening of the cement, which is accompanied by the release of more lime in the form of Calcium Hydroxide. This salt is sparingly soluble in water and the supersaturated solution deposits crystals on the surface of Cedral.

The prime cause for the onset of efflorescence is the retention of water between the Cedral planks whilst retained in the pack or its installation in very wet conditions. It is recommended that Cedral is stored under cover and clear of the ground prior to being used on site. The polythene wrapper should not be relied on for protection in the open. Care should be taken to prevent

excessive moisture running down the rear face of the Cedral during installation. A ventilated cavity behind Cedral will help to prevent moisture becoming trapped.

The duration of efflorescence is dependent on the quality and type of deposit and upon prevailing conditions. Water, the element that is initially responsible for its appearance, is also largely responsible for its disappearance.

Rainwater being slightly acidic not only dissolves the deposit, but also mechanically removes it by movement down Cedral. Although it is impossible to state categorically how long efflorescence will take to be removed by wind and rain; a period of suitably bad weather is usually sufficient to restore Cedral to an even appearance.

Washing with warm water and a soft brush can accelerate its removal, however care should be taken to avoid damaging the painted surface. More stubborn deposits can be removed with 9.5% acetic acid. Allow to react for a few minutes but do not allow to dry out, then wash with plenty of cold water. Repeat procedure if required. Try on a small area first to avoid damage.

For CAD details and further information, contact:

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