



INSTALLATION GUIDELINES

Timber is a natural product and providing it is treated in accordance with the manufacturers recommendations it will remain looking good and will last a lifetime. The following installation guidelines are additional areas you may wish to consider when selecting and fitting your external cladding. For further information please refer to the manufacturers recommendations.

Remember the cavity

The timber cladding you are fixing to the building is effectively an outer layer of protection against the elements. However, a cavity should be formed behind the cladding to allow any water or moisture that might penetrate the cladding to escape. This ensures internal and external surfaces of the wood maintain a similar moisture content, reducing the potential for movement and distortion, allowing ventilation between the inner and outer surfaces. The cavity should be at least 19mm wide, but may be wider, depending on the thickness of fixing battens. A weatherproof membrane is usually required to protect the structure, although this may not be needed on masonry. Additionally, if not sealed a fly scree membrane should also be used to prevent insect infiltration.

Using battens

Use battens that are preservative treated and structurally graded to ensure they are able to carry the weight of the board material. Fix horizontal boards to vertical battens, taking care where boards are jointed to ensure they sit securely on sufficient batten width. Conversely, fix vertical boards to horizontal battens, with vertical 'counter' battens to facilitate drainage and ventilation. Support battens should be fixed at spacings of no more than 600mm, whether vertical or horizontal. And at no more than 400mm for diagonal boards. These spacings will maintain the overall stability of the cladding.

Board sizes

Horizontal boards:

- Shiplap or feather edge type boards should have a minimum of 10mm overlap, but allow 2mm gaps between the upstands for movement in the timber
- Tongued and grooved boards should have a maximum face width of 150mm, with a

2mm clearance above the tongue for expansion. Most commercially produced profiles will include these tolerances. Install with the tongue upwards.

- Open joint boards should have an 8-15mm gap at the 'water face'. Chamfered edges allow the boards to overlap slightly, reducing any exposure of the cavity.

Vertical boards:

- The face width of vertical boards should not exceed 150mm. The most versatile fixing method is board on board. Any overlap should be a minimum of 20mm.

Diagonal boards:

- Should be fixed on battens, as for vertical boards, taking into consideration the comments above for overlaps or tongue and groove styles.

Board lengths

To maintain a consistent design appearance, the length and width of the board needs to be considered. This will vary depending on the species chosen:

- Most softwoods are available up to a maximum length of 4.8 metres
- Most temperate hardwoods are available up to around 3.6 metres
- Tropical hardwoods, depending on the species, are available in maximum lengths of between 2.1 and 4.2 metres.

Fixing external cladding

Softwood

Both annular ring shank nails and round head nails are appropriate for fixing softwood cladding:

- The nail length is generally 2.5 times the thickness of the board being fixed and should be punched slightly below the wood's surface
- Boards over 100mm wide should have double fixings

- Make sure that butt joints always meet on sufficient batten support width

- It's preferable to use stainless steel nails for all species but especially those with a high tannin content, and they are essential for timbers installed 'green'. By using Stainless Steel this avoids permanent staining due to the reaction of the tannin on mild steel or galvanised nails.

Hardwood

Screws are the preferred method of fixing for hardwood boards. Stainless steel screws are preferable, and essential for timbers installed 'green':

- Slight over-drilling of the screw holes will allow for any movement in the wood and prevent splits. Countersinking screws is also recommended
- Where 'green' wood is used, it may be necessary to fit washers to the screws to maintain the fixing security. This can become a design feature
- Metal clips, which also provide a 'secret fix' effect, may also be considered. Screw fixings should be at least 40mm from the end of the boards to avoid splitting.

Detailing

Window and door openings

Openings within a wall require special attention to avoid the need to notch or split the boards. These openings need to be dimensionally compatible with the cladding to provide a good appearance as well as allowing for fixings. Thought also needs to be given to the 3-dimensional relationship of any flashings, sills etc. to allow for adequate drainage of water from the cladding surface and board ends.

Corner details

This is an important area of fixing detail, not just aesthetically but functionally, to ensure adequate protection against water.



INSTALLATION GUIDELINES, CONTINUED

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Corner details, continued

Mitring boards at corners is not recommended, as natural movement of the timber will allow the joint to open, causing failure of the surface coating and water ingress. Mitring the ends of boards can be considered, but it is advisable to provide a gap between any adjoining surfaces.

Internal and external corners are more easily detailed on vertical boarding. These can be jointed by 'tonguing and grooving' to give added stability and protection.

