Deck Preparation

See full instructions on **www.wrg.ie** before starting.

DECK CALCULATOR PAGE 69

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Planning Your Deck

Designing and building a deck can be a fun and a rewarding experience. You probably have given some thought as to what you want in a deck, now is the time to really visualise it. What will your deck be used for, relaxing, entertaining, will you put garden seating, BBQ, tables with a parasol on it and how many people might you have on your deck? Will there be children and elderly people using it?

These are the questions you need to look at before starting.

(1) Where will I install the deck?
(2) What size do I want the deck?
(3) Which deck board do I like best?
(4) Decide on what direction you would like the boards to run.
(5) Which substructure will I use: Hardwood, *Steel or Aluminium joists?

**Steel joists >2mm: A hole must be pre drilled in the joist and specific Steel Joist Installation Kits must be used.*

Follow the fitting instructions carefully, see full instructions on www.wrg.ie before starting.

Location and Deck Size

When deciding the size of your deck, look around at the space you have, your house, the size of your garden and what proportion of deck will enhance and improve the look of it. Your deck should have a southerly aspect. Is the ground level or falling? How close to the house do I want it? When deciding on the size of deck you need to take into account that the deck boards are 3600mm in length. You can make a deck any length, but you do not want to have a deck with very short end boards.

Tools Required

Whiteriver Decks can be installed using the same tools that you would you use for fitting any timber deck. • Tape Measure • Electric Saw • Level • Square • Cordless Drill • Building Line • Safety Goggles

General

Composite decking has a composition of 60% timber, 30% HDPE Plastic and 10% Resins / Pigments etc. While the timber element is very stable (it is kiln dried at very high temperatures to remove the cell structure), the HDPE expands and contracts on the length of the board in line with changes in temperature and humidity. **It is necessary to leave a perimeter gap of 10mm around the entire deck and any fixed objects/obstructions and also a 5mm spacing must be left at each short board end to allow for normal seasonal movements.**

Design

Once you have made a decision on the above, now you need to decide on the deck design. A deck that is well designed can do amazing things to your# home. First decide on the direction you would like the boards to run. Will there be steps? Would you like handrails around it? What colour will suit your garden and house best?

Ventilation and Site Conditions

There should be good drainage under the deck,ideally with a 2% fall but minimum of 1.66% (min. 1:60 fall) to let water drain off e.g. a 5 metre deck should have a fall of 100mm over the entire deck. Do not install the decking flat. The ground/substructure should be properly supported - please consult with an engineer if you are unsure. Whiteriver composite decking products CANNOT be directly installed onto a flat surface. It must be installed onto a substructure, so there is adequate and unobstructed air flow under the decking to prevent excessive water absorption.
Good ventilation under your deck is key to it performing well in the long term.

For non screed surfaces, plan a minimum of 100mm (4 inches) of continuous net free area under the decking surface. This is required to allow for adequate ventilation on all deck types so air can circulate freely between adjacent joist members to promote drainage and drying. Air must have an entry point and exit point to the subconstruction.

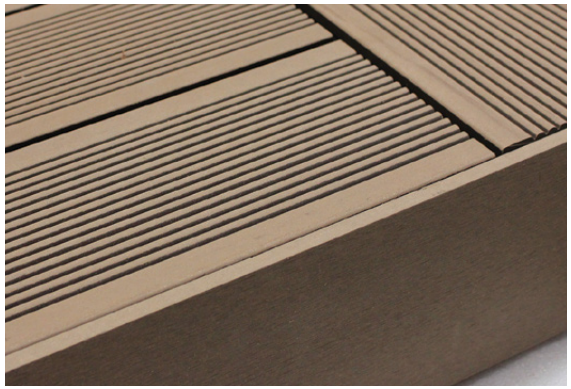
For screed surfaces, we recommend a minimum clearance of 100mm (4 inches) from the ground level. In this case, the joist should be built in two criss cross layers to allow for air movement. For small balcony areas, less than $10m^2$, it is possible to have a lower clearance provided sufficient drainage and air movement can be provided. For balcony projects, we recommend getting the design reviewed by an engineer.

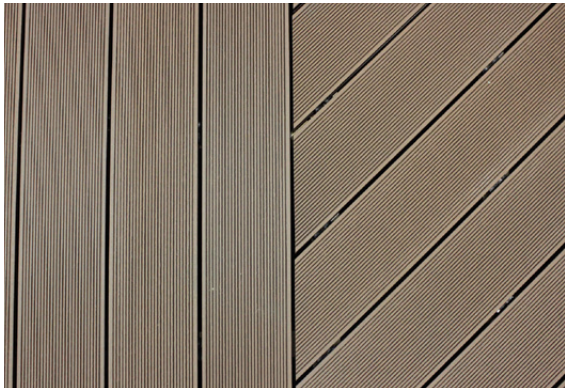
Please note areas that are walled in on all sides are not suitable for deck installation as there will not be enough air movement under the deck. If there is any dampness under the deck, it can lead to mould build up underneath the deck and excessive expansion and contraction in the boards. In summary, it is vital that the area underneath the deck is free draining and per above, adequate ventilation is provided for.

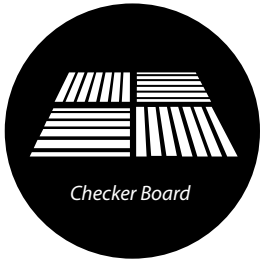
If you require any technical advice, please contact our sales office on
Tel: 041 - 686 1000 or Email: sales@wrg.ie

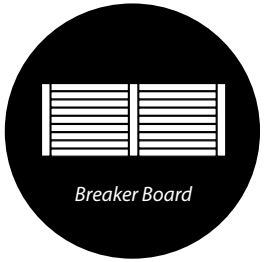
Direction of Deck

There is no correct deck direction, it is purely personal preference but whatever you choose dictates the sub-frame design and configuration. Things to consider: Think about where you or your guests will view the deck. Looking along the length of the boards will make the deck look longer, while looking across the boards creates an illusion of width. Would you rather the deck looked longer or wider? Also, most of our deck boards contain grooves which affect both the slip resistance qualities in particular directions and also the aesthetic of the board. Board lengths are 3600mm long.







