

EVA-LAST®

INSPIRED BY NATURE, DESIGNED FOR LIFE.



INSTALLATION GUIDELINES



www.eva-last.co.nz

Building codes compliance

Installation of all Eva-Last composite decking should be done in compliance with New Zealand building codes. Building codes that will apply to your installation are as follows:

- B1 Structure
- B2 Durability
- C4 Escape routes
- C6 Structural stability
- D1 Access routes
- E2 External moisture (waterproofing to the building envelop)
- F2 Hazardous building materials (glass barriers)
- F4 Safety from falling.

When building a deck please refer to the following New Zealand standards:

- AS/NZS 1170 (Structural design actions)
- NZS 3602 (Timber and wood-based products for use in buildings)
- NZS 3603 (Timber structures standard)
- NZS 3604 (Timber-framed building)
- NZS 3605 (Timber piles and poles for use in building)
- NZS 3631 (New Zealand timber grading rules)
- NZS 3640 (Chemical preservation of round and sawn timber)

Other recommended references include BRANZ Build 139 Supplement.

Any deck or balcony 1.5 metres or more above cleared ground level requires a building consent. However, even if a building consent is not required, construction must still comply with NZBC requirements. Including decks that are attached to buildings, cantilevered or free standing.

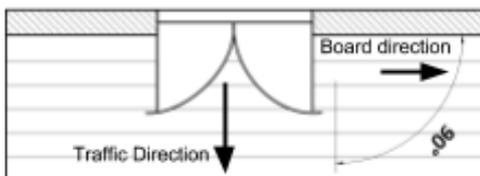
Fixing and fasteners

The requirements of foundations, sub-floor framing, bracing, decking selection, fastenings and fixings are in NZS 3604:2011 section 7.4.

- All steel fixings and fastenings to be type 304 stainless steel minimum.
- Steel fixings used in timber treated with copper-based preservatives to be a minimum of type 304 stainless steel.
- Stainless steel nails must be annular grooved so that they have similar withdrawal resistance to galvanised nails.
- Nails and screws may be hot-dip galvanised except when the timber has been treated with copper quaternary and copper azole. Then type 304 stainless steel must be used. As in accordance with NZS 3604:2011 Tables 4.1 and 4.3 must still be met.
- Decking should be installed with a 12 mm minimum gap between the building cladding and the decking for drainage and maintenance.
- Requires all structural fixings in sheltered and exposed locations to be stainless steel (minimum grade 304)

Slip resistance

Where the deck is part of the main access into the building, the grooved face must be uppermost and the decking should be laid perpendicular to the direction of the traffic. If a deck is not part of an access route, the smoother side, which is easier to keep clean, may be laid face up.



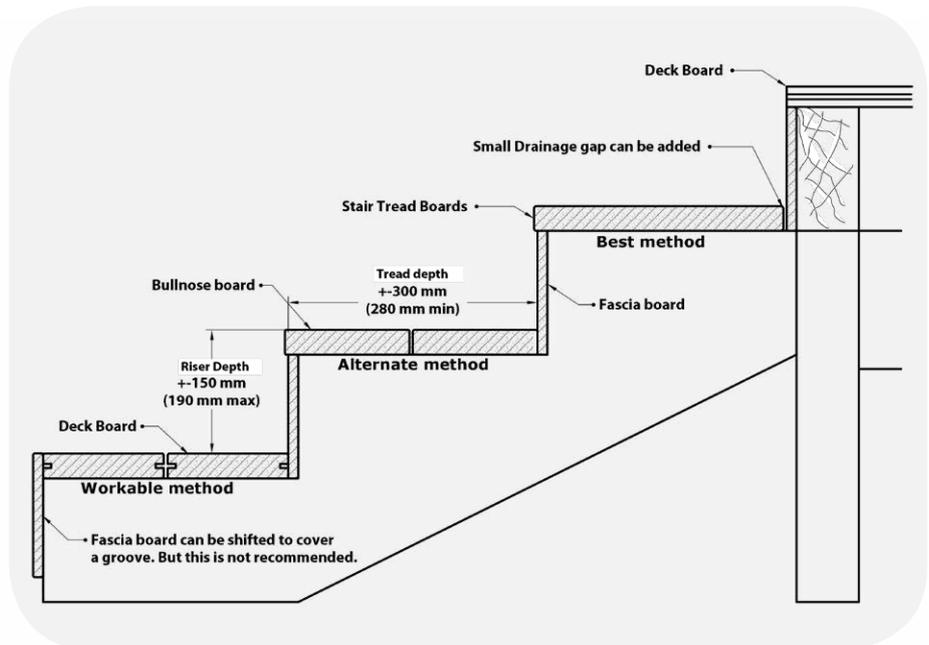
- A water absorbing mat may be necessary around swimming pool surrounds, pool ramps and stairs leading to water.
- Standards Australia HB 198:2014 Table 3B provide guidance for pedestrian surfaces for particular applications.

