

CELLBOARD DECK

CLIP FIXING & FACE FIXING INSTALLATION MANUAL CBWD14525 CBWD09023

CELLBOARD DECK INSTALLATION MANUAL - JULY 2017 - V2



BEFORE YOU COMMENCE

Please note that:

The Product is subject to natural variation* in finish as part of the manufacturing process. The purchaser or their installer/ builder is responsible for inspecting, prior to installation, the colour, finish and size of the product, identifying whether the Product has any other defect or manufacturing fault, and for ensuring the Product meets surface appearance and product specification requirements. Subject to the terms of our warranty, CELLBOARD is not liable for claims made after the installation of the Product that relate to surface appearance and product specification.

It is the responsibility of the specifier or other party to ensure that the information in this manual is appropriate for the intended application and further design detailing may have to be made for specific applications that fall outside the scope of the manual.

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STANDARD CELLBOARD DECK PARTS

PROFILE		
PRODUCT CODE	CBWD14525	CBWD09023
MAX BOARD LENGTH	2850mm	2850mm
COVERAGE	145mm	90mm
SPAN CENTRES* RESIDENTIAL	400mm	350mm
SPAN CENTRES* COMMERCIAL	350mm	350mm
ACCESSORIES (CLIP FIXING)	The set	FACE FIXING ONLY
CLIP CODE	AL14523	

NOTE:

*These are maximum spans however shorter spans may be required dependent on region and wind load, please confirm with structural engineer prior to installation.



Installation Tips and Requirements

CELLBOARD products can be worked with ordinary woodworking tools such as:

Mitre Saw	Cordless Drill
Jigsaws	Level & Chalk Line
Carpenters Square	Tape Measure
Circular Saw	

Site storage & Product Handling

- CELLBOARD boards should not be stored in the open or covered or wrapped with plastic sheet. CCELLBOARD boards are a finished product, do not dump or drop when loading or unloading. Always handle with care.
- CELLBOARD boards should be stored under cover and protected from the elements (including direct sunlight and rain) until ready to install. Remove any plastic wrap including shrink wrap and store on a dry and flat surface supported at max 450mm centres.
- When removing CELLBOARD boards from the pack, do not slide boards against each other, lift the boards and set them down carefully.
- CELLBOARD boards should be carried on their edge for better support.
- When handling CELLBOARD boards take care to avoid scratches, nicks and other damage to the boards.



NOTE:

To ensure long- term performance, we recommend that a professional trade person carry out the installation. The installation MUST be carried out in accordance with these instructions including the use of all trims and accessories.

Thermal movement

CELLBAORD based products will expand and contract with changes in temperature. The amount of expansion varies according to the amount of change in temperature. Although thermal movements are reversible, these movements due to temperature change may vary by up to 2mm per meter.

CELLBOARD boards that have been exposed to direct sun for several hours, prior to installation will have expanded more than boards left in the shade. It is important to maintain an average consistent temperature for all boards as they are being installed.

Avoid installing in full sun if ambient temperature is above 30°C. Ensure the boards are kept out of the sun until installed to limit the boards expansion prior to installation. CELLBARD products can tolerate a temperature range from -20°C to +65°C.

If the product is to be used in an environment outside of this temperature range, please consult COMPOSITE SPECIALTIES.

Please bear in mind that:

- Where CELLBOARD boards are to be screw fixed, clearance holes must be pre-drilled before fixing (both CELLBOARD boards and accessories).
- The clearance hole to be drilled must be slightly greater than the outside screw thread diameter.
- Screws must be minimum 15mm but maximum 25mm away from board edges (unless noted otherwise)
- CELLBOAED products must not be used for any structural purpose.
- The cut surface must be sealed with a layer of protective coating such as a water based deck sealer before installation.
- When exposed to direct sunlight, surface temperature may be significantly hotter than ambient temperature.



Framing Construction Requirements

All building codes and Australian Standards must be adhered to when building the structural support framing for any deck. Be sure to consult with a licenced builder, architect or engineer prior to designing or building your deck to ensure the regulations are met for such criteria as the stress grades, size and spans of posts, bearers and joists and other structural elements. For specification and design of commercial or industrial applications refer to AS1170: Dead and Live Loads and Load Combinations.

CELLBOARD decking may be fixed to seasoned timber joists or to a proprietary structural system.

Joist spacing for CELLBOARD decking is nominally set at 400mm centres max for residential and 350mm centres max for commercial applications in urban and non- cyclonic wind load areas. For higher wind-load areas reducing joists may be required. All boards must span across a minimum of 3 joists.

As with all decking products the adequacy of a proposed installation should always be checked by a qualified engineer.

Joists must have a face not less than 45mm for timber and 38 mm for steel.

Additional joists must allways be set between the 1st & 2nd joist at each end of deck. Where butt joints occur, framing must be "Blocked Out " with 190x45mm timber blocks with 190mm face upwards.

