



Installing Timber Cladding for the Best Performance and Longevity



Installing Timber Cladding

If you are unsure on how to install, please either get in touch for advice, or have your timber cladding fitted by a professional installer.

Prior to installation you will need to ensure the cladding profile you have purchased is suitable for your intended application. Some profiles are specifically recommended to be used either vertically, or horizontally. Various profiles can be used in either orientation.

When installing horizontal boarding, start at the base of the elevation, with the tongue facing up, and securely fix this starter piece – this will ensure moisture runs down the boards and cannot sit in the groove. Using an appropriate spacer, install subsequent boards on the elevation, checking the expansion gaps are not missed, and that boards are being installed level.

With vertical boards, the same process should be followed, however there is the freedom to work from either side of the elevation to the other.



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Timber Battens

Timber cladding is traditionally installed either on UC3 Preservative Treated softwood battens (Use Class 3 level of protection (ref. BS 8417) to ensure adequate durability., Sizes commonly used are Ex 38 x 50, or 47 x 50mm, ensuring they have been regularised to provide uniformity along the length.

Thermowood D Battens can also be selected for applications, these do not require preservative treatment.

Batten centres are typically between 400 – 600mm for most applications. When installing vertical cladding, there is likely to be a requirement for a batten, and counter batten to ensure airflow can enter the cavity, and moisture can exit through the base of the cavity. Chamfered horizontal battens will help to encourage excess moisture to leave the void.

r only (with no lower grades)

Minimum Batten Sizes mm (w x t)	
Vertical Batten	
with allowance for side jointing*	50x38
no allowance for side jointing*	50x25
Horizontal Batten	
	50x38
Counter batten	50x25

*where a short batten length is fixed alongside a batten to enable boards to be butt jointed.

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Fixings

It is vital to make sure that each board is independently fixed, in the case of any movement the boards are then able to expand and contract into the gaps left between them.

Depending on species, and board size the recommendation to either face fix, or secret fix can differ. If face fixing then allow 2 face fixings at quarter points per board, per batten centre. Ensuring that the fixing sits flush with the surface of the board, overdriven fixings may lead to moisture ingress into the timber and should be filled with a suitable external grade filler.

Nail or screw dimensions should be relative to the thickness of the board you are installing and be able to adequately secure the cladding. Annular ring shank fixings are recommended for treated softwood cladding;

- Diameter:** Recommended minimum 2.3mm.
Material: Stainless Steel Grade 304
Length: For a regular 20mm cladding board, approx. 45mm fixing
Positioning: Quarter points, 20mm from ends of boards to reduce splitting, on dense species, pre-drill where necessary.

There are 3 things to consider, not excluding particular features of brand types (refer to manufacturer's guidelines) and Eurocode 5 details the following:

- Board(s) THICKNESS (T)
If using 2 overlapping boards simply add values of thicknesses together.
- PENETRATION of threaded part of fastener (PEN) into the batten: minimum 19mm
- Nominal length of fastener POINT (LP): 5mm for nails and 10mm for screws

LENGTH OF FASTENER (L) = T + PEN + LP

This fastener length guidance can be summarised as:

- for NAILS = total board thickness + 24 mm
- for SCREWS = total board thickness + 29 mm

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Fixings

Battens & Counter Batten Fixings

Where it is necessary to fix cladding battens to counter battens use nails or screws as below. Horizontal batten spacing is wind load dependent, pay attention to the closer spacing required.

Design wind load (kN/m ²)	NAILS			SCREWS		
	Diameter (mm)	Length (mm)	Batten centres (mm)	Diameter (mm)	Length (mm)	Batten centres (mm)
Below 1.5	3.0 to 3.8	75 to 120	200	6	110 to 180	400
1.5 to 2.5	-	-	-	6	110 to 180	300

Fixing Back to Primary Structure

The following tables gives guidance for timber cladding assemblies carried on a timber framed, or mass timber backing wall. If the backing wall is masonry, connections between the cladding support battens and backing wall need to be designed by a structural engineer.