Safety from falling

Should you have an elevated deck, with stairs, you may require handrails and/or railing, you may need to consult with an engineer on the regulatory requirements for this deck.

External stairs on the access route into a house may provide access to a deck or across a sloping site. If they are part of the main access route to the house, they must comply with NZBC clause D1 Access routes.

The Acceptable Solution D1/AS1 is quite prescriptive, including requirements for stair pitch, riser height, tread depth, projections or nosing, where open risers may be used, stair width, handrails and slip resistance.



For common and main private stairways, the permitted dimensions in D1/AS1 are:

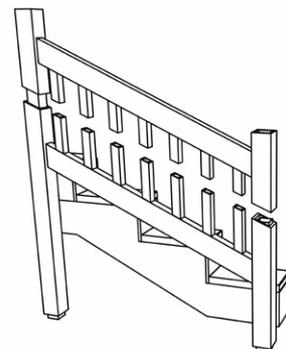
- Maximum pitch – 37°
- Maximum riser height – 190 mm
- Minimum tread depth – 280 mm.

All the steps in a flight must be uniform with the same dimensions and no more than 5 mm variation. All stair treads must have a level surface and a wet and dry slip resistance. The leading edge of closed stair treads may be flush with or project up to 25 mm beyond the face of the riser below. Limiting the number of risers in a single flight to 17.

Safety And Railing (Barriers)

Where required, handrails must have the same slope as the stairway pitchline, be 900 –1000 mm high and have a profile as shown in D1/AS1. Continuous barriers are needed when the deck is:

- 1000 mm height.
- Must be >1000mm height
- Newels may not allow a ball of 100mm diameter to pass through them.
- Horizontal rails may be wider than 15mm
- Top rail must be at least 760mm height from a seat
- There may be no sharp edges or projections that can cause harm.



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(See our separate cleaning and care guide)

1. Introduction

Thank you for choosing Eva-Last[®] decking. You can be assured that you are installing a composite product that is one of the most durable, highest performing and long lasting in its class.

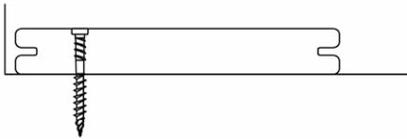
This installation guide was developed to help limit installation faults and workmanship, and to help you complete decking installations that last and conform to warranty specifications. Before beginning installation, please make sure you have registered your product online and that you have read and are familiar with all our warranty terms & conditions.

This installation guide describes the processes involved in building a square, single level deck. Please bear in mind that decks of varying shapes may require different calculations and techniques. Please do not hesitate to contact Eva-Last[®] should you need any technical assistance at any stage of your build.

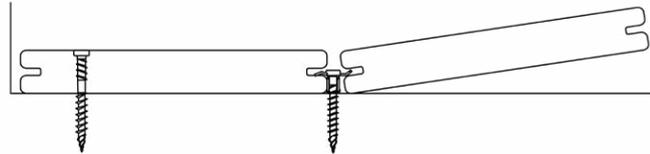


2. Installing your first and last decking board - using a grooved deck board:

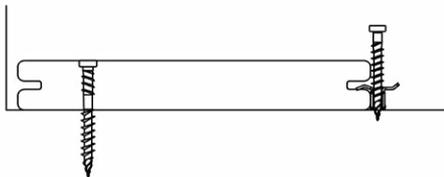
When you install your first board, it is necessary to fasten the first board firmly to the structure, before using hidden fasteners.