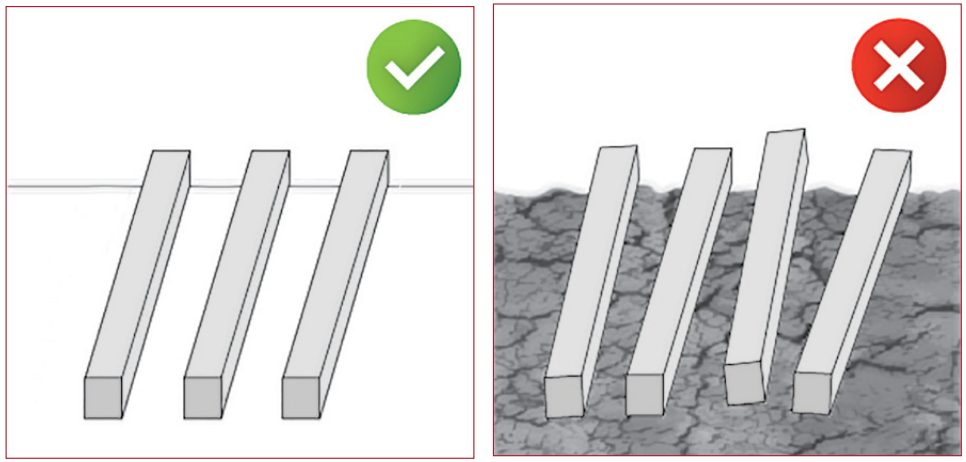


Composite Decking Installation Do's & Don'ts

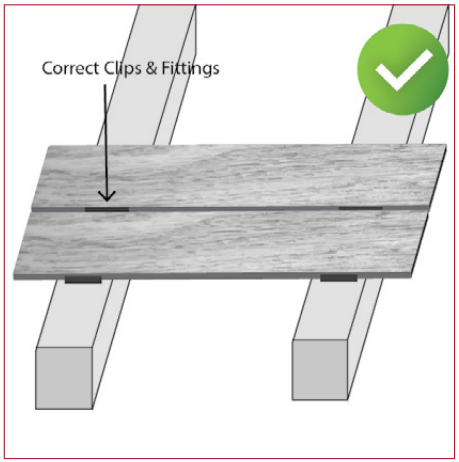
- LEAVE A 10MM GAP AROUND WHOLE DECK TO ALLOW FOR MOVEMENT
- ENSURE THERE IS GOOD AIR CIRCULATION AROUND AND UNDER THE WHOLE DECK ENDS AND SIDES
- LEAVE A 5MM EXPANSION GAP BETWEEN BOARD ENDS AND 10MM EXPANSION GAP AROUND WHOLE PERIMETER
- DOUBLE JOIST WHERE BOARD ENDS MEET. EACH BOARD END SHOULD HAVE ITS OWN CLIP & JOIST
- USE STEEL INSTALLATION KITS FOR FIXING TO STEEL OR ALUMINIUM JOISTS
- USE GOOD QUALITY HARDWOOD JOISTS OR ALUMINIUM. PRE DRILL FACIA BOARDS BEFORE FIXING
- USE RECOMMENDED CLIPS TO SECURE BOARDS TO JOISTS
- PRE DRILL STEEL JOISTS TO RECEIVE STAINLESS STEEL SCREWS
- ACCLIMATISE BOARDS TO THE ENVIRONMENT FOR 3 DAYS PRIOR TO INSTALLATION
- LEAVE A NATRUAL FALL TO ALLOW WATER TO DRAIN AWAY
- USE LOCKING CLIPS TO CONTROL EVEN EXPANSION & CONTRACTION ALONG THE LENGTH OF THE BOARD
- 20MM MAX. OVERHANG FROM JOIST AT DECK EDGES WITH LAST FIXING CLIP MAX 30MM FROM BOARD END
- SCREW DIRECTLY THROUGH BOARDS
- STORE BOARDS ON SOLID OR UNEVEN SURFACES
- INSTALL IN AREAS THAT HAVE WALL ON ALL SIDES
- LEAVE BUTT JOINTED AND CUT ENDS UNSEALED

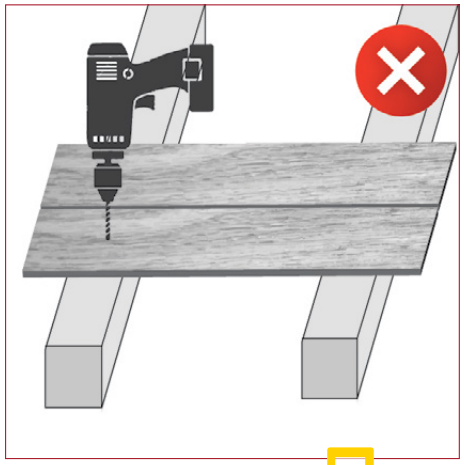
Please read the instructions fully before starting to install. Failure to install composite decking correctly will result in the deck becoming structurally unstable.

A 10mm gap around the whole deck must be left for expansion and a 5mm gap between board ends.

