castlewood

Ultraguard Composite Decking Installation Guide

v20231201US

IMPORTANT: Read All Sections Before You Start

For the most up to date information, please visit our website @ www.Castlewood Deckingdecking.co.uk

Prior to installing Castlewood Ultra Guard composite decking, it is recommended that you check with local building codes for any special requirements or restrictions. The diagrams and instructions outlined in this guide are for illustration purposes only and are not meant or implied to replace a licensed professional. Any construction or use of Castlewood Decking must be in accordance with all local zoning and/or building codes. The consumer assumes all risks and liability associated with the construction and use of this product.

Safety

When dealing with any type of construction project, it is necessary to wear appropriate safety equipment to avoid any risk of injuries. Castlewood recommends, but not limited to, the following safety equipment when handling, cutting, and installing Castlewood Decking: gloves, a respiratory protection, long sleeves, pants, and safety glasses.

Tools

Standard woodworking tools may be used. It is recommended that all blades have a carbide tip. Standard stainless steel or acceptable coated deck screws and nails are recommended.

Environment

A clean, smooth, flat, and strong surface is needed to install Castlewood Decking's products correctly. Please check with local building codes before ever installing any type of decking. If installation does not happen immediately, Castlewood Decking should be stored on a flat surface at all times. It should Never be put on a surface that is NOT flat.

Planning

Plan the layout of your deck before starting to ensure the best possible results. We recommend drawing out a plan of your proposed project to minimise errors and make your deck perfect. Safety When dealing with any type of construction project it is necessary to wear appropriate safety equipment to avoid any risk of injuries. Castle Composites recommends the following safety equipment when handling, cutting and installing Castlewood Decking: Gloves, Respiratory Protection, Long Sleeves, Trousers, and Safety Glasses.

Cleaning

Decking can be Pressure washed to clean, Test on a sample piece of material to make sure that it does not damage the Ultraguard coating before using it on the actual installation.

Construction

Castlewood Decking is not intended for use as columns, support posts, beams, joist stringers or other primary load bearing members. Castlewood Decking must be supported by a solid substructure. While Castlewood Decking is great for replacing old deck surfaces, it cannot be installed on top of existing deck boards. Tools Standard woodworking tools may be used. It is recommended that all blades have a carbide tip. Standard stainless steel or acceptable coated deck screws and nails are recommended. Routing Castlewood Decking comes with all grooves already routed and no further routing should be carried out.

Static

Static can also be more prevalent in areas that are of higher altitude because the humidity is lower. For these areas, be careful of using conducive objects such as metal railing and chairs as static shocks might occur more often. A potential way to lower the amount of static shocks occurring is to apply Staticide (www.aclstaticide.com) on your deck or use anti-static mats before doorways. Castlewood Decking's products have been tested against EN 1815 - Assessment of Static Electrical Propensity and have received values under the maximum standard of 2kV.

Ventilation

Castlewood Decking products CANNOT be directly installed onto a flat surface. It must be installed onto a substructure that is made into a frame, so there is adequate and unobstructed air flow under the decking to prevent excessive water absorption. If there is excessive water absorption to any area that does not have the protection of the cap layer, there could be some swelling that occurs. A minimum of 4 inches of continuous net free area under the decking surface is required for adequate ventilation on all decking, so air can circulate between adjacent members to promote drainage and drying. In the case that installation is below 4 inches, it is recommended to look up the maximum rainfall of the area to determine what height would need to built to ensure no fooding of the deck occurs. If the rainfall is determined not to food the deck, a slope of 1-2% must be used on the frame towards the direction of the drainage to ensure that there is no free standing water. If the deck is built below 4 inches without a slope, the areas without the protection of the cap layer could swell on the ends.

Heat and Fire

Excessive heat on the surface of Castlewood Decking products from external sources such as but not limited to fire or refection of sunlight from energy efficient window products. Low-emissivity (Low-E) glass can potentially harm Castlewood Decking products. Low-E glass is designed to prevent passive heat gain within a structure and can cause unusual heat build-up on exterior surfaces. This extreme elevation of surface temperatures, which exceeds that of normal exposure, can possibly cause Castlewood Decking products to melt, sag, warp, discolour, increase expansion/contraction, and accelerate weathering.

Current or potential Castlewood Decking customers that have concerns about possible damage by Low-E glass should contact the manufacturer of the product which contains Low-E glass for a solution to reduce or eliminate the effects of reflected sunlight.