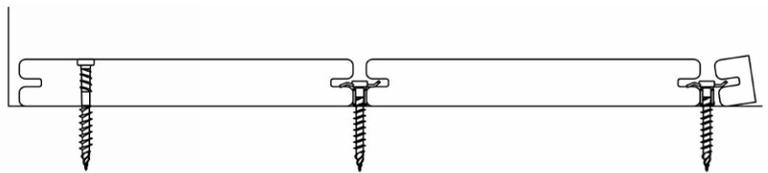
STEP 1: Fasten your first deck board with a starter clip, or composite deck screw. Pre-drilling of screws gives best results, and is required within 50mm of the end of a board.



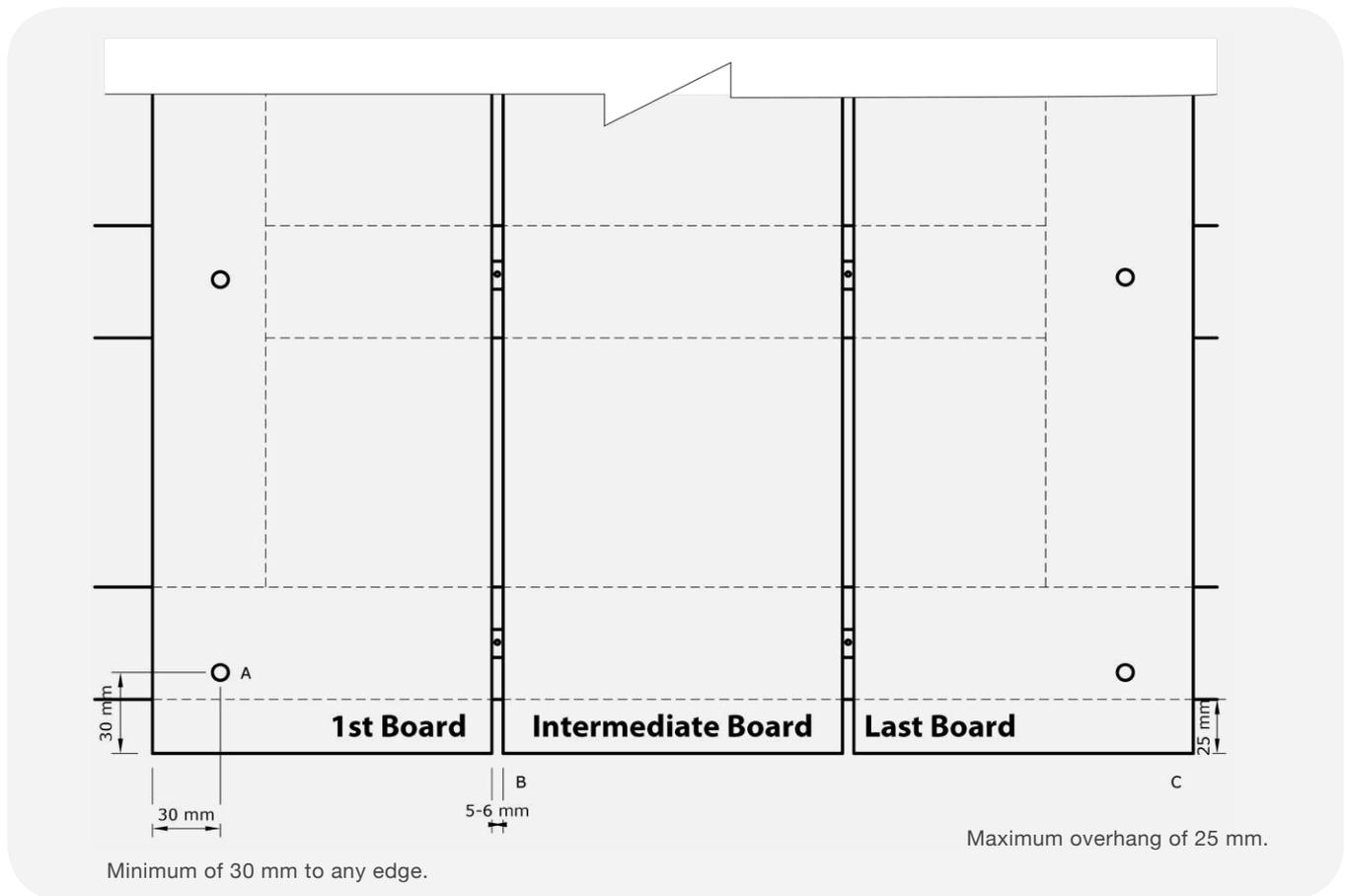
STEP 3: Insert the next board.