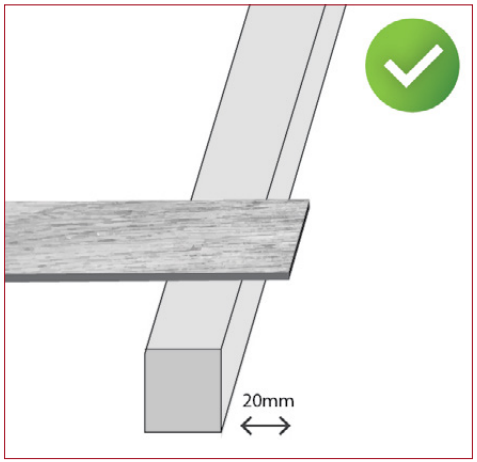


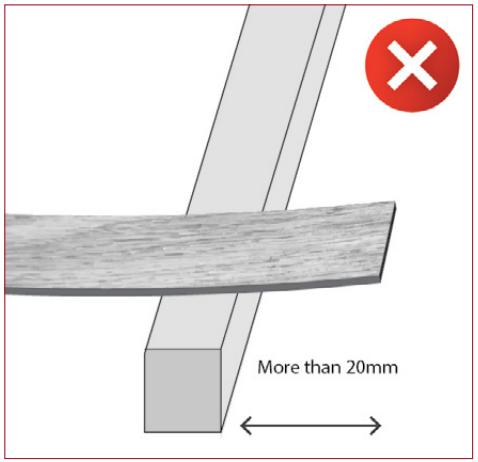
A structurally sound sub frame must be installed ensuring there is no movement prior to fixing boards to the joists. A 2% fall to allow water to drain and a minimum 100mm free air space between the boards and the ground beneath to allow sufficient airflow to prevent the build up of moisture is essential.



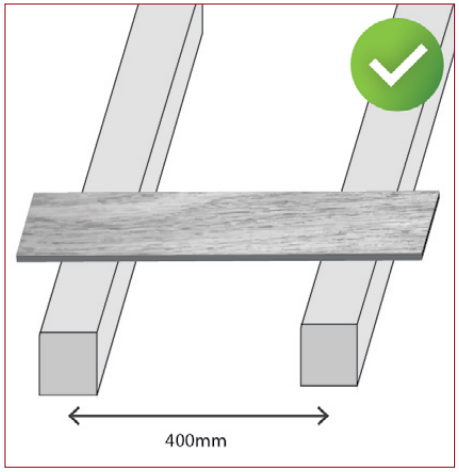


Composite decking should only be installed using correct clips and fixings. Failure to do this will effect the structure of the deck as well as warranty. Never screw directly through the boards. Steel joists >2mm must be pre drilled and specific Steel Joist Installation Kits must be used.



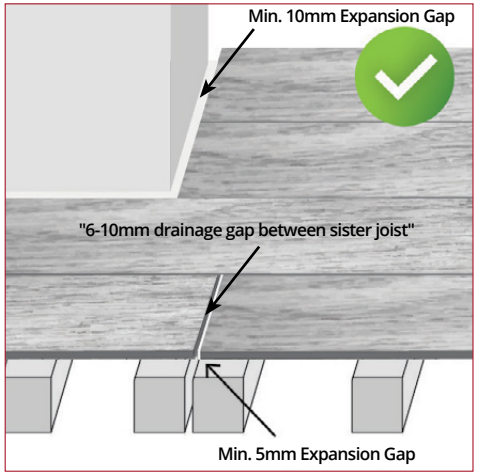


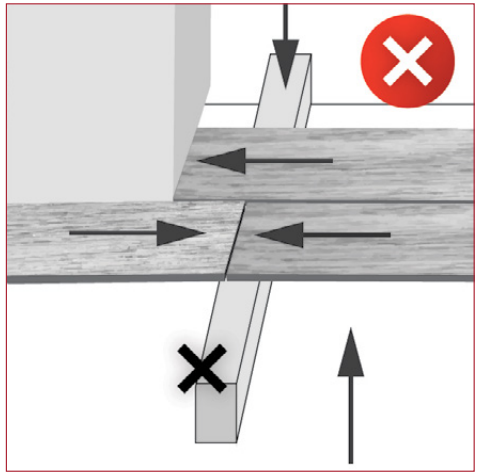
Maximum overhang 20mm.



Joists must be set to a maximum of 400mm centres. This is to ensure stability and also to avoid warping.

Note: 400mm centres are recommended for residential installations, 300mm is recommended for commercial.



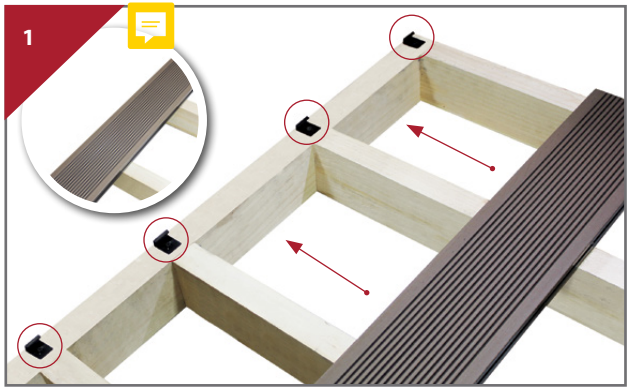


Board ends butted together must be supported by separate joists and have a min 5mm gap for expansion. Failure to do this may result in structural failure and warping. There should be a spacing gap left between the double joists to allow rainwater/debris to fall through the boards.

