



PORTA Cladding Board Range

Design, installation & maintenance guide



**Add protection,
performance &
aesthetic appeal**

Ideal for external cladding applications

We are Porta....the people who know and love timber!

We pride ourselves on being one of Australia's leading suppliers of timber products, mouldings and custom moulding services to the home improvement, building, trade and commercial sectors.

An Australian-owned and operated company, Porta has a rich history spanning over 65 years proudly manufacturing and distributing a broad range of timber products using various local and imported certified timber specie.

Porta's milling and importing operations provide quality timber, moulding and design solutions to the construction, commercial and industrial sectors, for home improvement, and also to specifiers and designers. Porta leverages our expertise in timber to source and provide aesthetic and decorative products for the architectural, designer and specifier industries. Porta's timber product range offers innovation and unique designs for interior and external applications.

Porta's brand is built on the 4 pillars that govern how we operate internally and guide our interactions with you. Porta strives every day to be:

- Passionate & Dedicated
- Engaging
- Reliable & Trustworthy
- Experts

We are focused on helping to meet your timber needs and like us....know and love timber!

You can rest assured knowing Porta holds Chain of Custody under the three national and internationally recognised and accredited organisations:

- Forest Stewardship Council® (FSC®)
- Australia Forest Certification Scheme (AFS)
- Programme for Endorsement of Forest Certification (PEFC™)

These are the key bodies that promote stewardship of the world's forests so that you can be confident Porta's timber products in your home can be traced to certified sources.

Porta is committed to sustainable and renewable operations giving priority to sourcing timbers from certified sources. Backed by a team that is passionate about timber and with the expertise to meet your specific needs.

DISCLAIMER

The information, opinions, advice and recommendations contained in this guide have been prepared with due care. They are offered only for the purpose of providing useful information to assist in technical matters associated with the specification and use of timber and timber products. While every effort has been made to ensure that this guide is in accordance with current technology and standard, it is not intended as an exhaustive statement of all relevant data, and as successful design and construction depends upon numerous aspects outside the scope of the guide. Porta Mouldings Pty. Limited accepts no responsibility for errors or omissions from this guide, nor for specification or work done or omitted to be done in reliance on this guide.

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1. SCOPE

This guide outlines key selection, design, installation and maintenance issues for cladding boards featuring the use of the range of Porta Cladding designs including the Porta ENDURE Cladding range.

Timber cladding offers flexibility and resilience to movement, along with a high strength to weight ratio which resists building stresses.

With the correct timber selection, construction and maintenance, cladding boards in external areas can provide the natural feature of timber along design with the freedom and ease of installation for the envelop of the building.

1.1. BENEFITS OF USING TIMBER

The benefits of using timber include:

- Tackles climate change and reduce new carbon emissions
- Stores carbon – reduces atmospheric carbon as trees grow
- Good for health and wellbeing – timber is great to be around
- Production and processing uses less energy
- Certified timber is renewable – trees will regrow
- Select the right timber and it will last – it's durable
- Structurally strong – excellent strength to weight ratio
- A natural insulator – better to walk on
- Fast and efficient to build with
- Naturally beautiful – look after it

Source: www.makeitwood.org

1.2. BENEFITS OF USING PORTA TIMBER

Porta Timber offers many benefits:

- Certified: FSC & PEFC certified as being responsibly harvested and processed using responsible forest management and practices and accredited by a third-party organisation.
- Durable hardwood and softwood species can be used for cladding. This guide features the application of the highly durable, Porta Cumaru timber used with Porta Cladding systems.

1.3. APPLICATION OF THIS GUIDE

This guide covers selection, design, installation and maintenance of seasoned timber cladding for use on exterior walls. If required, cladding can also be used as an internal lining.

Use this guide for residential and commercial applications. Residential applications are defined in Volume 2, Class 1 structures (such as detached houses, villas and townhouses) and Class 10 structures (such as garages, sheds and swimming pools) and commercial applications defined by the National Construction Code (NCC) in Volume 1, Class 2 to 9 structures, deem to satisfy requirements.

2. DESIGN CONSIDERATIONS

Timber cladding provides an envelope that protects and beautifies the exterior of a building.

Timber cladding creates a lighter and smoother appearance, is available in a range of profiles, textures and coatings which are suitable for a broad range of environments.

Clad buildings have reduced material handling and scaffolding (especially on steep sites) and don't involve wet trades. They also speed construction and have a reduced construction cost. Clad buildings are less sensitive to building orientation and solar loading as they have a lower thermal mass.

With modern finishes cladding will enhance the style of the building and provide a long lasting and attractive appearance.

When selecting cladding boards consider:

- Appearance and aesthetic style
- Availability of species, profile and lengths
- Ease of installation and maintenance schedule
- Thermal performance of building, aspect and climate
- Integrity of cladding and mechanical performance
- Bushfire attack level of the site
- Local government regulations and statutory requirements

2.1. ASTHETICS

Timber cladding is chosen for its colour, surface texture, presence of natural timber features and grain pattern.

While the raw timber cladding can be painted, the effect of a clear coating or penetrating finish will enhance the natural beauty of timber cladding.

The application of a suitable surface finish will affect the colour and highlight the grain while maintaining the quality of the timber surface and provide the long-term integrity of the timber.

Porta's range of naturally good-looking timber cladding will be enhanced by a range of clear coatings, as well as oil and wax based coatings.