Acclimate

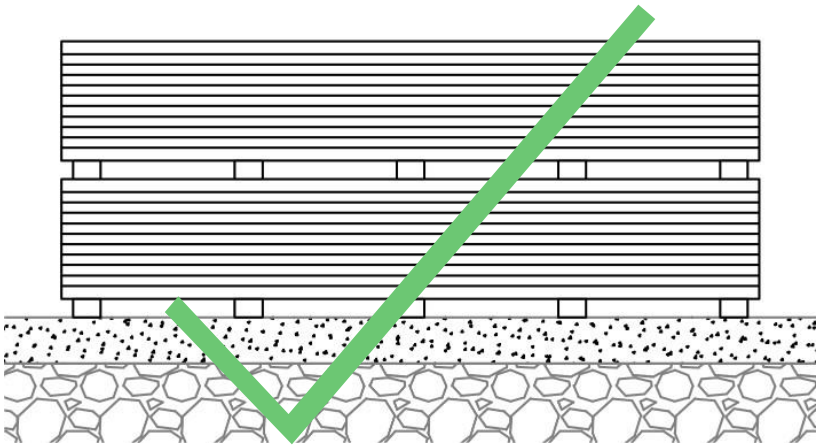
Acclimating at least 2 days prior to installation is recommended.

Acclimating the boards will get rid of any unwanted shrinkage issues seen during and after installation.

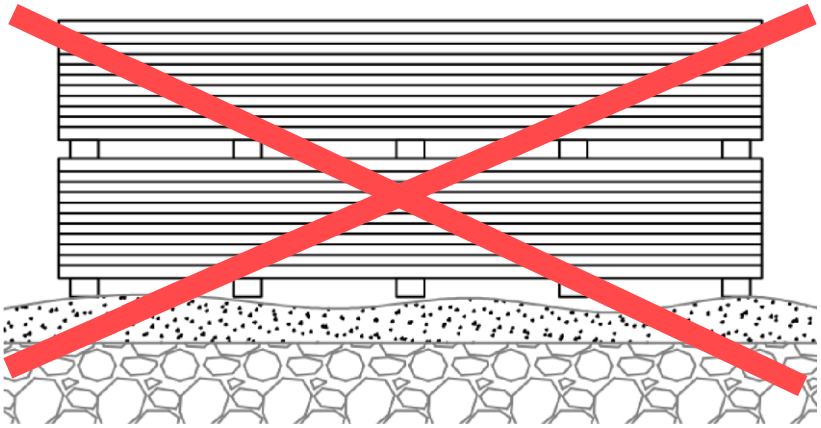
Note: Always remember when allowing the boards to acclimate at the job site it is important to place on a flat and even surface. If placed on an uneven surface there is a possibility that the boards could warp to the shape of the terrain.

Storage

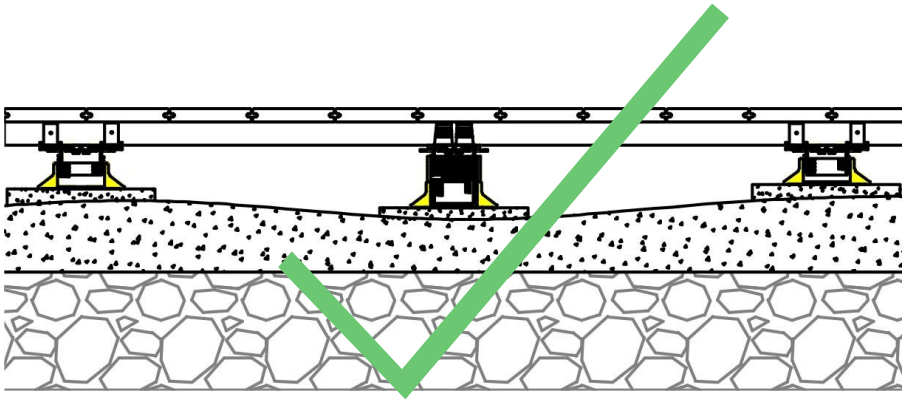
Castlewood Decking's products always need to be stored on flat solid surfaces. Surfaces such as dirt and grass are not sufficient as they can move over time.



Castlewood Decking products shown above put on a flat surface on joists, this is the correct way for storage.



Castlewood Decking products shown above on an uneven surface which will make the products prone to warping and distortion.