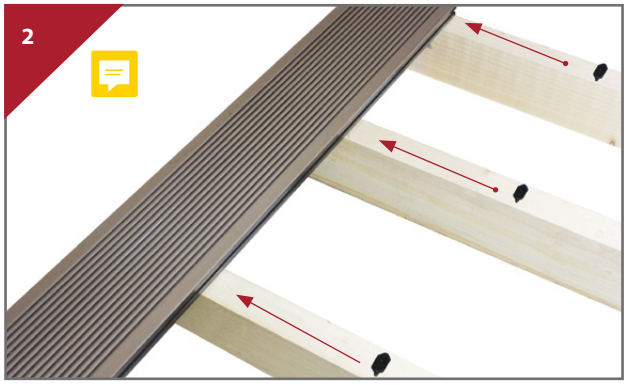
Quick Installation Guide

- Make sure you have ordered enough material, so as not to be short. Allow for about 5% waste.
- Store decking on site for at least 3 days, raised off the ground, lying flat and keep it dry.
- Read the full set of instructions on **www.wrg.ie** before starting.
- Ensure there is adequate ventilation under the deck. Air should have an entry point and exit point to the subconstruction.
- Make sure you allow for expansion of the deck. An expansion gap of 5mm must be allowed where board butt ends meet and a 10mm gap should be left where boards meet fixed points eg. walls, pillars or railing posts. No objects e.g. post and railing systems etc. should be fixed directly to/through the deck as this will prevent seasonal movement. These should be fixed to the substructure.
- There should be good drainage under the deck, ideally with a 2% fall but minimum of 1.66% (min.1:60 fall) to allow for water drainage.
- It is essential to use a locking clip on the joist nearest the centre of every board. This minimises the amount of expansion that the board can do.
- Whiteriver decking is approved for use over joist centres of maximum 400mm/16" (300mm/12" in commercial use).

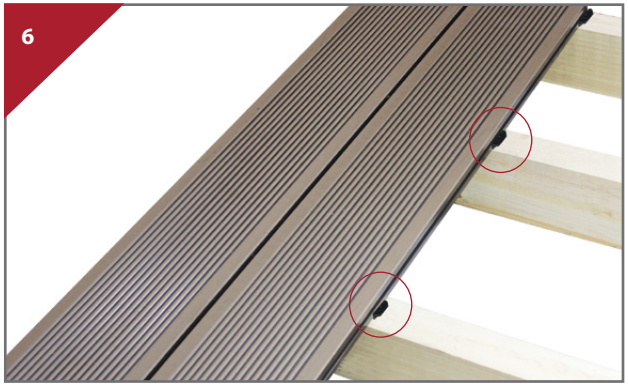
Note: Cantilever / overhang of deck board from joist at deck edges should be no greater than 20mm with the last securing clip no more than 30mm from board end to prevent cupping.



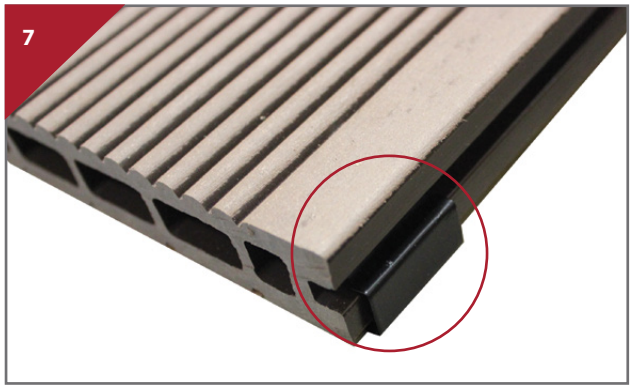
Secure start/end clips in line with each joist. Please note an expansion gap of 10mm must be placed around any fixed objects within the decking e.g. stair case, post brackets and any permanent fixtures that may prevent the decking expanding and contracting naturally. If two end boards meet on a joist use a start/end clip on each board. Hollow deck boards are not suitable for face fixing. Push the first deck board into the start/end clip. Check that the board is straight and fully inserted into the clip.



Insert a standard clip into each deck board in line with joist and screw fully but do not over tighten.



Push the second row of boards into the previous installed row of boards making sure that the deck board grooves are in tight on the clips. Continue to keep inserting clips and boards in this way.

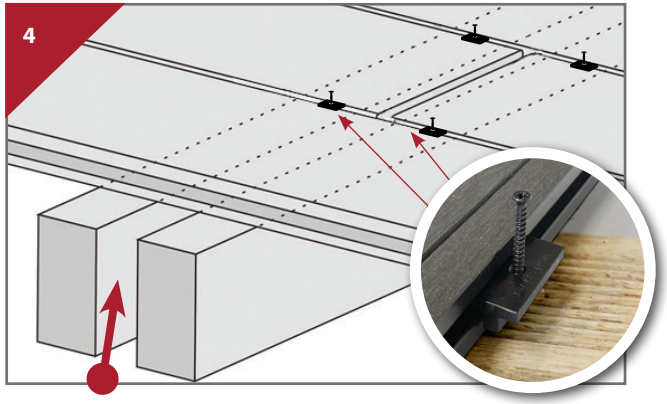


For the last row of boards use a start/end clip in line with each joist. You need to use these clips even if you putting on a fascia board.

3

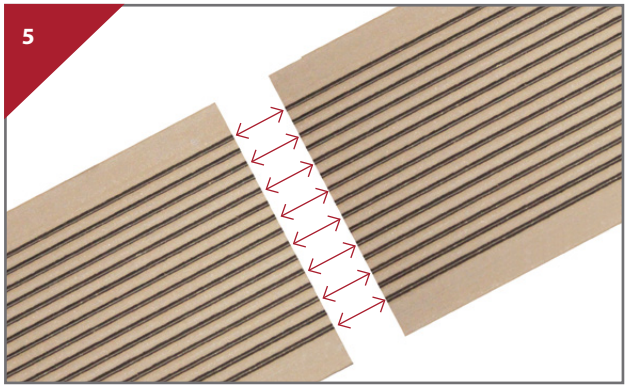
It is very important to install one locking clip per board onto the joist nearest the centre of the board. This helps maintain a consistent expansion gap.
Note: The Clip has teeth on one side only. Each board should only be caught once with the teeth.