2.2. DURABILITY

For long term performance of the cladding, a hardwood timber species should be selected with suitable probable above-ground life expectancy of the natural timber in accordance with AS 5604 Timber – Natural durability ratings. A species with a Class 1 or 2 rating should be selected. If softwood is selected it must be protected with a suitable coating for appropriate durability.

2.3. GRADES

In most applications, the role of the timber cladding is to protect the integrity of the envelope of the building. Where the cladding is exposed to severe weather the highest available grade of timber should be used.

Hardwood timber cladding is graded to AS 2796.2 'Timber Hardwood Sawn and milled products Part 2: Grade descriptions' while softwood timber cladding is graded to AS 4785.2 'Timber Softwood Sawn and milled products, Part 2: Grade description' or it may be graded for a project.

Grades can range from Select (Hardwood) and Clear (Softwood) with minimal defects, through to High Feature (Hardwood) or Utility (Softwood) which will include a significant range and number of features.

For availability and suitability of the specific grade of timber, contact Porta prior to specifying.

2.4. PROFILES

Cladding is available in a range of profiles. Unique specific custom designs can be produced to suit the requirements of a project.

Overlapping Tongue & Groove (T&G) styles (ENT) are produced to fully conceal fixing points, which uses the integrity of the timber to securely hold the groove side in place. Alternatively, cladding can be fixed with fully exposed 'face-fixed' screws for a positive fixing method which may be required in high wind locations.

All designs (and installation) should allow for expansion or contraction of the boards due to changes in moisture content and ambient heat loading.

Porta ENDURE Cladding combines the advantages of ease of installation with generous length and thickness concealed fixing overlap, positive vee-joint engagement and leakage protection to resist moisture ingress.

Porta Cladding range offers a range of unique and stylish shaped cladding boards which are ideal for residential and commercial projects.

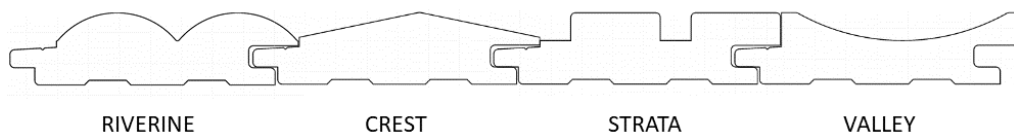


Figure 1 Porta ENDURE T&G Concealed fix Cladding – Range of profiles (ENT range)

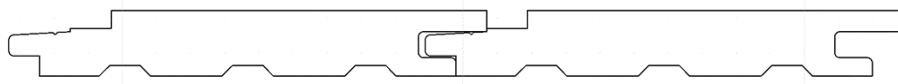


Figure 2 Porta ENDURE T&G Shiplap Concealed Fix Cladding with 12 x 5mm Shiplap groove (ENT Shiplap)

Porta SLCC Tongue & Groove Face-Fix Cladding is designed with the traditional T&G positive engagement yet must be face-fixed with exposed fasteners.



Figure 3 Porta T&G Face-Fix Cladding (ENF Shiplap))

2.5. SIZES & LENGTHS

When considering the species, grade and profile of cladding boards, also consider the optimum length of the boards.

Random lengths can be a more cost-effective alternative yet will require additional joins which will increase the cost of installation.

Consider set length sizes to increase the speed of installation. For availability of suitable board lengths, contact Porta prior to specifying. Porta Cladding is available in set lengths and random length packs.

2.6. ACCLIMATISATION

To minimise the amount of movement of the timber once installed, the cladding should be installed at or slightly below, the prevailing relative humidity (equilibrium moisture content) of the site in which it is to be installed.

Store the cladding in conditions of the site where it will be installed for as long as practical. This will stabilise the moisture content of the timber to the ambient conditions.

The length of time required to stabilise the timber is dependent on difference between conditions. This will take between 48hrs to at least two weeks. Keep the timber supported and protect from direct sunlight and high drafts during acclimatisation.

Regularly check moisture content until the moisture content of the cladding stabilises to ambient conditions.