Castlewood Decking products shown above can be on pedestals or jacks if the surface is uneven. Consult with the pedestal or jack manufacturer before using the product to ensure its compatibility with Castlewood Decking's products.

Framing

First determine the decking span. i.e. How far apart your joists will be. Adequate spacing of the joists is required to keep the deck boards from bending. For commercial applications your joists should be spaced, at a maximum, every 300mm. For domestic/residential applications your joists should be spaced, at a maximum, every 400mm. The frame needs to be completely level before installing any boards.

Expansion and Contraction Values

Expansion and contraction needs to be taken into consideration when installing any wood-plastic composite. It's a natural tendency for objects to expand and contract from changes in temperature. We have taken this into consideration and created a clip system which will ensure your deck experiences zero warping or distortion after installation so that you can enjoy the perfect deck every day. We generally recommend placing the TC-1 clip at the centre of your layout to allow expansion to take place at either side. An expansion gap of 4-5mm should then be left at both ends of the boards to avoid warping or distortion due to expansion and contraction. We recommend a 12mm gap be left around the outer perimeter for your deck for thermal movement and ventilation.

Locking Clip Installation

When installing boards one full length across the deck, we recommended locking the board in the middle to allow for even expansion and contraction to take place on both ends as shown in Diagram 5.

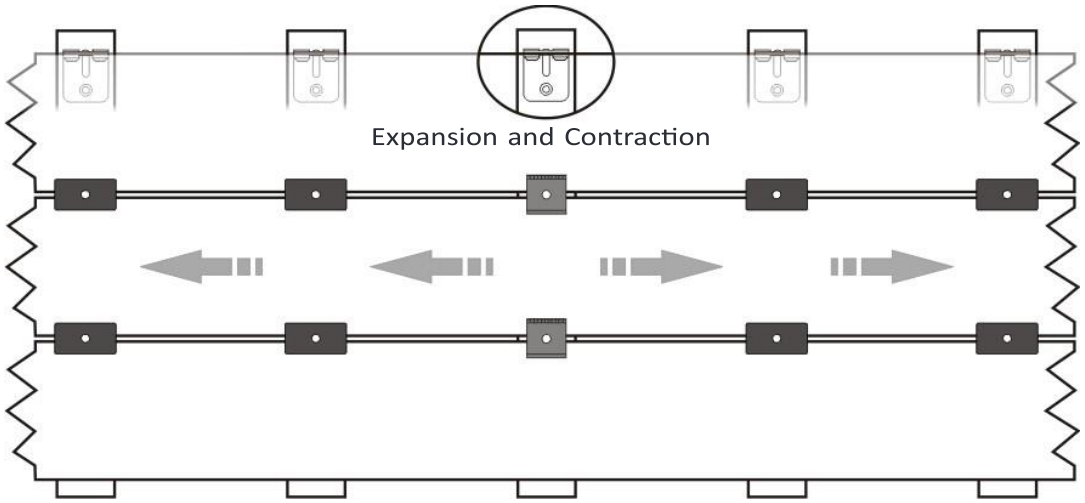


DIAGRAM 5

The below shows the recommended installation methods using breakers boards and picture framing the decking. Locking clips should be placed as close as possible to the middle joist of each board as shown in Diagram 6A and Diagram 6B.

If you plan to install without breaker boards or picture framing in a brick style fashion it is recommended that you contact your local distributor or the manufacturer for further instructions. Installing with a brick style could potentially give large gaps between butt ends due to the products expansion and contraction rates. It could also make the ends of the deck flare or swell if water is not properly drained on the joist specifically at a butt end where sister joists with a gap should be used.