4



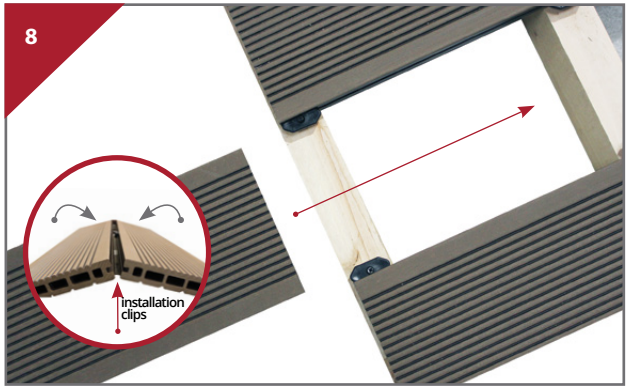
All clips should be on their own independent joists i.e. when butt jointing boards, sister joisting must be used so that each individual board is on its own joist to ensure that the board will not slide off the joist, failure to do so will void the warranty, as shown in Diagram 5. Also there needs to be a minimum of 6mm between the sister joists for water to go down between the joists or swelling could occur at the ends. UltraShield board ends meeting across sister joists should be sealed with a polyurethane matt exterior varnish to prevent swelling, cupping and splitting.

5



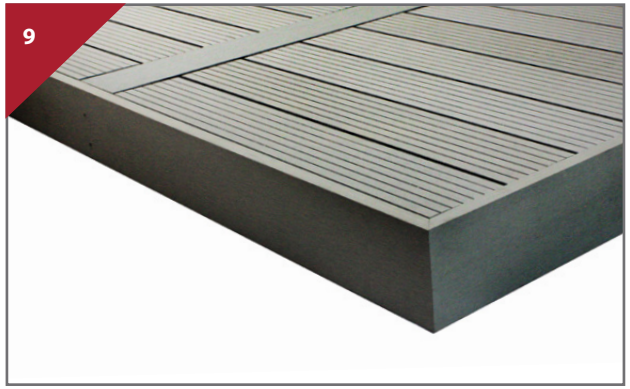
When butt jointing boards along the length of the deck you must double joist and leave a 5mm gap for seasonal expansion and contraction - see diagram 4. Boards must not meet across one single joist and must be sealed to prevent swelling, cupping and splitting - see diagram 11.

8



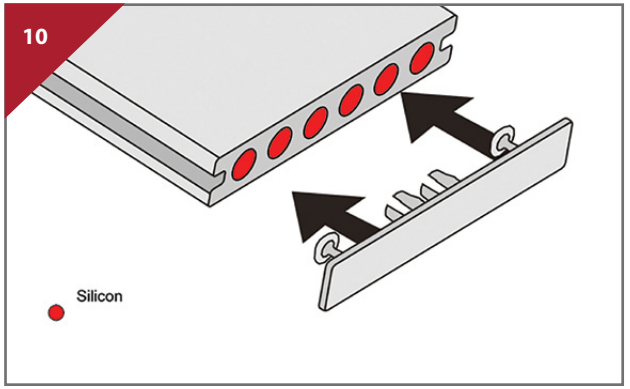
If not framed by wall or building on each side, the second last row of boards can be slid into position after you have fixed the last row and the clips for the second last row have been fixed into position. If a wall or house prevents sliding the board in, fix the last board using the start/end clip. Next insert fixing clips into groove of board and then slide them along with a screwdriver into position. (See Insert)

9



You can use a solid fascia plank for a great looking finish. It is very important to predrill all composite material prior to fixing with a hole slightly bigger than the screw. Fix in two stainless steel screws into the substructure at intervals of 300mm – the fascia board must be pre drilled and fixed to a solid timber plank in all areas (not directly to the butt ends of exposed joists). **You must leave a minimum 40mm gap between the bottom of the fascia and the ground to allow for ventilation.**

10



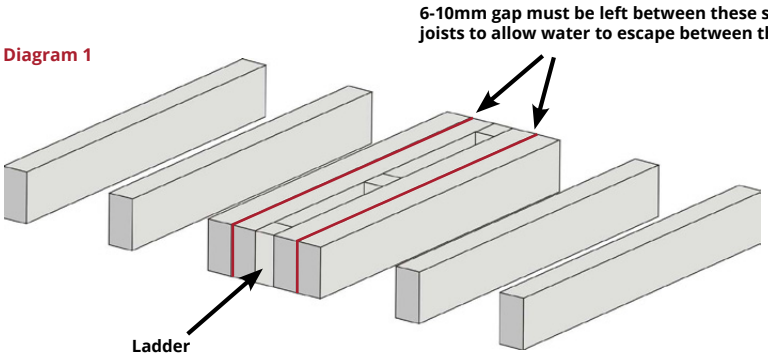
Moisture can penetrate to the core in the end-cut area and could cause swelling, cupping and cracking at the edge area. Our end pieces are made from durable material with high impact resistance under harsh weather conditions. To prevent moisture penetration we recommend:
Nevada solid board: Seal all cut ends with a water based polyurethane matt exterior varnish to the full surface of all end-cuts.
Hollow boards: End Pieces should be installed at the end-cut and sealed all round with outdoor silicone sealant.

Breaker Board Installation

Diagram 1 and 2 below show how framework and installation of the breaker board respectively. Diagram 1 framework uses a ladder joist installation where the user is building a frame perpendicular for the board that will be running down it.