Treatment against fire

Fire protection is on certain occasions a requirement under UK Building Regulations mainly for areas where the boundary falls within 1m of the edge of the building and for multi storey high rise dwellings and must be taken into consideration when using wood cladding.

Check with your local building control office what the local regulations are for this to ensure compliance. Wood cladding can be protected from fire by the application of flame retardant chemicals. These can be applied by an impregnation process, similar to preservative treatment. For external use, a leach resistant type must be used and we recommend

Arch Chemicals NON-COM to achieve a class 0 rating. For more information visit the Wood Protection Association (www.woodprotection.org).

Maintenance and durability

Finally, consider what decorative finish is required:

- The correct timber preservative and finishing will enhance the service life of the cladding and keep maintenance to a low, practical level
 - Timbers such as western red cedar and larch, that are classified 'moderate to durable' or better can be used without being preservative treated, but must contain no sapwood. As can the thermally treated products.
 - Think about the final visual appearance you want when choosing preservative treatment
 - In areas of low pollution, ultraviolet light will turn untreated boards silvery grey. This will not affect their strength or durability, and in many instances is a desired aesthetic effect. Oak is susceptible to 'surface checking', as its moisture content varies, but again, with no effect on its durability. Thermally treated materials will tend to do this quicker than normal timber but in a more even manner.
 - If a coloured finish is required, good quality micro porous paint/ stain systems should be used. Always ensure that the reverse of the boards are also fully protected.
- Consider using pre-finished timber cladding to ensure a more predictable performance and always put in place a maintenance program.
- Follow the manufacturer's instructions to ensure good coverage and service life.

TRADITIONAL CLADDING RANGE

SPECIES	ENVIRONMENTAL	PROFILE/S	FINISHED BOARD SIZE (THICKNESS X WIDTH)	LENGTHS AVAILABLE	No PER PACK	FINISHES	DURABILITY (USE CLASS)	MATERIAL DENSITY (DRY)
Redwood	FSC legal & sustainable	Shiplap Offset	ex 25mm x 125mm (finished size 19mm x 117mm) ex 25mm x 150mm (finished size 19mm x 140mm)	Random	By project	Supplied unfinished	Slightly durable (Use class 3) If a finish is applied moderately durable	470-510kg/m ³
Larch	FSC legal & sustainable	Shiplap Offset	ex 25mm x 150mm (finished size 19mm x 140mm)	Random	By project	Supplied unfinished	Moderately durable (Use class 3)	560-590kg/m ³
Western Red Cedar	Supplied under the PEFC recognised Canadian Standards Association	Shiplap Offset	ex 25mm x 150mm (finished size 19mm x 140mm)	Random	By project	Supplied unfinished	Durable (Use class 3)	370-390kg/m ³

THERMALLY TREATED CLADDING RANGE (IT IS ADVISABLE TO PRE-DRILL THERMAL BOARDS PRIOR TO FITTING)

Lunawood	PEFC legal & sustainable	Shiplap Offset	ex 25mm x 125mm (finished size 19mm x 117mm) ex 25mm x 150mm (finished size 19mm x 140mm)	Random	By project	Supplied unfinished	Durable (Use class 3)	450kg/m ³
Plato [®] wood Spruce	FSC legal & sustainable	Shiplap Offset	ex 23mm x 125/150mm (finished size 19mm x 117/140mm) ex 23mm x 200mm (finished size 19mm x 190mm)	Random	By project	Supplied unfinished	Very durable (Use class 3) Durable (Use class 4)	420kg/m ³
Plato [®] wood Fraké	FSC legal & sustainable	Shiplap Offset	ex 26mm x 210mm (finished size 19mm x 190mm)	Random	By project	Supplied unfinished	Durable (Use class 3)	450kg/m ³

FULLY FINISHED CLADDING RANGE

Siparila Top Coat [®] Spruce	PEFC legal & sustainable	Offset	ex 25mm x 150mm (finished size 23mm x 145mm)	3750mm 4350mm 4950mm	Shrink wrapped. 4pcs/pack 56pk/pallet	8 standard paint finishes. 10 year manufacturer guarantee	Durable (Use class 3)	9.45kg/m ²
Yachting Finger-Jointed Maritime Pine	PEFC legal & sustainable	Offset	ex 21mm x 150mm (finished size 21mm x 146.5mm)	3000mm	Shrink wrapped. 4pcs/pack 42pk/pallet 1.5m ² per pack	8 standard paint finishes. 15 year manufacturer guarantee	Durable (Use class 3)	11kg/m ²
Pacific HDF	PEFC legal & sustainable	Shiplap	9.5mm x 300mm (laid size 9.5mm x 280mm)	3660mm	4pcs/pack 30pk/pallet 4.1m ² per pack	7 standard paint finishes. 15 year manufacturer guarantee	Durable (Use class 3)	990kg/m ³