STEP 2: Use a hidden fastener in the groove of the board.



STEP 4: Insert the next line of hidden fasteners and follow with the next board.



Note: All fasteners within 50mm on the end of the board requires pre-drilling.

3. HULK fasteners

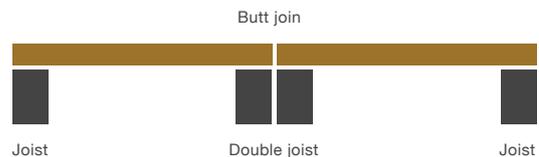
Eva-Last® has developed a range of fasteners that are specially designed to securely fasten the deck boards to a substructure. The coating employed for our HULK fasteners ensure the fixing system supports your deck through out its lifespan.

Recommended HULK fasteners				
Image	Type	Size	Material	Use
	Halo (S9) Clip	N/A	Stainless steel 430 SS	Timber / Metal
	Torpedo clip screw	M4.2 x 42	Stainless steel 305	Timber
	Z-point clip screw	M4.2 x 42	Stainless steel 410 Hardened	Metal
	Composite deck screw	M5 x 63	Stainless steel 305	Timber

4. Span and support

A decks structure is only as good as its weakest part. Make certain that you have the best materials available and that you follow the local building codes. When installing a deck, ensure that all deck board ends are properly supported using joists and fasteners. This also includes using:

- Double joists - for butt joints
- Noggins - for breaker boards
- and ring beams - for curving or odd shaped ends.

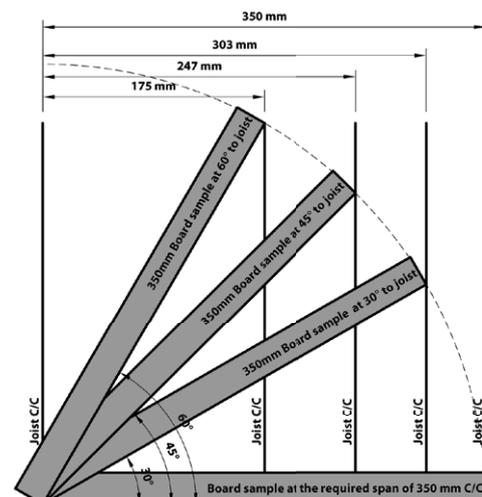


Boards should not be allowed to overhang more than 25mm.

- Try to avoid fastening too close to the edge of the board. Fasteners should not be closer than 30mm to any edge.
- When cutting a deck board, be sure to use a sharp blade.

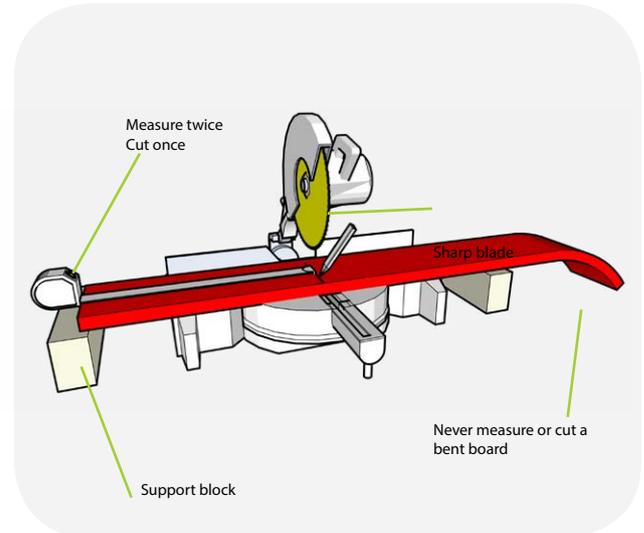
Diagonally installed boards:

Joist spacing for boards at different angles to joist.				
Board types	90°	60°	45°	30°
Solid (23x140)	450mm	380mm	315mm	225mm
Grooved (23x140)	450mm	380mm	315mm	225mm