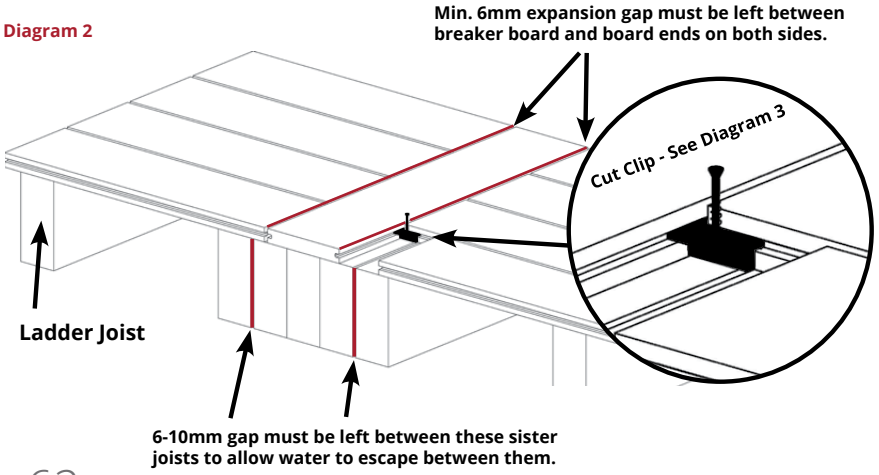
Note: The T-Clip can be used as a breaker board clip by cutting it as shown in Diagram 3.

Diagram 1



Important: All board ends meeting the breaker board should be sealed with a water based polyurethane matt exterior varnish to prevent moisture penetrating the core which may cause swelling, cupping or cracking on the edge area.

Diagram 2



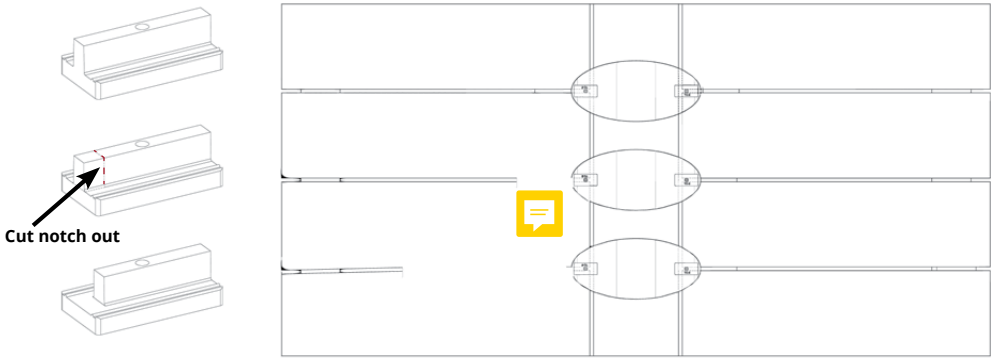
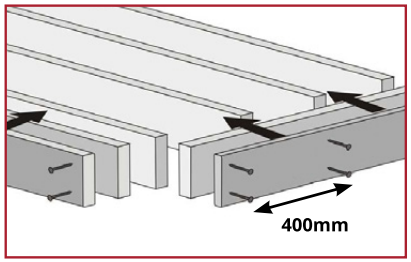


Diagram 3

Note: DIAGRAM 3 Above view of completed breaker board with T-Clips cut.

Fascia Board Installation

Installing against the width and length of decking



Fascia boards need to be installed on 300mm centres to prevent warping or buckling. All fascias need to use two screws 40mm away from the ends regardless of the thickness.

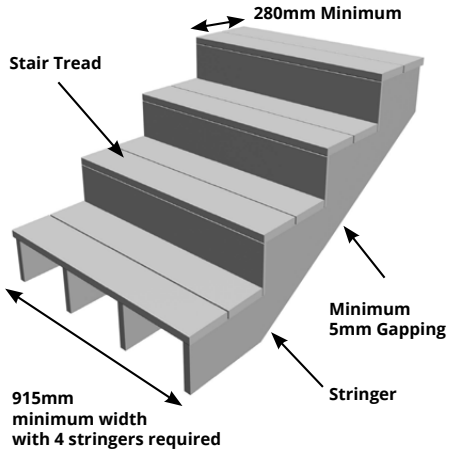
First, pre-drill the holes for the fascia board. The fascia board should be drilled with slightly bigger holes than the screws or routed to allow for expansion and contraction and fixed either at either end or in the middle. When fixing bigger holes, it is recommended to use washers. The fascia board will be installed into the block wood and through the joist.

Note: NEVER install the fascia by drilling into the decking ALWAYS install the fascia into the joist and ALWAYS pre-drill the fascia board
Good ventilation under the deck is key to it performing well in the long term.
DO NOT close off air flow around the perimeter of the deck by fixing fascia too close to the ground.

Stair Tread Installation

Stair treads must meet requirements by Government Building Standards - please consult Department of Housing, Planning and Local Government.

A minimum of four (4) stringers are required. Overhang on a stair tread should not exceed more than 16mm.



First, determine how many boards your stair is going to take to finish (including clip spacing of 6mm between boards) and then you can start to measure where the starter clip will go. Use a white chalk line (NEVER USE COLOURED CHALK) to ensure that all starter clips are lined up on each joist as shown in **Diagram 1.**

Note: The stair tread board can only cantilever/ overhang 16mm. If this is exceeded the warranty will be voided.

Place stair tread board over all the starter clips and push down as shown in **Diagram 2.**

Now that the starter clips are inside the underside of the stair tread, the final step is to push forward to ensure that it is secured into place as shown in **Diagram 3.**

Now take the next board and have it situated behind the stair tread board as shown in **Diagram 4.**

Slide the clips into the two grooves and glide them along until they are on their respective joists and then screwing down onto the joists as shown in **Diagram 5 & 6.**

Finally, finish your last board by face fixing into the board at every joist as shown in **Diagram 7**.

Note: Remember to pre-drill before face fixing into the board. Also face fixing must happen at a 90 degree angle and must be at least 40mm by 40mm from the ends and the width of the board.

Diagram 8 shows a completed staircase from the side to get a better idea of how the final installation will look.