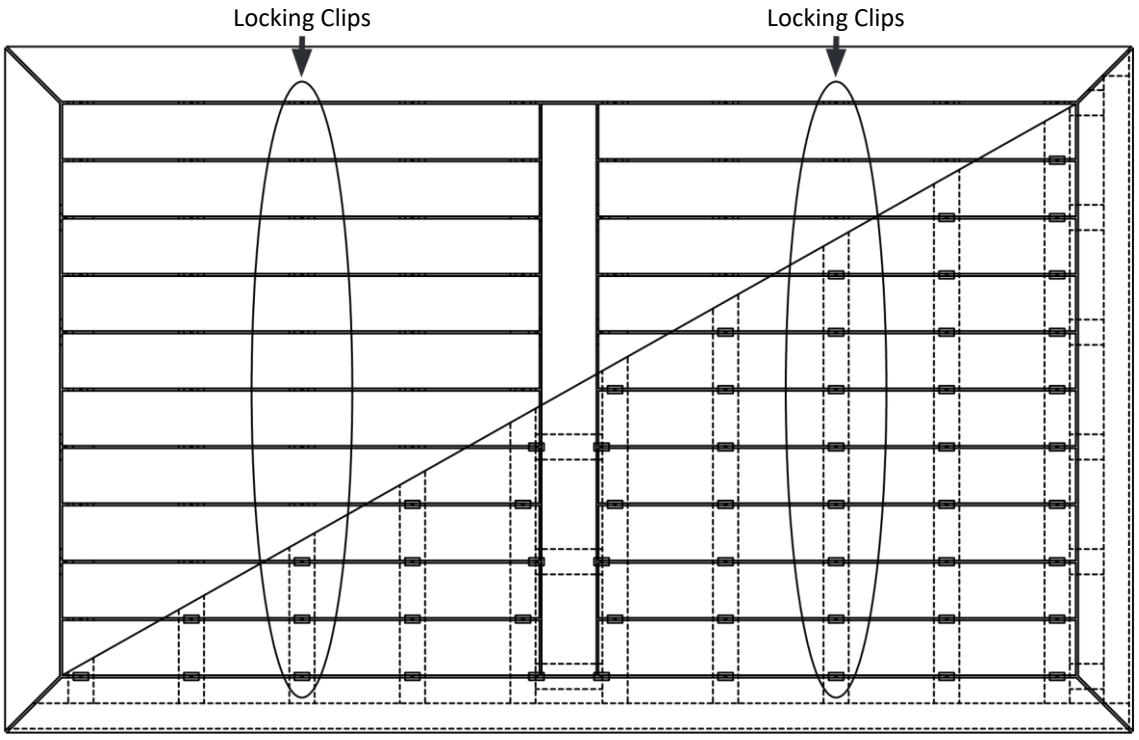


DIAGRAM 6A

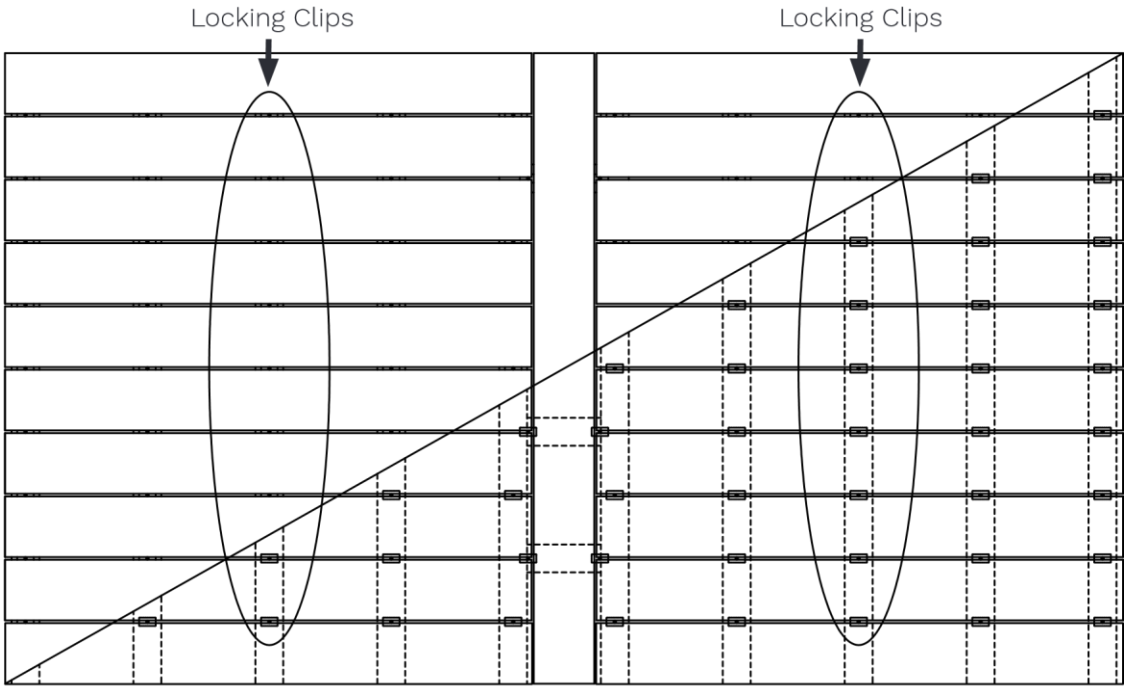


DIAGRAM 6B

Breaker Board Installation

Diagram 7 and 8 below show how framework and installation of the breaker board respectively.