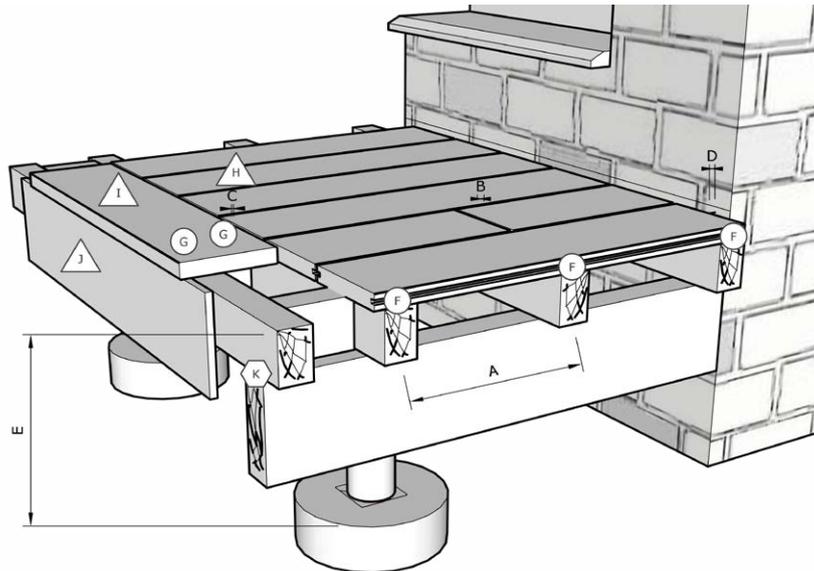


5. Cutting

- The first rule of cutting is to measure twice and cut once.
- Always ensure that the board is properly supported and not arching over the machine, or you will get an uneven cut, the board may pinch the blade, or crack before you've cut through.
- Always measure and mark the board when it is straight and not bent or you will get an inaccurate measurement
- Use a pencil or chalk to mark the boards, for capped boards, chalk or a white marker work (ensure that it is water soluble)
- Always cut with a sharp blade, Capped boards in particular need a sharp blade in case as it may leave an unneat finish.



6. Installation diagram

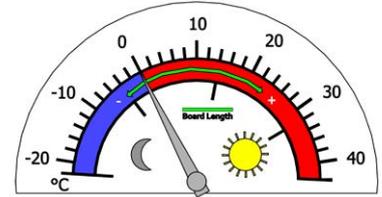


Specifications				
	Description	Grooved Deck board (H)	Solid Deck Board (i)	Fascia Board (J)
A	Maximum joist spacing	450 mm	450 mm	450 mm
B	Expansion gap between butt joints	4 mm (Remember double joists on any butt joints)		
C	Gap between boards	6 mm	6 mm	N/A
D	Ventilation gap between deck and wall	12 mm Minimum	12 mm Minimum	N/A
E	Minimum deck height	300 mm		
F	Hidden Fastener	Halo clip and screw	N/A	N/A
G	Top Fixing	Hulk Composite Screw		

7. Expansion and contraction

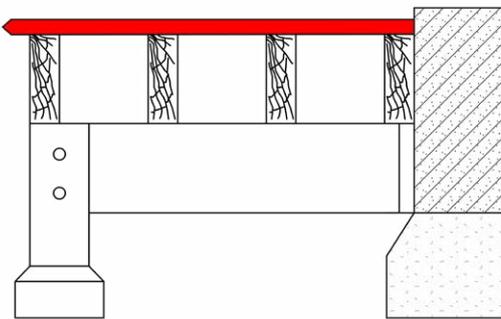
Expansion and contraction throughout the day:

Attempt to limit the difference in ambient installation temperature(s) and anticipated minimum and maximum deck temperatures. The installation expansion gap must be designed to accommodate for where the installation temperature falls on this expected minimum to maximum temperature range.