FIBROUS CEMENT CLADDING RANGE

Cedral Weatherboard	N/A	Square plank	10mm x 190mm. Boards to be overlapped by 30mm	3600mm	102pcs/pallet painted. 72pcs/pallet stained. Other quantities on request	22 paint & 6 stain finishes. 1 natural coat for self finishing. 10 year manufacturer guarantee	Durable (Use class 3)	1200kg/m ³ Approx 17.1kg/m ²
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DURABILITY

Durability, or resistance to decay is important when woods are selected for certain uses where the conditions are favourable for decay to develop. The various grades of durability mentioned below are resultant from exposure tests carried out in the UK and, accordingly, are approximate values applicable to areas with similar climate. Tests refer to all-heartwood stakes of 50mm x 50mm driven into the ground as posts and the five durability grades are defined as follows.

Class 1. Very durable

25 years plus when in direct ground contact

Class 2. Durable

15 - 25 years when in direct ground contact

Class 3. Moderately durable

10 - 15 years when in direct ground contact

Class 4. Slightly durable

5 - 10 years when in direct ground contact

Class 5. Perishable

Less than 5 years when in direct ground contact

Important information:

Additionally density figures given are only approximate values due to the fact that timber is a natural product and no two tree's are alike. Life expectancy for on-site finished materials is solely dependent on how the materials are finished and maintained. With an adequate maintenance program most claddings will last far beyond the original paint manufacturers guarantee.



Please note Redwood, Larch, Western Red Cedar and all thermally treated products can also be treated for fire resistance. Fully factory finished items can be fire treated prior to finishing if required but this will increase delivery timescales substantially. To ensure full compliance we would recommend NON-COM fire retardant treatment.

RECOMMENDED METHOD OF FIXING	EXPANSION (GENERAL GUIDELINES)	BESPOKE OPTIONS	ADDITIONAL NOTES
200mm from ground on treated battens min size 27x45mm. Maximum of 600mm centres. Stainless steel ring shanks 2.8x50mm with 7-10mm diameter head nails. Alternatively, 4.5x50mm stainless steel screws	8-10mm from edge on a corner. 2mm between board ends. 3mm from the edge of skylights/windows	Can be machined to any required profile. Wide range of additional sections are also available at competitive rates and completed to meet set deadlines	If paint finishing is to be done we would advise that a suitable resin inhibitor is used as knots are prone to leech. Medium movement wood class 4 rated. Improved performance with application of finish
150mm from ground on treated battens min size 27x45mm. Maximum of 600mm centres. Stainless steel ring shanks 2.8x50mm with 7-10mm diameter head nails. Alternatively, 4.5x50mm stainless steel screws	8-10mm from edge on a corner. 2mm between board ends. 3mm from the edge of skylights/windows	Can be machined to any required profile. Wide range of additional sections are also available at competitive rates and completed to meet set deadlines	Widely used for cladding in Europe. A very strong robust wood. Small movement wood class 3 rated
150mm from ground on treated battens min size 27x45mm. Maximum of 600mm centres. Stainless steel ring shanks 2.8x50mm with 7-10mm diameter head nails. Alternatively, 4.5x50mm stainless steel screws	8-10mm from edge on a corner. 2mm between board ends. 3mm from the edge of skylights/windows	Can be machined to any required profile. Wide range of additional sections are also available at competitive rates and completed to meet set deadlines	A popular wood for cladding due to its inherent durability. Straight grained and virtually knot free. A Softwood not recommended in lower level applications. Small movement wood class 2

A light coloured, knot free hardwood timber alternative. Contact your local branch for details **ALSO AVAILABLE TO ORDER PLATO POPLAR**