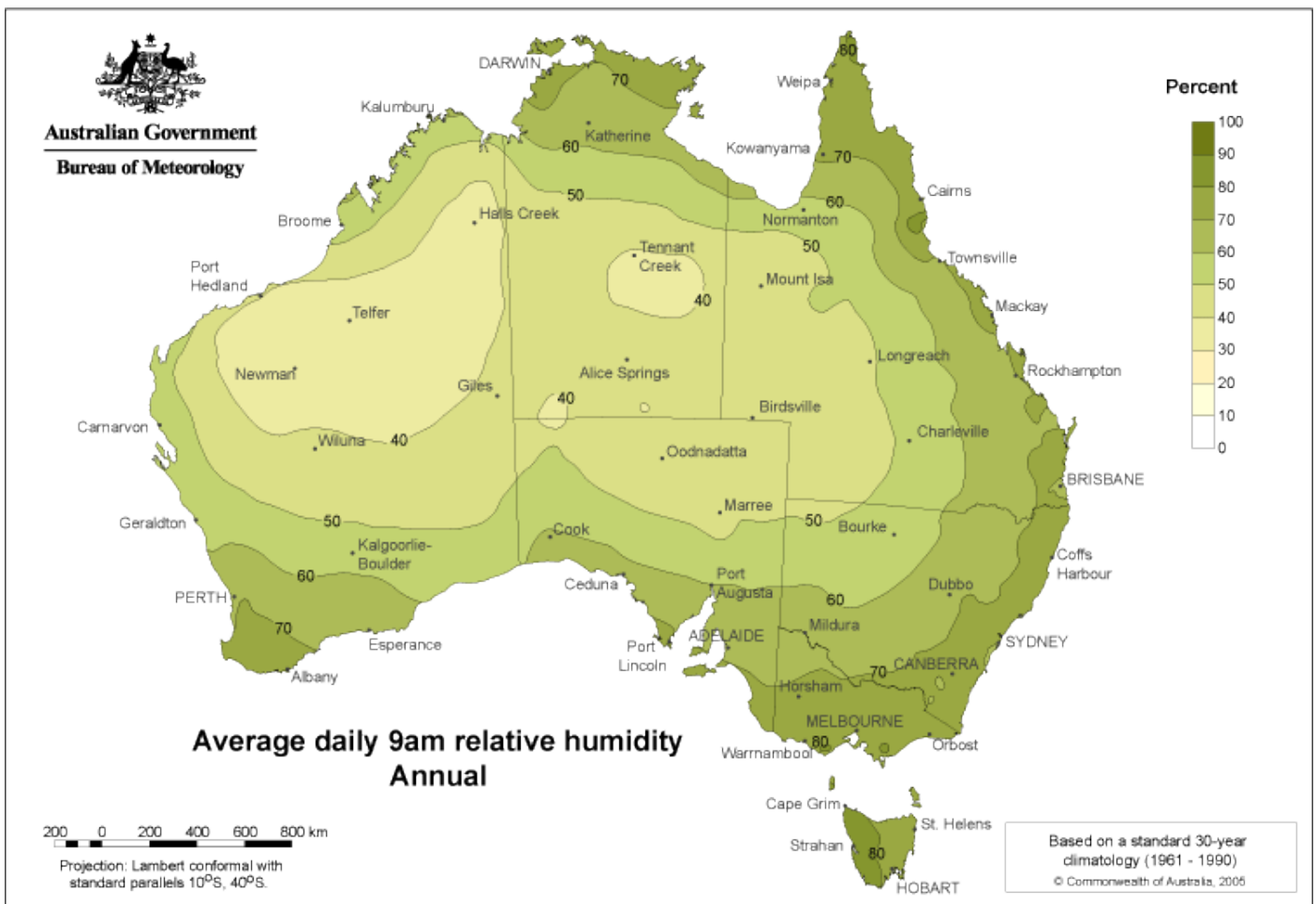


Figure 4 Average relative humidity across Australia

2.7. RESISTANCE TO TERMITE ATTACK

Councils have the responsibility to designate areas, within their municipal district, in which buildings are likely to be subject to attack by termites. Check with local council to assess the risk.

In addition, it is prudent where there is a concern of termite attack, to use termite resistant timber species and design the deck to minimize the risk of attack.

Porta offers a range of timber species for cladding including Porta Cumaru which is certified as a termite-resistant timber and can be confidently used in all locations across Australia.

2.8. TANNIN AND RESIN BLEED

Most hardwood timber species contain varying amounts of water-soluble extractives that provide colour and some natural decay resistance to the timber.

Water-soluble extractives, which includes tannin and resins may be leached to the surface of the timber whenever moisture leaves the timber. This can pass to and mark surrounding surfaces. Tropical areas and other high humidity environments are particularly susceptible.

Coating timber will reduce bleed from the timber. Yet resin pockets in high feature timber can bleed through surface coatings which will discolour the surrounding area.

Common hardwoods such as spotted gum, tallowwood, blackbutt and ironbark have been known to bleed tannins which may mark surrounding surfaces and may contaminate pools and fish ponds.

Porta Cumaru has been shown, through in-field use and controlled trials, that it has negligible leeching and can be confidently used in critical applications.

2.9. INSTALLATION DETAIL

A range of detailing can be used for the installation of cladding. Some typical installation details are shown below which include applications using flashings, sarking (vapour permeable layer) and stop beads.

Additionally, the building design should include a gap between cladding and masonry, using battens or studs, to prevent moisture in the masonry being absorbed into the cladding. Sarking should be included in the design wherever there is reduced ventilation or any concern about the ingress of moisture.