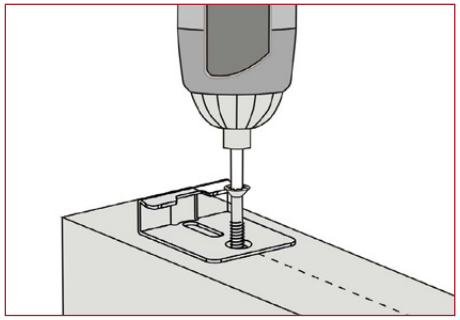


Diagram 1

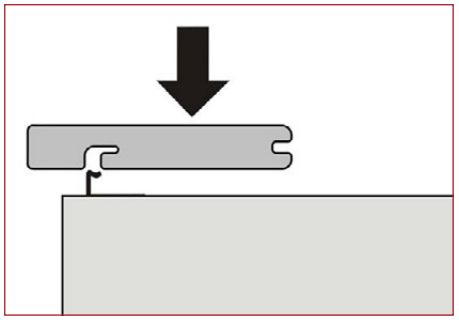


Diagram 2

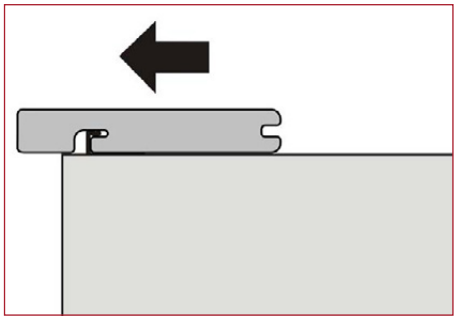


Diagram 3

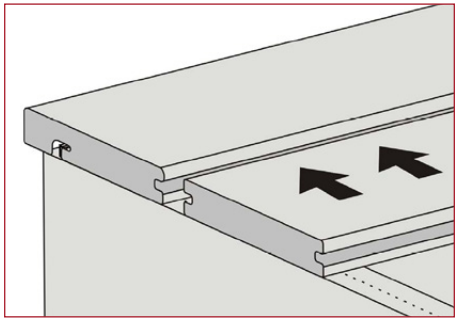


Diagram 4

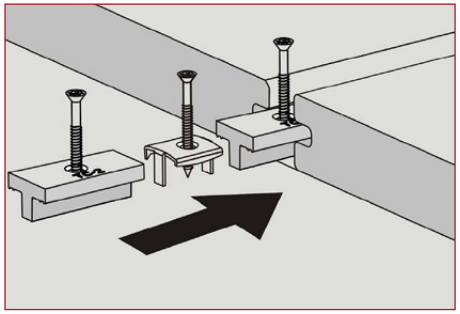


Diagram 5

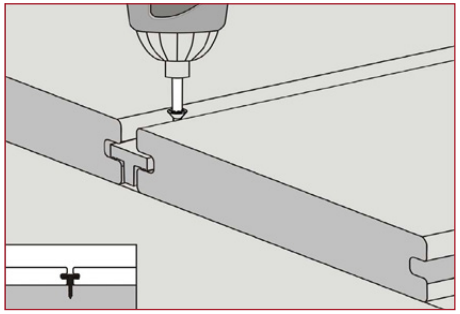


Diagram 6

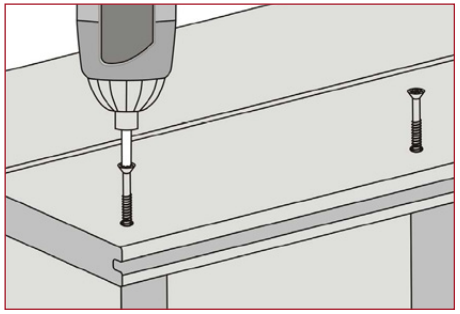


Diagram 7

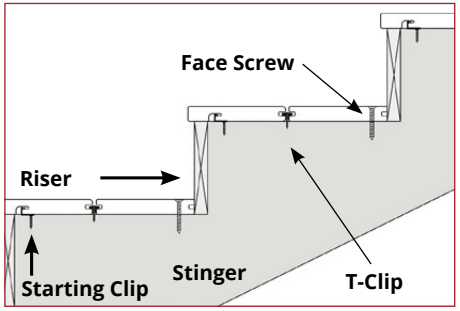


Diagram 8

F.A.Q.'S

IS WHITERIVER DECKING REALLY LOW MAINTENANCE?
Yes there is no need for any annual treatment but your deck needs to be cleaned regularly. See Care & Maintenance for further information. For the best maintenance its advised to wash with a power washer.

DO WHITERIVER DECKS REQUIRE VENTILATION & DRAINING?
Yes, it is similar to timber and it needs ventilation to the subconstruction to dry out after getting wet. Air should have an entry point and exit point to the subconstruction. A lack of ventilation can cause the deck to swell over time.

DO WHITERIVER DECKS SPLINTER?
Whiteriver decks do not splinter.

DO WHITERIVER DECK BOARDS CUT LIKE WOOD?
Yes you can use the same tools that you would use for a wooden deck.

DOES WHITERIVER DECK COST MORE THAN WOOD?
In the short term it does, however when you compound the maintenance you have to do on wood every year the costs really add up. In a short time you will be able to see all the time and money you would have saved by using Whiteriver Decking.

HOW IS THE DECK SECURED?
With hidden clips, see fitting instructions.

WHAT JOIST SPACES DO YOU USE?
For domestic decks we recommend 400mm centres and for a commercial deck or heavy traffic area we recommend 300mm. For elevated decks above ground level of 400mm, we recommend centres of 300mm.

WILL THE DECK FADE BECAUSE OF SUN EXPOSURE?
You can expect that there will be minor fading of up to 20%. The majority of this will happen over the first 10-12 weeks.

IS WHITERIVER DECKING IMPERVIOUS TO MOULD?
Whiteriver decking has mould inhibitors that prevent mould growing on the inside of the board. Surface mould can still happen, however it will never penetrate the board itself. Mould and mildew can be washed off.