Controlling board direction:

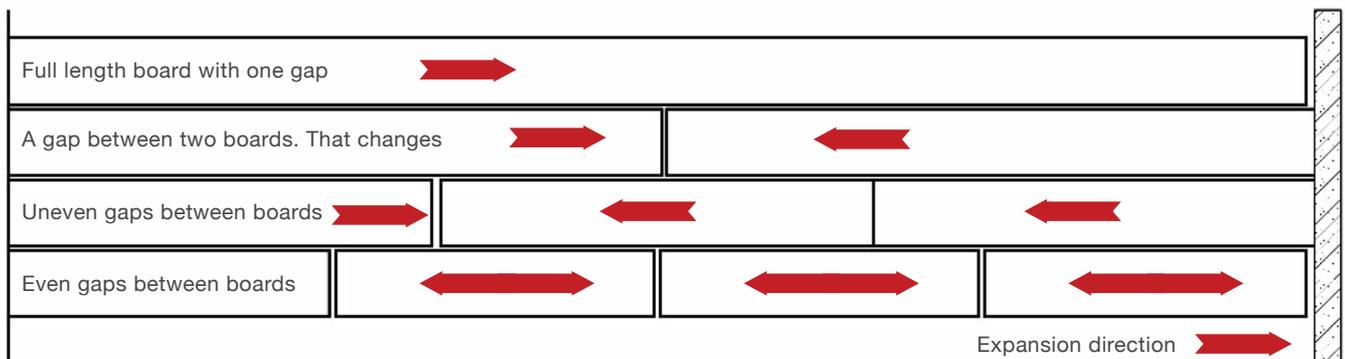
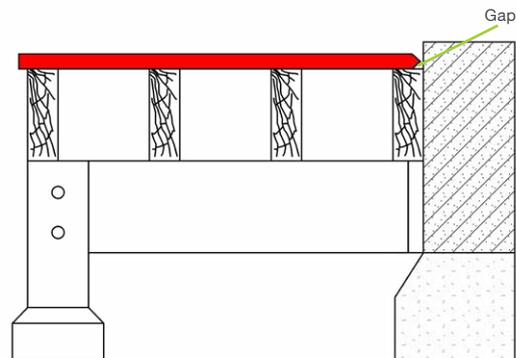
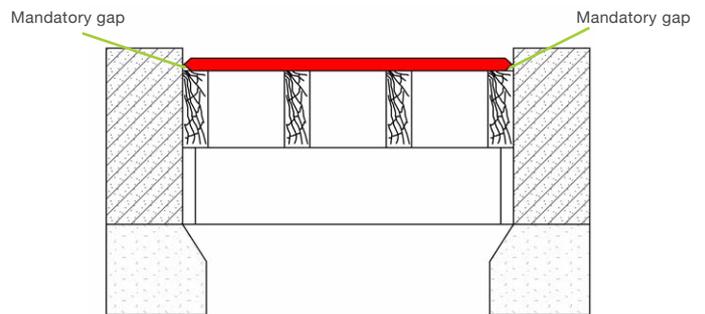
If the board is pressed flush against a wall then it should not be blocked on the other side.



Should the board be pressed against the edge of a wall, then the board will move in the opposite direction.

Should the boards require staggering or butt up against one another, a gap should be left for movement. Should you wish the board edge to remain straight and unchanged. A gap of 12 mm should be left between the wall and the board. A fastener can be used at the edge of the board to ensure that the board only moves forward in one direction.

If both sides are blocked, a gap should be left for the board to move. Should the board be placed between two walls what stop its expansion, a gap must be left to ensure freedom of movement, or the board will begin to bow upward and cause damage.



Note: If you are using Hulk Fasteners expansion may be reduced.

Tip: Beaker boards can be used to give the illusion of straight lines.