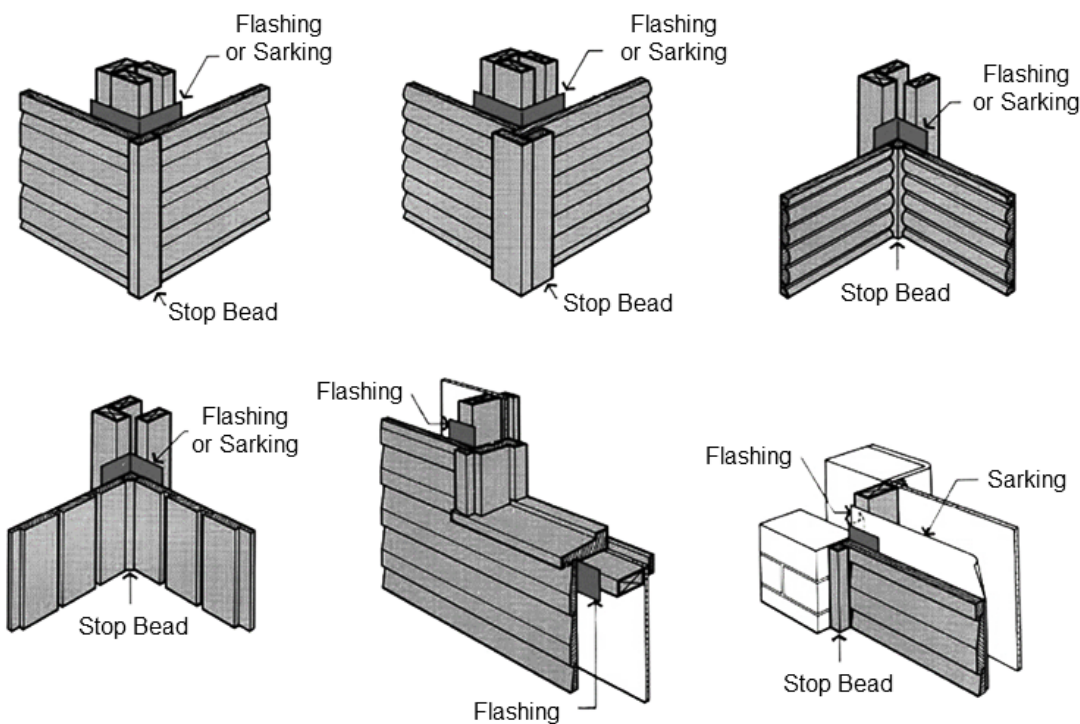


Figure 5 Typical Installation Details

2.10. VAPOR PERMEABLE LAYER

Vapour permeable membrane layer allows water vapour to pass through the structure while preventing the entry of wind driven water from the environment, during construction and after cladding has been installed.

It is recommended to use a vapour permeable membrane (sarking) on the outside of studs and directly under the timber cladding. This will reduce the potential movement of the cladding.

When water penetrates the cladding, sarking directs water away from the building structure and holding in the cavity. Sarking also provides a draught proof barrier, reducing heat lose and dust entering the building.

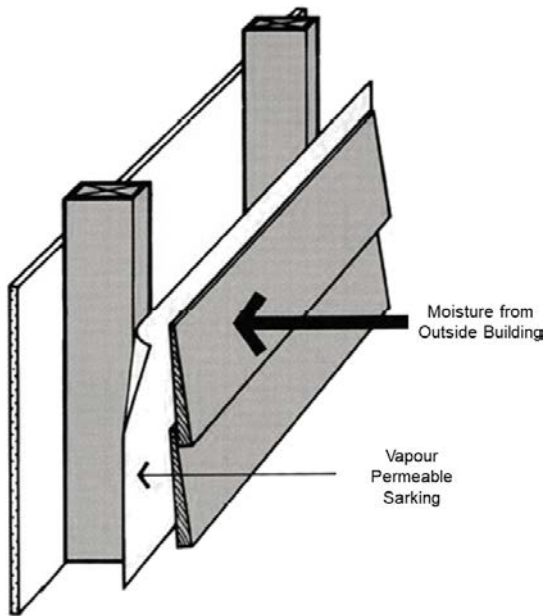


Figure 6 Vapour Permeable Layer

2.11. FLASHING AND FASTENERS

Flashing is used to stop water penetrating the junction of cladding at corners, vertical joints and around openings. It is essential for ensuring that water is prevented from penetrating the wall frame cavity.

Flashing should extend beyond the ends and edges of openings and be securely fixed at least 25mm under the cladding.

Cladding should not extend closer than 150mm from the ground. Flashing should be installed to prevent water take up from the ground.

Cladding should be fixed using non-corrosive screws. Dependant on site conditions (including severity of weathering, the aspect of the building and exposure to coastal and other environmental loadings) hot dipped galvanised, silicon bronze or stainless steel types should be used.

2.12. FINISHING SYSTEMS

The application and maintenance of a suitable finish system reduces the effects of swelling and shrinkage caused by moisture content changes and weathering. If the surface is not sealed, mould will attempt to grow on the surface.

The variation in exposure to the environment (such as the orientation of walls and under eaves) will change the amount of degrading and discolouration. The long-term look of the cladding will be affected in these areas. Shorter cycle coating maintenance will assist in the reducing the variation in colour.

Pigments in the finishing system will protect against sunlight fade. Clear coatings have a minimal affect to fading or greying of the timber. More frequent maintenance schedule will be required initially yet this will extend over time as the finish builds up in the timber.

Finishes containing large proportions of linseed oil should not be used. Mould and fungi feed on the oil and will discolour the timber. Removal of the mould will be time consuming and expensive.

Clear water repellent preservatives oils will assist in preserving the timber yet have a minimal affect to resist fade or greying so if this is required should only be used in protected locations such as under eaves or soffits.

Film forming coatings provide the best combination of penetrating seal and protection against weathering. However, care is necessary on application or maintenance as to not bond board edges together at the joint. This may result in wide irregular gaps between some boards or may cause some boards to split. Pre-finishing is recommended to ensure complete coating and curing of the finish, before installation.

Cladding can grey-off very quickly if exposed to direct sunlight. Greying may occur over a period of years even, with indirect sunlight, yet the rate of greying varies with timber species.

Coatings should be applied in accordance with the manufacturer's specifications. Check with the coating supplier for specific selection, application and maintenance information.