Fastener sizes for connecting vertical battens or counter battens to the backing wall (for horizontal boards or vertical boards with flat rear face)

Design wind load (kN/m ²)	NAILS			SCREWS		
	Diameter (mm)	Length (mm)	Batten centres (mm)	Diameter (mm)	Length (mm)	Batten centres (mm)
Below 1.5	2.8 to 3.8	75 to 120	150	5	90 to 120	200
1.5 to 2.5	3.4 to 3.8	90 to 120	150	5	90 to 120	150

Fastener sizes for connecting horizontal battens to the backing wall (vertical board-on-board cladding)

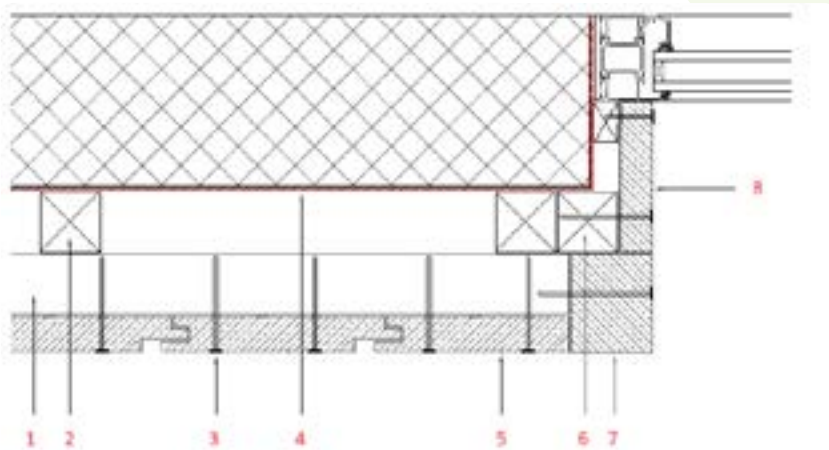
Design wind load (kN/m ²)	NAILS			SCREWS		
	Diameter (mm)	Length (mm)	Batten centres (mm)	Diameter (mm)	Length (mm)	Batten centres (mm)
All wind loads below 2.5	3.8	100 to 120	600	5	90 to 120	600

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Detail

- 1 + 2 Timber Batten (either single, or batten and counter batten for vertical cladding installation) – see advisory notes above, typically Ex 38 x 50mm or 47 x 50mm UC3 Preservative treated.
- 3 Stainless Steel Grade 304 minimum annular ring shank fixing, or screw – advisory notes above.
- 4 Breather Membrane if required dependent on primary structure.
- 5 Timber Cladding board, installed with allowance for expansion between each board.
- 6 Double Batten at corners/ openings to ensure suitable support.
- 7 Corner Trim, optional. Mitre joins can be used or a range of standard corner trims and beads available.
- 8 Reveal Board to match timber cladding.



Detailing

As with most façade materials water running down the face of the board can lead to dirt and contaminants being left, it is therefore best practice to ensure the design and detailing on the building, in particular the flashings and cills will direct water away from the building.

Ensure the base of your cladding detail is installed a minimum of 200mm impermeable ground, this will limit splashing, and the potential for staining that this may lead to. Keep the façade free of vegetation, not only can this be detrimental for the long term performance of the timber, there is also the increased risk of staining on the façade.

When fixing boards end to end, a 2-3mm expansion gap will allow the boards to move as they take on and lose moisture, the same 3mm expansion gap should be left when installing boards. Ensuring a spacer is used to provide that 3mm gap and not pushed tightly of tongue into the groove of the next board. Similarly, around the external perimeter of your timber cladding, if you leave 8-10mm to other materials, this gap will allow boards to move, but also the shadow created will provide a crisp visual along the edge.

Check with your architect for project specific detailing, as these guidelines are intended to offer an overview.

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