Timber Framing

The joints between posts, bearers and joists need to be able to transfer load efficiently through the structure, refer to AS1684 & AF1720 for design of these elements.

It is important to use adequately seasoned timber to minimise shrinkage and associated building movement which may damage the decking system.

Steel Framing

Steel framing must comply with AS/NZS 4600: Cold-Formed Steel Structure or AS 3623: Domestic Metal Framing.

Where steel framing members are specified, use only corrosion resistant galvanized steel framing. Specific instructions for fixing to steel frames are included where appropriate.

Screws

Screws must comply with AS 3566 Self Drilling Screws for the Building and Construction Industries.

Screws must have a minimum Class 3 corrosion resistance, suitable for external applications in mild, moderate industrial and marine environments and Class 4 or stainless steel for severe environments.

Screws with class 1 or 2 corrosion resistance may be used for internal use depending on the individual application.







Decking/ Type 17

Self-drilling Self-tapping

Design Considderations

Expansion/ Contraction - Innodeck boards will expand an contract slightly with changes in temperature. The maximium amount of expansion and contraction that may occur is 2-5mm per lineal metre of board when measured from the end of the board to the fixed fixing clip. This should be taken into account when designing board layout. If butt joints an board end caps are desired than using shorter board lengths are best.

Breaker Boards - Breaker boards should be considdered when long runs of decking are required to lessen the butt joint openings. A breaker boards is a board running perpendicular to the other decking boards. An example is shown in the diagram below:





Framing Design Requirements





Joist Spacing and Loading

Joist or batten spacing for InnoDeck is nominally set at maximum 400mm centres for residential and 350mm centres for commercial.

Uniformly Distributed	Concentrated Load	
Load (kPa)	(kN)	
3	1.8	

Allowable long term uniformly distributed load kPa, is limited by the allowable bending strength of the Cellboard and should not exceed the loads per support span, as shown in the table below.

The allowable concentrated live load - kN, is limited by the deflection of the Cellboard deck between the supporting joists, and should not exceed the maximum loads, as shown in table.

Refer AS/NZS 1170.1 Section 3

Dimensinos Table:

Description	Millimetres	
"a" min dis. to solid structure	3mm	
"b" max joist centres	350mm Commercial 400mm Residential	
"c" min ground clearance	50mm	
"d" min dis. to solid structure at board end	5mm	
"e" gap at butt joints	4mm	

* Ventilation

CELLBOARD Deck requires air flow through the cavity, which can be achieved by allowing a min. 50mm ground clearance. This will prevent the decking from over heating and causing any distortion to board.

INDICATED FOR CBWD14525 IN BELOW:





Butt Joint Requirements



- All butt joints must be set as indicated in the fig. above.
- Butt joints must always be blocked out underneith with a 190 x 45mm timber block and boards must be face fixed either side of butt joint.
- Failure to follow the above may result in excessive movement and / or board distortion.



INSTALLATION PROCEDURE

STEP (1)

PREPARING FIRST BOARD



*IMPORTANT

Before commencing: If a fascia board is to be used take note of overhangs required as indicated at step (7)

- 1. Cut first board to required length.
- 2. Drill ϕ 5mm diameter clearance holes for face fixing screws along starting edge of board in alignment with the centre line of the joists.
- 3. Slide fixing clips into the groove on the opposite side of the board to where the holes were drilled. Align clips with the centre line of the joists then pre-drill and screw from underneath. Ensure CELLBOARD deck is pre-drilled using a \$\phi2.5mm\$ drill bit at approximately 15mm\$ deep. Take care not to break through the surface of the board. Fixing Clips must be used at all joist locations of each board with the exception of the joists at each end of the board.

NOTE:

Ensure all butt joints are blocked with 190 x 45mm timber as indicated under "framing design requirements." Butt joints must be positioned in centre of block and board ends must always be face fixed as indicated under "butt joint requirements".



STEP 2 INSTALLNG FIRST BOARD



SCREW TYPES REQUIRED:

Joist Type	Face Fix	Clip Screw (Top)	Clip Screw (Bottom)
Metal	10g x 35mm CSK Self-drilling	8g x 20mm CSK Self-drilling	8g x 20mm CSK Self-tapping
	Screw	Screw	Screw
Seasoned Timber	10g ×65mm CSK Decking	8g ×40-50mm CSK Decking	8g ×20mm CSK Self-tappig
	Screw	Screw	Screw

- 4. It is preferable to install CellDeck from the outside edge of the deck and work inwards, to ensure the boards along the outside edge are full boards (not ripped down)
- 5. Use a string, spirit or laser level to establish the starting point of the decking. Screw the first board down onto the structure as indicated above, including screwing through holes in clips as well as face fixings through pre drilled holes.