2.13. CHANGES DUE TO MOISTURE AFTER INSTALLATION

Timber is a natural product that responds to changes in weather conditions. In persistently moist conditions timber will absorb moisture from the air which will swell the timber. Conversely, during drier times when there is low humidity, timber will shrink.

The moisture content of the board, when installed, should be close to the ambient condition at site.

The cladding profile should be designed to adequately take-up movement in the width.

An over-lapping profile with ample ability to expand should be considered for locations of high ambient moisture. Conversely thicker profiles should be considered for locations exposed to high heat loads (such as north and/or west facing walls).

2.14. JOINTS BETWEEN LENGTH OF BOARDS

Where possible use the longest possible length along the wall. This will reduce installation time and failure at joints.

End grains of the timber should be sealed with a specialised end sealer. It is not recommended to use mastic sealers (such as gap-filler) to seal edge joints.

Each length of board should be installed tight to each other, over a batten or stud (preferably on top of vapour permeable sarking to prevent ingress of moisture at the joint).

2.15. CORNER DETAIL

Porta offers a standard moulded timber in Cumaru (SQE2121CUSL36) which suits a range of corner blocks details.

2.16. STRAIGHTNESS AND DIMENSIONAL TOLERANCES

Porta Contours hardwood cladding is supplied within the requirements of AS 2796.1 ‘Timber Hardwood – Sawn and milled products Part 1: Product specification’, with the following spring, bow, twist and dimensional tolerances. The grade of timber is supplied in accordance with AS 2796.2 ‘Timber Hardwood – Sawn and milled products, Part 2: Grade description’

Summary:

- Tolerances (width or thickness) $\pm 0.5\text{mm}$
- Tongue and groove clearance (gap) $< 1\text{mm}$ & $> 0.25\text{mm}$ and a maximum mismatch of 0.5mm

Width (mm) Length	90mm	120mm
2.4	13	10
3.0	20	15
3.6	30	22
4.2	40	30
4.8	48	40
5.4	65	50

Table 1 Maximum Allowable Spring AS 2796.1

Note: Width is total board width

Thickness (mm) Length	19mm
2.4	19
3.0	30
3.6	45
4.2	60
4.8	75
5.4	95

Table 2 Maximum Allowable Bow AS 2082

Note 1: Data extrapolated from table data

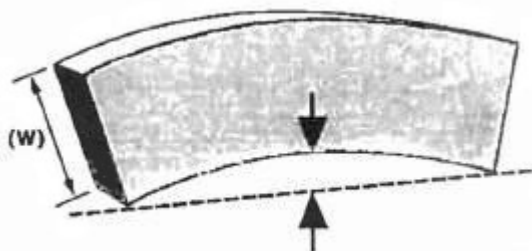


Figure 7 Measurement of Spring

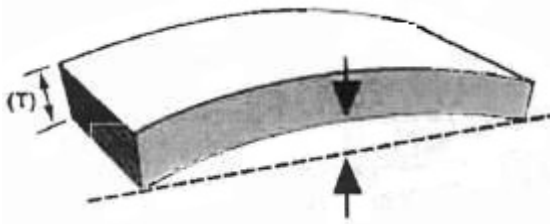


Figure 8 Measurement of Bow

Note: Spring, Bow, Twist and dimensions can vary, dependent on exposure, environment and site conditions, during transit and in storage. Ensure timber when stored is protected correctly to minimize movement.

3 SETTING OUT AND INSTALLATION

3.1. STORAGE OF TIMBER

To prevent timber cladding deteriorating on-site due to site damage, it should be delivered to site with only sufficient amount of time for site acclimatisation.

The timber cladding should be supplied to site fully protected, wrapped in plastic. This protects against contamination and reduces the change in moisture content during transit and storage.

Cladding may be stored on site, provided packs are kept fully covered and protected from weathering. Check to ensure the wrapping has not been damaged which may have allowed water into the pack.

Cladding should be kept dry, covered from direct sunlight and be well ventilated. Adequately support the cladding with a maximum 450mm spacing between supports, at least 150mm off the ground.

To prevent moisture uptake cladding must not be stored in or above a wet area.

Cladding (particularly if it is unsealed) readily absorbs moisture. Cladding will subsequently shrink (opening up joints) if it is installed with an excessively high moisture content. Also, if cladding becomes wet, problems such as staining or distortion may occur on installation. Continued wetting may also promote mould growth or staining. Factory pre-oiling is recommended which will reduce changes in moisture content and movement of the timber.

3.2. MOISTURE CONTENT PRIOR TO INSTALLATION

Timber cladding is generally supplied at an average moisture content between 10% and 18% (within AS 2796.1 Clause 8.2).

A high moisture content suits an exposed coastal area where the average moisture content of cladding timber may be up to 18%. Where conditions are drier, such as inland areas, a lower average moisture content can be expected, within a range of 10% to 12%.

Where the average moisture content of the supplied cladding, differs from the in-service condition, the cladding should be acclimatised prior to installation.

To acclimatise boards, they should be removed from the pack and all surfaces exposed to the installation environment by re-stacking with separating sticks between layers, for a period of between 48hrs and at least two weeks, dependant on the difference in conditions between supplied condition and the ambient site condition, until the moisture content stabilises.

Movement after installation due to changes in moisture content (swelling on moisture content increase and shrinkage on moisture loss) can be minimised if cladding is installed at a moisture content close to the average in-service moisture condition.

The builder is responsible to ensure that the cladding is at an appropriate moisture content at the time of installation.