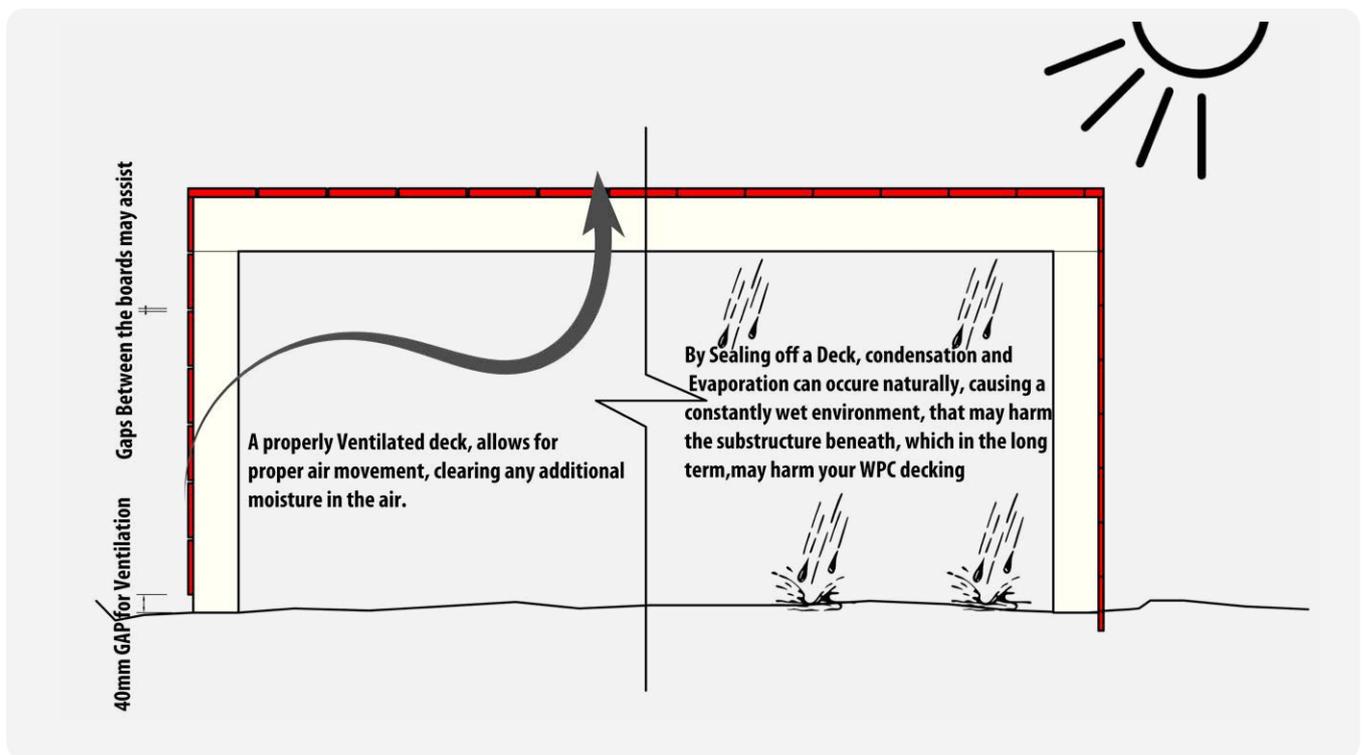
8. Storage and handling

Deck boards can be as long as 5.4 m in length and can weight upwards of 20kg. It is important to take this into account when considering logistics and accessibility to site. Make certain you have a vehicle large enough to bare the weight and length of boards.

When storing on site, try not to store the boards directly on the ground, use a groundsheet if you have no option. A better way to store boards, would be on top of pallets. And try to cover the top of the stack of boards. This will make cleaning boards after construction easier, and will protect all the boards from the elements during long term storage, ensuring that all boards have an equal amount of exposure when they are laid.

Always pack boards securely. Do not over-stack to the point where they may topple over. If there is no choice and storage space is limited. Straps should be used. (Ensure that the blocks on the straps do not scratch against the boards and there corners, by placing them on-top of a cloth, block or piece of cardboard.

9. Ventilation



Ensure the building site allows sufficient deck ventilation and drainage.

Ventilation beneath a deck is important for evaporation and condensation. If water is able to get underneath a deck for any reason it must be able to get out. Composite by nature is a fairly warm material and would promote condensation under a deck if it were air tight. For that reason it is important to leave a (recommended) 40mm gap beneath fascia boards to allow for proper ventilation from beneath the fascia and out through the gaps in the deck boards. Completely sealing a deck would not only have the potential to cause harm to the substructure by constantly leaving it in a wet environment, but also potentially promote the growth of mould.

10. Clean and Care Guide

See our separate cleaning and care guide.



Treasure a greener tomorrow



Eva-Last® provides superior alternatives to timber ensuring a greener future.

Eva-Last® is a globally trusted brand known for its durable and environmentally friendly product range. We offer ultra-low maintenance and highly weather resistant alternatives to timber; reducing the impact on our forests.

- *Made from recycled materials*
- *No trees felled*
- *No staining or varnishing*
- *No toxic chemicals*
- *Reduced impact on landfills*
- *Reduced global footprint*



Forest Stewardship Council (FSC) certification ensures that products come from responsibly managed forests that provide environmental, social and economic benefits. The diverse fauna and flora who share our forests are given the time and space to recover from our use of their environments.