Diagram 7 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 9.

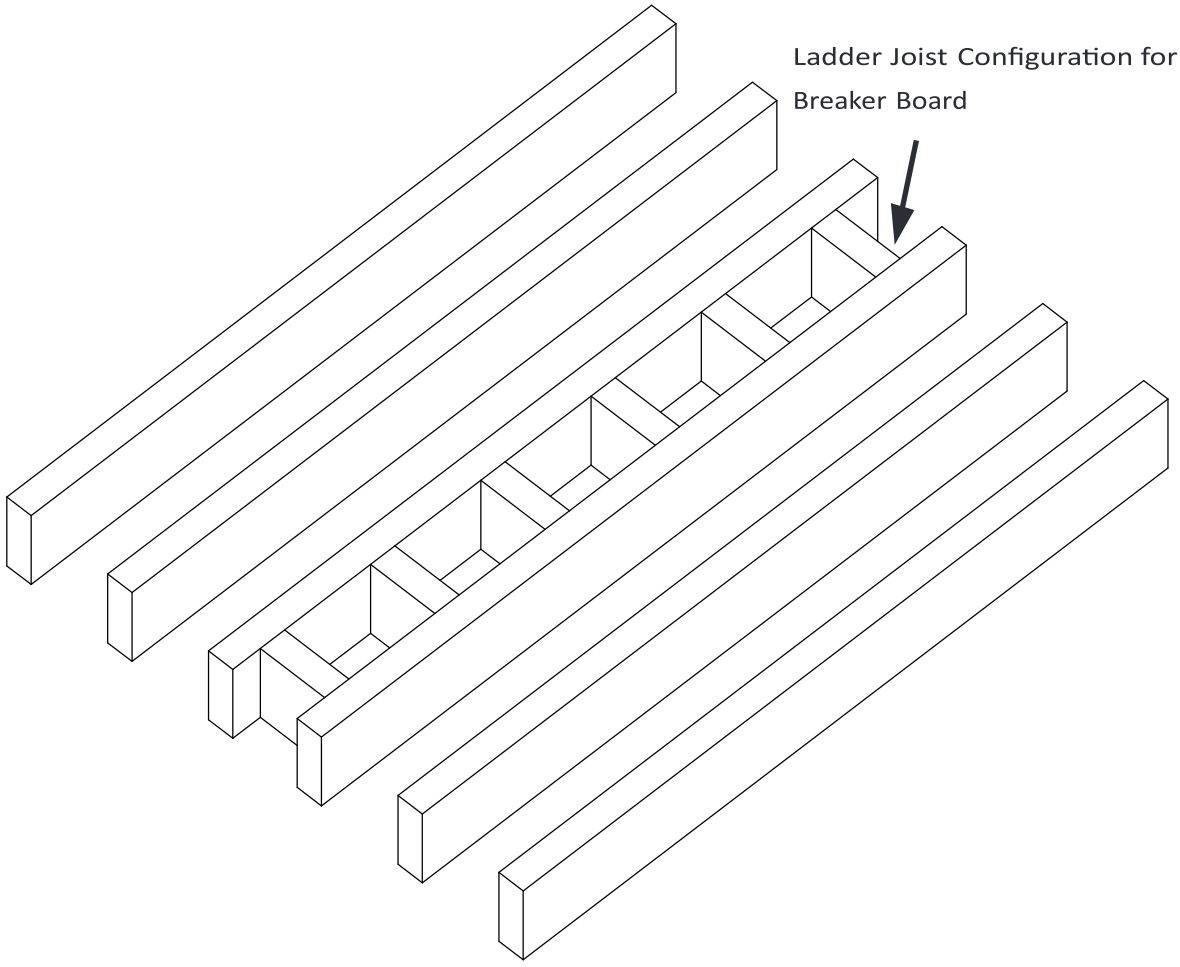


DIAGRAM 7

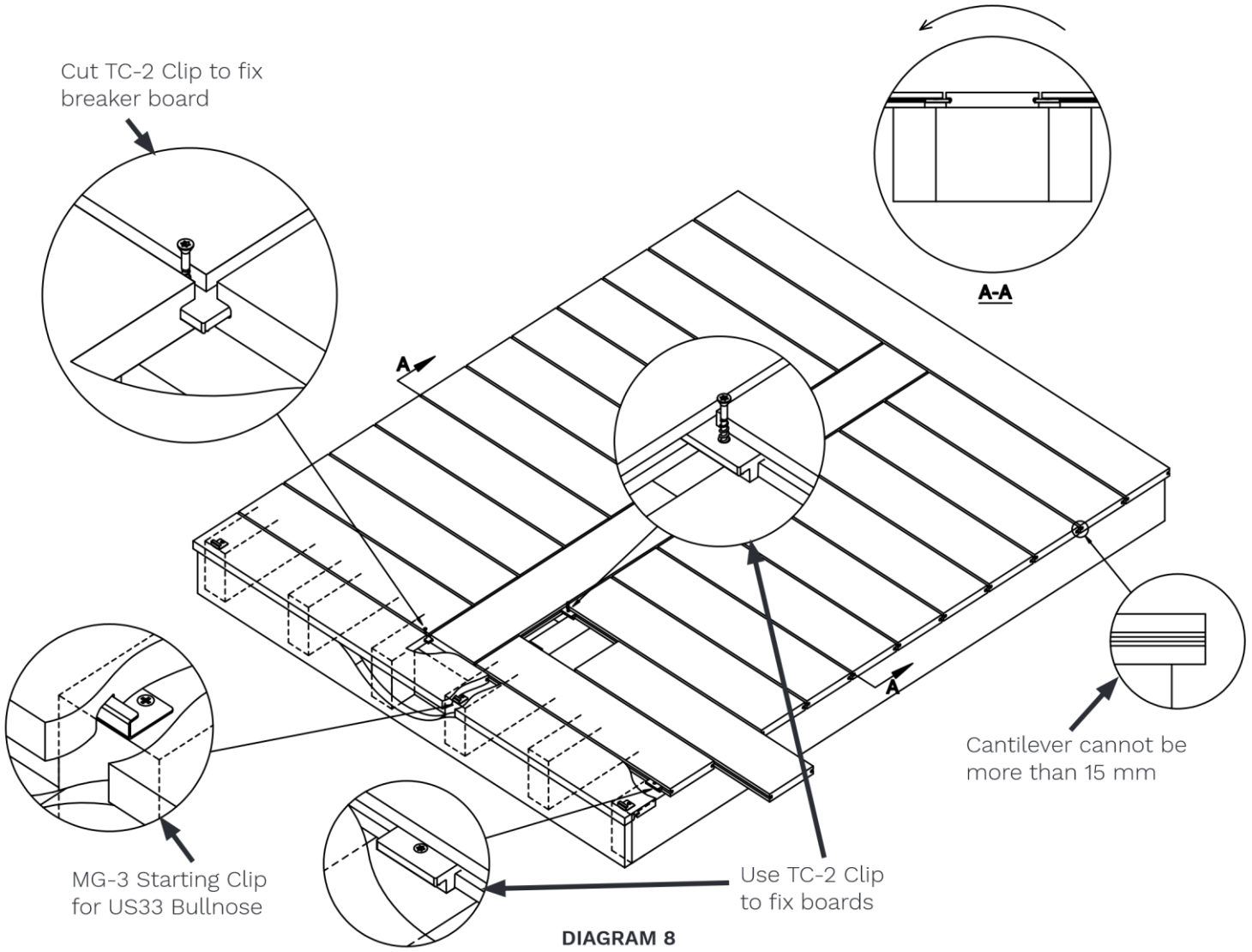


DIAGRAM 8

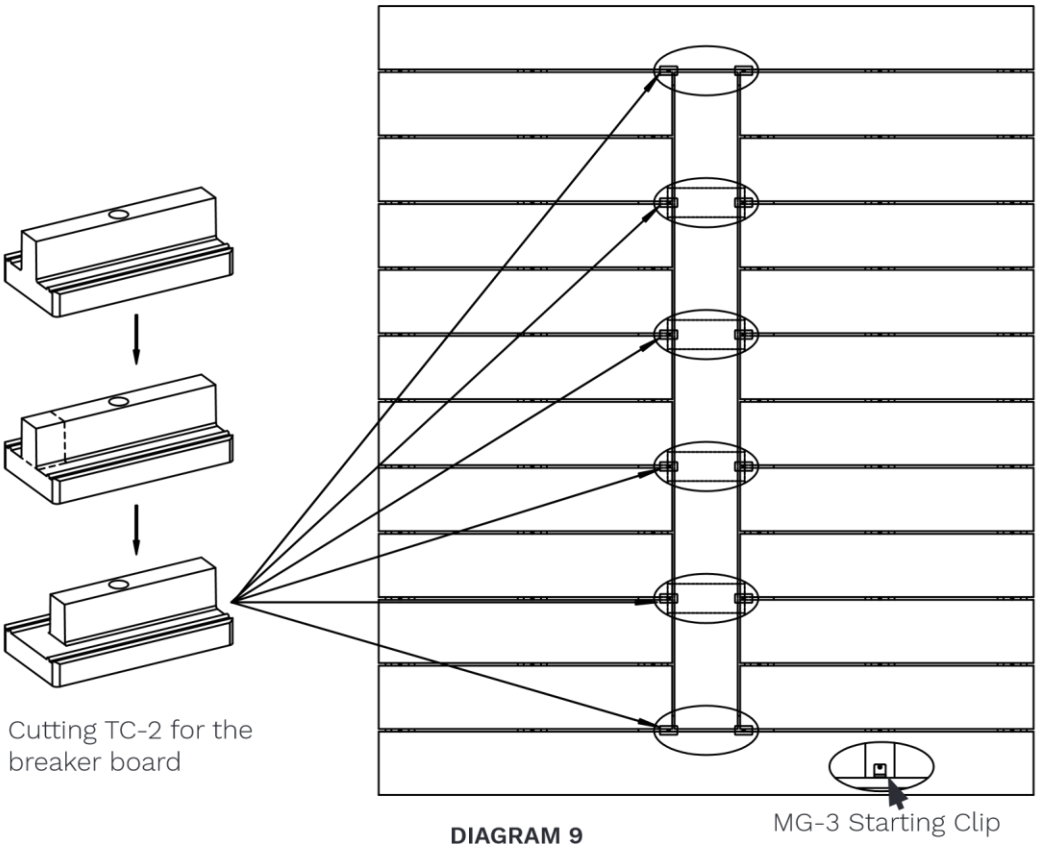


DIAGRAM 9

Stair Tread Installation

Review Diagram 10 and the table below with the maximum spacing from centre to centre for stair tread installation.

Stair treads built with Castlewood Decking must meet requirements by the major national building codes.
Consult your local municipality for specific requirements.

A minimum of four (4) stringers are required.

Overhang on a stair tread should not exceed more than 5/8 inch.

Note: Stair treads should only be installed using solid profiles. Using any type of hollow board for stair treads will not be warrantied.