Note: Installation should be avoided during very wet or very dry periods of weather.

3.3. PREPARATION AND SORTING TIMBER

Cladding should be inspected before installation and the following issues considered.

- Select a concealed fix or face-fix cladding design
- Dock out natural defects which are not required
- Optimize lengths by sorting to suit the application
- Ensure joins between boards are located at stud or batten supports
- Install expansion gaps (across boards) on wide expanses (greater than 3m widths)
- Pre-seal all surfaces before installation
- Do not install excessively tight, especially in dry conditions

3.4. SPACING OF SUPPORTS

Adequate backing support is an essential requirement for smooth and flat wall cladding.

This can be achieved by fixing the cladding to wall framing, rafters, joists, trusses or battens spaced at no greater distance than shown in Table 3 'Maximum Spacing of Supports'.

Application	Thickness (mm)	Spacing (mm) of supports at 90deg
Exterior Wall	19mm	450mm

Table 3 Maximum Spacing of Supports

3.5. SETTING OUT

Porta recommends the batten over sarking and screw process to install cladding boards.

- Start on one side of the wall (or ceiling) and ensure the first board is straight, true and square.
- Place the groove side against the supporting battens.
- On the first board, put screws into the face of the groove side as well as the tongue side (conceal area or through the face, as applicable). If an edge bead is planned the screws on the groove side may be able to be covered.
- Each following board will only need to be fixed on the tongue side. Put the tongue fixing in accurately and flush with the surface so the next board covers the head of the fastener.
- Place the second board so the groove fits firmly over the first tongues.
- If joins are needed, butt together carefully on stud or batten. At joins, take care to ensure the fastener does not split at the edge. Pre-drill if required.

4. LAYING THE BOARDS

4.1. PREPARING

Ensure the surface the board is being fixed to is even, with a maximum tolerance of 3-4mm from flat. Use packers to 'even' the surface flatness if the difference is more than this tolerance.

Cut the boards neat and square, leaving only enough gaps for expansion.

Cut the boards with a gap smaller than the edge bead width at the edges. For example, affix a timber bead around the perimeter of the cladding to cover any cuts, chips and edge nails. A broad range of standard trims are available from Porta or can be custom moulded for this purpose.

Prior to fixing, check that the boards are of a suitable quality. Set aside any board that is not within the required quality and feature and do not install them. If choosing high feature (rustic or knotty) grades, confirm soundness of knots. Cut or dock-out any board which is below an acceptable quality. Chipped or star checked knots can be remedied with a small touch of colour tinted putty prior to finishing.

When the board is installed it is deemed to be of an acceptable grade.

Note: All timber will vary in colour and feature between boards. Select and pre-arrange boards in a fixing sequence to achieve the desired result.

Acclimatise boards to the local humidity condition and ensure the timber moisture content is stable.

If battening is required to present a suitable surface for installation, these should be installed at suitable centre distance. If the battens are timber, they should be kiln dried and accurately sawn or dressed. Where required, fixing battens should be packed out to provide a true and even surface (within 3mm) prior to securing cladding boards.

Introduced an expansion gap in the layout within each 3 metre width, across the face of the boards.

4.2. FIXINGS

Cladding should be fixed in accordance with NCC Part 3.5.3. It is recommended that self-drilling cladding screw 8g x 50mm stainless steel (304/A2 or 316/A4) are used.

Porta concealed profiles include an indicator mark or recess on the tongue area to assist in defining where the fixing should be positioned. Consider fitting at a slight angle. Face fixings should be positioned at right angles to the surface (on the tongue side of the face).

Pre-drilling may be required if the self-drilling feature or the flat (embedding) head design is insufficient.

Screws should be installed at least 9mm from ends. Screws should be fitted flush to the surface.

4.3. INSTALLATION

Firstly, ensure the fixing surface is even, secure and clean.

Progressively check boards are plumb (vertical) or level (as appropriate).

Loose fit boards with a sufficient gap between boards to accept the expansion of the boards. Fit each board snugly, yet not tight, as an allowance must be made for expansion when installing in higher ambient moisture conditions.

Fit fixing screw either at a slight angle on the tongue (concealed fix) or square to the face (face fix) at each batten or stud.

Secure the final board by screwing through the face.

To avoid moisture uptake from the ground, cladding should not be laid within 150mm of the ground, adjunct ground or pavement. The ground should be angled to allow for run-off.

4.4. CORNER DETAIL

A typical external and internal corner of the cladding boards uses either a timber corner block or aluminium extrusion box corner. An external corner block is shown below. Use the reverse treatment for internal corners.

Porta offers a standard moulded timber in Cumaru (SQE2121CUSL36 or BAT4040CUSL36) which suits a range of corner blocks details. Contact Porta to discuss your requirements.

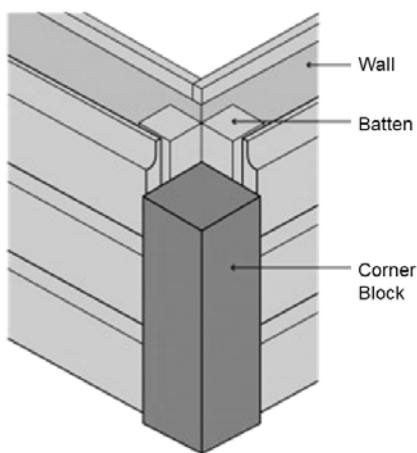


Figure 9 Cladding Corner Detail

4.5. PRE-COATING & ONSITE SEALING

If timber is left uncoated it will be subject to surface checking, warping and loss of dimensional stability to varying degrees.