150mm from ground on treated battens min size 27x45mm. Maximum of 600mm centres. Stainless steel ring shanks 2.8x50mm with 7-10mm diameter head nails. Alternatively, 4.5x50mm stainless steel screws	8-10mm from edge on a corner. 3mm from the edge of skylights/windows	Supplied as class D treatment cycle for external use. Can supply materials as class S internal use only. Can be painted, stained and fire treated to class 0	Thermal treatment does make the boards a little more brittle and it may be advisable to pre-drill prior to fixing. Lunawood has a wide variety of other uses The colour finish is a dark brown which is very attractive. The live knots are of sound quality
Suitable for direct ground contact. Maximum of 600mm centres. Stainless steel ring shanks 2.8x50mm with 7-10mm diameter head nails. Alternatively, 4.5x50mm stainless steel screws	8-10mm from edge on a corner. 3mm from the edge of skylights/windows	Can be painted, stained and fire treated to class 0. Suitable for direct ground and fresh water contact but durability will be affected. Also available in large section sizes for other structural applications. Less brittle than normal thermo treated woods. Can be machined to any required profile. Wide range of additional sections are also available at competitive rates and completed to meet set deadlines	Available in a wide range of section sizes up to 100mm thick x 200mm wide Plato® wood spruce is extremely durable and ideal for cladding, especially in heavily exposed areas. The material has a wide range of additional applications and structural uses. A more knotty appearance than the Lunawood redwood, with some knots prone to movement. Fraké is now being used as an alternative to Western Red Cedar and other timbers due to its environmental credentials and attractive appearance and price.
150mm from ground on treated battens min size 27x60mm. Maximum of 600mm centres. Stainless steel ring shanks 2.8x50mm with 7-10mm diameter head nails. Alternatively, 4.5x50mm stainless steel screws	8-10mm from edge on a corner. 3mm from the edge of skylights/windows		

Minimum 300mm from ground on treated battens 25x100mm. Use ring shank and round head HDG/stainless steel 2.5x50mm nails to fasten. Claddings at maximum 600mm centres with two nails spaced 50mm apart. Follow manufacturer's fitting instructions	8-10mm from edge on a corner. Cladding is 4-sides tongued and grooved. Follow manufacturer's fitting instructions	Additional colours are available to any BS/RAL number but only to minimum quantities. Further details on application	The fine sawn surface gives a good key to paint finishes and allows for a rustic appearance. Ideal for the marina type areas or garden buildings. Paint coverage 350g/m ²
Minimum 300mm from ground on treated battens 27x60mm min. Use 2.1x50mm stainless steel coil/ring shank nails or screws to fasten. Claddings at maximum 600mm centres with two nails spaced 50mm apart. Follow manufacturer's fitting instructions	8-10mm from edge on a corner. Cladding is 4-sides tongued and grooved. Follow manufacturer's fitting instructions	Additional colours are available to any BS/RAL number but only to minimum quantities. Further details on application	The finger jointing gives added strength and stability. Heavy brushing helps to give the cladding a character appearance. One of the highest levels of paint coverage for any cladding on the market. Paint Coverage 450g/m ²
150mm from ground on treated battens min size 27x60mm. Maximum of 600mm centres over dpm. Stainless steel annular ring shank nails or screws	4-5mm from edge on a corner. 3mm from the edge of skylights/windows	Additional colours are available to any BS/RAL number but only to minimum quantities. Further details on application	Economical cladding solution but with no compromise on performance. The double board system offers a quick and easy form of installation

150mm above ground. Stainless steel ring shanks 2.8x50mm with a 7-10mm diameter head nails or 4.5x50mm stainless steel screws. 50mm treated battens at max 600mm centres. Fixings to be 20mm from the top of the plank. 36x50mm timber treated battens using 10x30mm fillet to start	20mm to be left from edge horizontally. 15mm to be left from edge vertically	Additional colours are available to any BS/RAL number but only to minimum quantities. Further details on application	Ideal for areas where class 0 fire rating is required quickly. Boards can be brittle so care needs to be taken when handling
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USE CLASS

As with any natural material, service life is dependant on maintenance and the environment it is situated in. The following Use class ratings offer approximate guidance. Before specifying we would recommend contacting Howarth Timber & Building Supplies to confirm your requirements.

Use class 1

Under cover, fully protected from the weather and not exposed to wetting

Use class 2

Under cover, fully protected from the weather but where high environmental humidity can lead to occasional but not persistent wetting

Use class 3

Not covered, not in contact with the ground. Continually exposed to the weather or protected from the weather but subject to frequent wetting

Use class 4

In contact with the ground or fresh water and thus permanently exposed to wetting.

Use class 5

Permanently exposed to salt water



Howarth Timber & Building Supplies would always recommend that to prevent the potential natural weathering and greying of materials, an appropriate UV filter paint, stain or oil treatment is applied and a suitable maintenance program is adhered to.