DOES WHITERIVER DECKING HAVE A WARRANTY?
Yes, there is a 10 year residential limited warranty on our Portland range and 25 year residential limited warranty on our UltraShiled ranges. See website for full details www.wrg.ie

WHAT SHOULD I DO WITH THE SCRAP PIECES?
We recommend that you can use these in a variety of ways such as making planters, sand boxes, raised flowers beds, shelving etc.

CAN THERE BE STAINING?
Staining can occur thus it is important to clean up any spillage as soon as it happens.

CAN I FIX DECK TO STEEL?
Yes you can but please bear in mind that steel can expand and contract. Specific Steel Joist installation kits are available and joists must be pre drilled. Please see detailed fitting instructions to find out more on www.wrg.ie.

HOW DO I FIT HANDRAILS?
Handrails and posts must be fixed to the substructure - see detailed fitting instructions on www.wrg.ie.

IS IT SCRATCH-RESISTANT?
Whiteriver deck can present some scuff marks and scratches if negative contact is made. We recommend using castor cups under furniture legs.

HOW SHOULD I STORE AND HANDLE MY DECKING?
Whiteriver decks should be stored on site for at least 3 days before fitting in a dry flat area and under cover.

CAN STATIC OCCUR?
Static electricity is a naturally occurring phenomenon and may occur on composite decks depending on environmental conditions. Static in composite boards will generally decrease as boards age. Dryer vents and heat pumps in the area of the decking may also contribute to the generation of static.

DECK CARE AND MAINTENANCE

GENERAL CLEANING: Keep it clean and your Whiteriver composite decking will reward you with years of low maintenance pleasure. Periodic cleaning of Whiteriver composite decking is suggested, even if it appears clean, as it is important to prevent the build-up of pollen / debris that can cause mould. If unsure about the product being used to clean / remove stains from your deck, it is recommended that you test a small area in an inconspicuous place to determine if the product will cause any unwanted discolouration. Below is a more detailed instructions for taking care of your deck.

DIRT, GRIME AND DEBRIS
Whiteriver recommend cleaning your deck on a regular basis in order to remove debris, pollen, and dirt. Surface debris should be sprayed off with a hose. Normally all you need is a soft non-metal deck brush, warm water and a mild household cleaner such as liquid soap or WOCA Exterior Cleaner. Scrubbing in the direction of the grain is best to remove dirt and debris. Thoroughly rinse off with a garden hose. If there is heavier dirt, you can use a low bar pressure washer with wide fan tips at a safe distance using a maximum pressure of 1500psi at a minimum distance of 300mm (12"). Always wash in the direction of the grain along the length of the board.

MOULD AND MILDEW
Mould and mildew are very common and occurs periodically in everyday environments. Therefore, surface mould and mildew can appear on the deck if decaying organic materials such as, but not limited to, wood, leaf and pollen are present along with elevated temperatures, air and water. Therefore, we can only minimise the occurrence by removing these decaying organic materials as quick as possible. If mould and mildew are present use warm soapy water or WOCA Exterior Cleaner and a soft non-metal scrub brush to clean. It will help avoid staining and minimise the growth of mould and mildew.

TANNINS / STAINS
Tannins can form when organic material gets stuck within the gaps of the deck and water starts to pool under it. Therefore, it is best to remove the debris within gaps with a garden hose, spatula, or soft brush. Keeping the gaps clean will reduce the chances of tannins forming, leaving your deck cleaner.

OIL, GREASE OR FOOD
All oil / grease / food spills must be removed promptly. To clean use warm soapy water and a soft non-metal scrub brush. Oil and grease may require an all-purpose cleaner if warm soapy water and soft non-metal brush do not work. There are several commercial cleaners available for oil and grease. Try cleaning first in an inconspicuous place and ensure you are happy before proceeding. Be sure to check with manufacturer's on which cleaners are appropriate to use on your deck.

PROTECTION
We suggest a mat under your BBQ to protect from grease stains, and plastic protectors under metal furniture or planters to prevent gouging and potential rust stains.

WEATHERING
As Composite Decking is a wood based product it can experience a natural process which is called Extractive Bleeding. This can cause a temporary discolouration of the deck which will weather away. It can take 10-12 weeks for this to happen depending on the location etc.

SNOW AND ICE
As with any outdoor surface, Whiteriver decks can become slippery in winter weather. Take extra care when walking on wet, icy and snowy conditions. Use calcium chloride or rock salt to melt the snow and ice. Build-up of calcium chloride or rock salt may occur leaving a white residue, which can be easily removed with warm soapy water and a soft non-metal scrub brush.

SCRATCHES AND HEAVIER STAINS
(Portland Range only)
Scratches or difficult stains can be removed by using a wire brush or sanding with 80-100 grit sandpaper. When brushing always run with the grain. It will take 8-10 weeks for the repaired area to blend back in with the rest of the deck.

MASONRY CONSTRUCTION
During masonry construction, renovation or painting the deck must be covered AT ALL TIMES preferably with a sheet of tarpaulin or construction grade plastic film. Mineral deposits, left over from construction, can mix with water and evaporate leaving deposits behind which create a white or haze on the deck surface. To prevent this ensure that masonry / cement construction is set properly before ever installing the decking material.

If mineral deposits are left on the deck surface, regular maintenance is required in order to maintain the original look of the deck.

IRREGULAR HEAT SOURCES / FIRE
Composite decking has the tendency to retain heat whenever presented directly or indirectly with it. Irregular heat sources, such as, but not limited to fire pits, fire places, barbecue grills, and fire may damage the surface of the decking. Proper caution should be taken with irregular heat sources and fire to ensure no damage occurs to the deck.

STATIC
Static electricity can be reduced with the use of Heavy Duty Staticide which is a non-toxic clear treatment residual substance on the deck.