The coating is designed to slow down the rate at which moisture can move in or out of the timber and protect against attack from sunshine which combined will result in a breakdown of the timber and loss of stability.

Pre-coating (which is also known as factory applied pre-coat) adds protection to the timber in transit and while stored on-site. An on-site finish coat is required after installation.

The pre-coat provides protection and timber stability on areas which are unable to be coated after installation.

Also, factory applied pre-coating provides a higher quality and consistent thickness than coatings applied on-site.

Pre-coating creates greater protection as it will be applied consistently to each face and ends, which can be difficult to achieve on-site.

Cut-ends and/or protrusions (for example holes through the board) must be adequately coated on-site. It is recommended that a speciality end-grain sealer is used on any cut-end and/or protections.

Timber surfaces affected by sea salt contamination should be washed off with clear water and allowed to dry before commencing site coatings.

4.6. FINISHING & MAINTENANCE COATINGS

In addition to improving the aesthetic appeal of the board, the main function of the board coating is to improve the durability of the timber and slow down the rate at which the timber will take up or lose moisture.

Maintenance of the coating protection will preserve the attractive appearance and dimensional stability of the boards. There are several finishing coatings which can be used.

The location and exposure will affect the longevity of the coating. The difference in exposure across a panel will produce different aging and 'greying' of the timber. This should be considered when selecting the type of coating and when setting maintenance cycles.

Penetrating finishes such as water repellents, oils and stains are recommended. These penetrate into the surface of the timber and do not form a significant surface film. With proper maintenance these can produce a durable timber finish and allow the board to readily move after installation.

In high humidity environments such as North Queensland, consider using a finish which contains a fungicide to prevent mould growth.

Film-forming finishes, such as clear polyurethane and acrylic surface coatings and heavy-bodied stains form a layer on the surface of timber, visually creating a smooth surface and forming a barrier to moisture and can protect against UV attack. These will potentially flake or peel, creating an undesirable finish which will be expensive to maintain.

Due to the high risk of adhesion between boards and the resultant splitting of boards, coating boards with film forming finishes after installation are not recommended.

Below is typical information for a range of finish types provided for guidance. Check supplier's specific product information for preparation, pre-coating and applications

	Oil Solvent Based	Oil Water Based
Clean-up	Mineral Turpentine	Water
Finish	Satin Lustre	Natural Matt/Gloss
Type	Penetrating	Hybrid
Re-Coat	Shorter	Longer
Drying	Longer	Shorter
Odour	High	Low
Durability	Good	High
Wear Resistance	Good	High
Maintenance	Regular	Less

Table 4 Typical finish coatings types and performance

Source: Typical general information. Refer to manufacturer's specific technical data sheets.

5. MAINTENANCE

Timber is a natural product. As the timbers ages and is exposed to heat, sunlight and the ambient moisture conditions, small cracks (or checks) are likely to appear on the surface of the timber.

Surface coatings and penetrating oils applied to the timber will reduce this effect by reducing the take up or loss of moisture and by protecting the timber from sunlight UV attack. A darker coating or penetrating oil will offer greater protection form sunlight attack than a lighter coloured coating or penetrating oil.

The colour shift or greying will vary dependant on the exposure to sunlight or amount of shading.

Penetrating oil will require less preparation to re-apply. Seek further advice from the preferred supplier.

With the correct selection and application of a coating, the ageing process will be slowed with longer period between maintenance.

5.1. RESIN BLEED

Some hardwood and softwood timber species such as spotted gum, merbau, radiata and slash pine can be prone to resin bleed which discolours surrounding surfaces.

Resin bleed may become apparent only after installation. Cleaning and re-coating may reduce the effect.

High feature or Utility grade timber which have significant gum and resin pockets, may suffer from ongoing visible surface bleeding. The effect of resin bleed may permanently mark the surrounding surfaces.

Porta Cumaru offers negligible resin bleed which prevents marking of the surrounding area.

5.2. CARE AND LIFESPAN

Cladding should be cleaned regularly to prevent build-up of contaminates on the surface.

Any coating or oil applied will require subsequent recoating.

Refer to the coating manufacturers maintenance schedule.

The period between recoating will be dependent on the humidity, sunlight exposure and heat exposure at on-site.

With regular inspection, cleaning and coating maintenance, cladding should last for the design life of the building.

6. WARRANTY

Porta warrants that timber supplied by Porta will perform in accordance with claims stated in the written literature.

Each piece of timber is unique. Colour and wood grain variation will occur across supplied material. Sample material will provide guidance. Timber can crack due to humidity levels and sudden changes in temperature. Timber undergoes a natural process of oxidation when exposed, which will affect the colour. Porta does not warrant the consistency of colour or wood grain, or stability of supplied timber.

Except where Porta has agreed in writing to the contrary, this warranty does not apply unless the timber product is supplied in its final shape and form. Timber must be stored, protected and maintained in accordance with written advice.

This warranty does not apply if the timber supplied by Porta has been used for a purpose other than that intended use and installed other than in accordance with Porta recommendations and relevant building codes.

This warranty does not exclude any provisions that cannot be excluded under the Australian Consumer Law.