PREPARING SECOND BOARD



- 6. Cut board to required length.
- 7. Drill ø5mm clearance holes X 2 at each end of boards for face fixing.
- 8. Slide aluminuium clips into the groove on the opposite side of the board to where the holes were drilled. Align clips with the centre line of the joists then pre-drill and screw from underneath.

Ensure CELLBOARD is pre-drilled using a ϕ 2.5mm drill bit at approximately 15mm deep. Take care not to break through the surface of the board. Fixing clips must be used at all joist locations of each board with the exception of the joists at each end of the board.





INSTALLING SECOND BOARD



- 9. Lay second board onto joists as indicated above and tap the CELLBOARD board edge with a soft hammer and a soft timber block near each clip location until full engagement is achieved with the clips. Take care not to damage the CELLBOARD boards.
- 10. Screw board to joists through holes in clips using screws as indicated in table shown at step 2
- 11. Insert Face fix screws through pre-drilled holes at board ends.



ASSEMBLING & INSTALLING REMAINING BOARDS



12. Repeat steps 3 and 4 until only last board is to be installed.



STEP (6)

INSTALLING LAST BOARD



- 13. Cut last board to length and rip down in width if required.
- 14. Drill clearance holes ϕ 5mm diameter 15-25mm from the outside edge of board in alignment with joist centres as well as face fixing holes at each board end.
- 15. Lay last board on joists and tap the CELLBOARD board edge with a soft hammer and a soft timber block until full engagement with clips is achieved. Take care not to damage the CELLBOARD boards.
- 16. Screw the last board to joist through ϕ 5mm clearance holes using screws as indicated in table shown at step (2).



INDICATED FOR CBWD09023 IN BELOW:



Dimensinos Table:

Description	Millimetres	
"a" min dis. to solid structure	3mm	
"b" max joist centres	350mm Commercial & Residential	
"c" min ground clearance	50mm	
"d" min dis. to solid structure at board end	5mm	
"e" gap at butt joints	3mm	

Butt Joints Detail :





FINISHIG OPTION - FASCIA

If desired a fascia board can be added around the perimetre of the deck. We recommend the following methodology:

1. Using a router or power saw, rebate the decking board as indicated along entire length to create a fascia Board.



2. Screw fascia boards to framing using 10g x 65mm CSK Decking Screws at max 450mm CTRS. Decking and fascia boards must be pre-drilled with φ5mm drill bit.





PROTECTION

Remember - CELLBOARD Deck is a pre-finished product so it must be protected during and after the installation process.

CELLBOARD recommend the following precaution to avoid damage and/or scratching:

- 1. Limit construction foot traffic over boards when possible during construction;
- 2. Anyone walking over deck during or after construction should ensure their boots are clean of dirt, sand, etc and without objects such as stones or glass wedged in the soles;
- 3. Never drag materials across deck or place heavy items items or construction materials on deck.
- 4. Sweep deck clean to remove dirt and other obrasive materials, and cover with corflute or plywood once installation is completed if trafic over deck cannot be avoided throughout the remainder of the construction period.
- 5. Avoid sharpp objects coming into contact with the decking use mats to protect the surface from heavy objects.



ENSURE CLEAN BOOTS ONLY



LIMIT FOOT TRAFFIC





CUTTING INSTRUCTION

Note:

All equipment listed below is available from *Bunnings Warehouse, SydneyTools and TotalTools*.

Equiment:

1. Mitre Saw - Commonly available compound mitre saw will fit for the cutting job of the CellBoard board.

Makita Slide 255mm Compound Mitre Saw Bosch Gliding 305mm Compound Mitre Saw

2. Saw Blades - Prefer to use blades with larger diameters and less teeth in order to reduce heat generation and residual accumulation.

Makita 305mm 60T Mitre Saw Blade Irwin 305mm 60T Drop Saw Blade Xtorque 255mm 40T Carbide Tipped Saw Blade Bosch 305mm 60T Saw Blade For Optiline Wood

3. Jigsaw - Commonly available Jigsaws will fit for the cutting job of the CellBoard board.

Bosch GST 150 Jigsaw

4. Jigsaw Blades - Prefer to use blades for Hard Wood with 2mm thickness and 4-5mm distance between each tooth.

Bosch 50mm Fast Cut Jigsaw Blades T144D

5. Operational Guide -

Considering CELLBOARD material has a relatively low melting temperature compared to natural hard wood material, it is crucial to reduce the temperature of the saw blades during cutting.

In order to keep the saw blades at a relatively low temperature, the cutting operatin movement should be smooth and steady. In case the saw blades will be wobbling/shaking during the cutting process, the CELLBOARD board should be hold firmly against the saw blades during the whole cutting process.

The operator should ensure the sliding/pushing motion when operating the Mitre Saw / Jigsaw during the cutting process is strictly dead straight, to prevent heat generation from the extra fiction between the saw blades and the CELLBOARD board.



NOTES



For more information, please visit CELLBOARD at **WWW.innoarc.com.au** OR CALL 1300 654 795