7. SPECIFYING

7.1. TIMBER

Timber cladding boards shall be Porta ENDURE Cladding [specify profile, either Shiplap or other] supplied with FSC certification and written product information. Hardwood cladding boards shall comply with AS 2796 Section 8: Cladding Boards.

7.2. FIXING

Batten and spaces shall be used to reduce out-of-flat of no greater than 4mm.

Fasten with a specialised nominally 8g x 45 [50mm] Stainless Steel [316 Stainless Steel] cladding screw.

7.3. COATINGS

Protect cladding in-transit and until it is installed with Porta factory applied Pre-coating.

Coat all end-grains with Teknos Teknoseal End Seal 4000 end-grain sealer, supplied by Porta.

Any on-site cut-ends or protrusions into the cladding are to be coated with Teknos Teknoseal End Seal 4000 end-grain sealer.

Protect timber on-site from weathering and excessive moisture.

Follow coating suppliers' recommendations.

8. PRODUCT INFORMATION

For further product information the following documents are available from Porta.

- a. Porta Product Specification Sheets available from www.porta.com.au

9. REFERENCES

- a. Timber Queensland, Timber Panelling, Technical data Sheet 1, February 2004
- b. AS 1684.2 Residential timber framed construction Part 2: Non-Cyclonic Areas
- c. AS 4785.2 Timber Softwood Sawn and milled products
- d. AS 2796 Timber Hardwood Sawn and milled products
- e. AS 3566 Self-drilling screws for the building and construction industries

Revision: 190218

10. APPENDIX ONE: COMMERCIALY AVAILABLE PRODUCTS

The following commercially available products are available for the installation and maintenance of cladding boards. These are provided as guidance only. Refer to the suppliers' specific product performance, preparation, pre-coating and application information.

10.1. FINISH COATING / SEALER

It is recommended that all Cladding is factory pre-oiled with Intergrain Enviropro WB Oil, available from Porta.

Brand	Penetrating Coating Solvent Based	Penetrating Coating Water Based	Hybrid Coating
Cabots - Clear	Natural Decking Oil	Aquadeck	
Cabots – Pigmented	Deck & Exterior Stain Oil	Deck & Exterior Stain WB	
Feast Watson - Clear	Water Repellent Timber & Deck Oil	Matt Look Decking Oil	
Feast Watson - Pigmented	Traditional Timber Oil	Wet Look Decking Oil	
Intergrain - Clear	Nature's Timber Oil	Exterior UltraClear	Ultradeck
Intergrain - Tinted	NaturalStain	-	Ultradeck pigmented
Wattyl	Weatherguard Decking Oil	Weatherguard Decking Oil Water Based	Weatherguard 2in1Stain & Varnish
Haymes	Simply Woodcare Ext Oil	Simply Woodcare UVEX	
Clean-up	Mineral Turps	Water	Water
Number of Coats	2-3	3	3
Odour	High	Low	Low
Durability	Good	Excellent	Excellent
Wear Resistance	Good	High	Excellent
Maintenance	Higher	Lower	Lower

Table 5 Suppliers' finish coatings and typical performance

Note: Inspect, sand and recoat when there is visible deterioration in the coating.

The above shows typical products and is not intended as complete. Refer to manufacturers' information for details.

CUTEK CD50 may be used yet is NOT recommend over factory applied (Intergrain Enviropro WB Oil) Pre-oil.

Brand / Supplier	Customer Service	Website
Intergrain (DuluxGroup)	1800 630 285	http://www.intergrain.com.au/
Cabots (DuluxGroup)	1800 011 006	http://cabots.com.au/
Feast Watson (DuluxGroup)	1800 252 502	http://www.feastwatson.com.au/
Wattyl (valspar)	132 101	http://www.wattyl.com.au/en/
Hayes	1800 033 431	http://specifiers.haymespaint.com.au/
CD50 (Chemisys Aust.)	1300 1 CUTEK	https://www.cutek.com.au/

Table 6 Timber coating supplier contact information

Source: Industry information including DuluxGroup, Wattyl (valspar) & Hayes.

10.1. END GRAIN SEALER

Porta recommends the use of Teknos Teknoseal 4000 specialised end-grain sealer, available from Porta to protect all end-grains and penetrations.

10.2. FASTENERS

SPAX: T-Star plus, No. 35704012702003, dia. 4.0mm x 45mm

Material Stainless steel A2/304, 90deg counter sunk head, small head diameter

For more information on Spax fasteners refer to: www.spaxpacific.com/products/spaxd.html

Würth: ASSY® Plus A2 Cladding Screw Art. No. 0166 533 550, dia. 3.5mm x 50mm (Use Drive Bit AW® 10)

Material Stainless steel A2/304, 60deg counter sunk head with milling pockets, small head diameter

For more information on Würth fasteners refer to: <http://marketing.wurth.com.au/ConstructionEssentials/index.html#77>

Simpson Strong-Tie: DHSD Series, No. SSDHSD50S, #10 gauge x 50mm

Material Stainless steel 305, compact head, small head diameter, #2 square drive

For more information on SIMPSON Strong-Tie fasteners refer to: <http://www.strongtie.com.au/>

10.3. SARKING

Breathable barrier is designed to be used in wall and gable applications to help protect the building. Typical brands include:

- Tyvek® Breathable Home Wrap®
- Bradford™ Enviroseal ProtectorWrap™
- James Hardie HardieWrap™



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