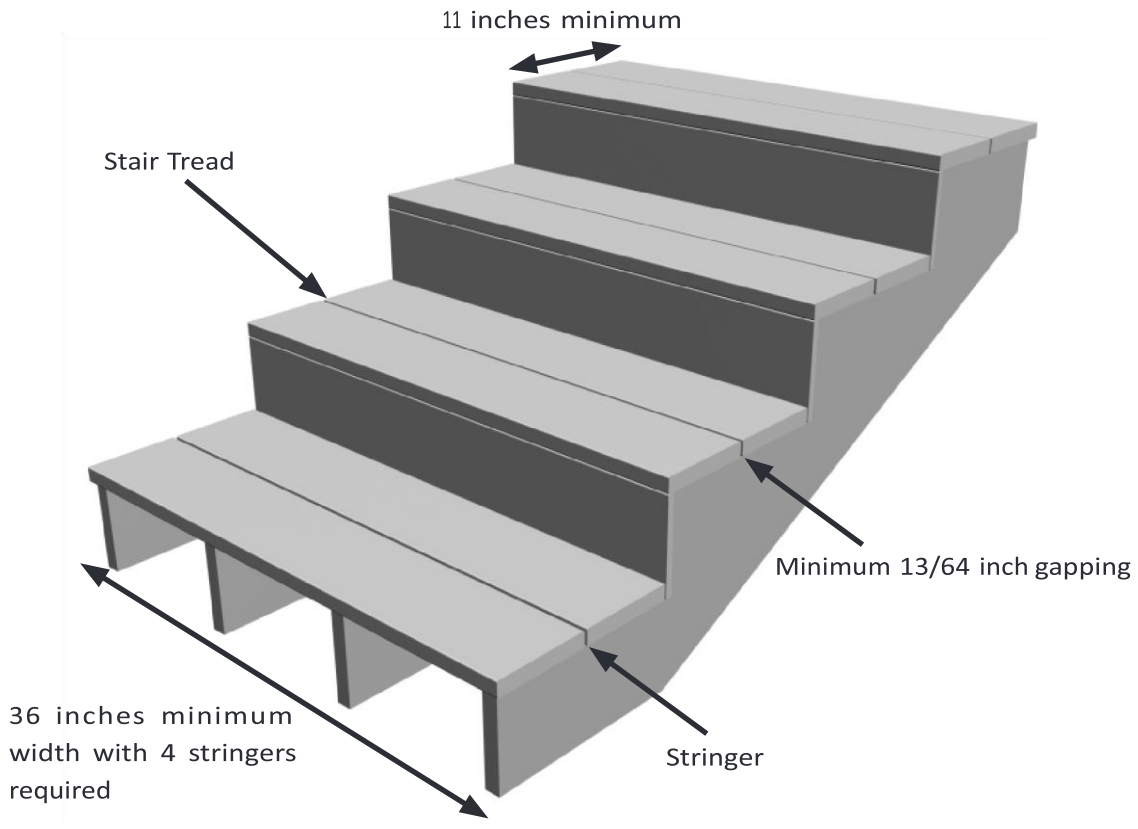


DIAGRAM 10

Bullnose Installation

Use the table on the previous page to determine the centre to centre spacing for the bullnose profile.

A minimum of four (4) stringers are required when installing the bullnose profile.

Overhang on a stair tread should not exceed more than 5/8 inch.

Starting Accessory Installation:

First, determine how many boards your stair is going to take to finish (with clips) and then you can start to measure where the TC-5 starting clip will go. Use a white chalk line (NEVER USE COLORED CHALK) to ensure that all TC-5 starting clips are lined up on each joist.

Note: The bullnose profile can only cantilever 5/8 inch. If the bullnose profile cantilevers more than this, the warranty will be voided.

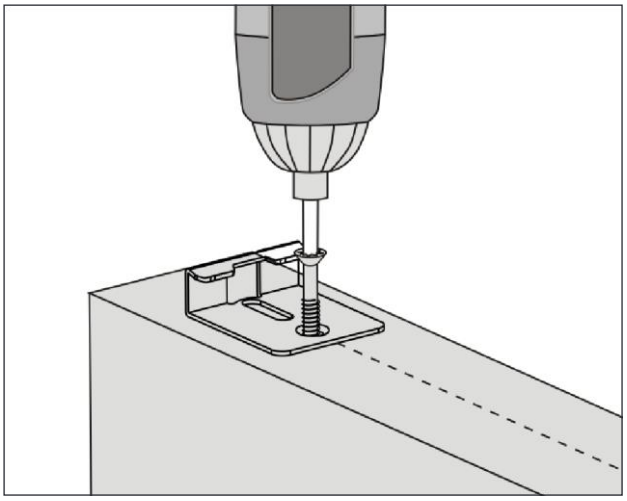


DIAGRAM 11

Bullnose Installation:

1. Now take the bullnose profile and place it right over all the TC-5/MG-3 (SC-25) starting clips and push down as show in Diagram 12.

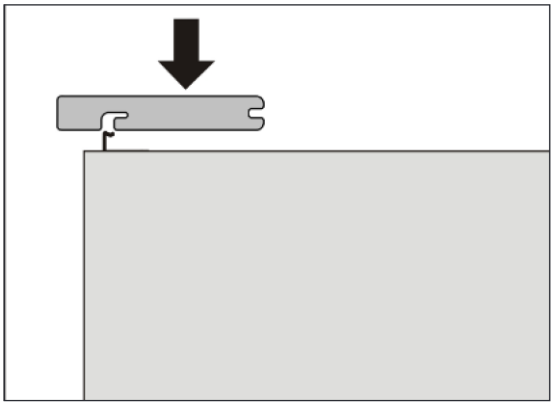


DIAGRAM 12

2 Now that the TC-5/MG-3 starting clips are inside the underside of the bullnose, the final step is to push forward to ensure that it secured into place as shown in Diagram 13.

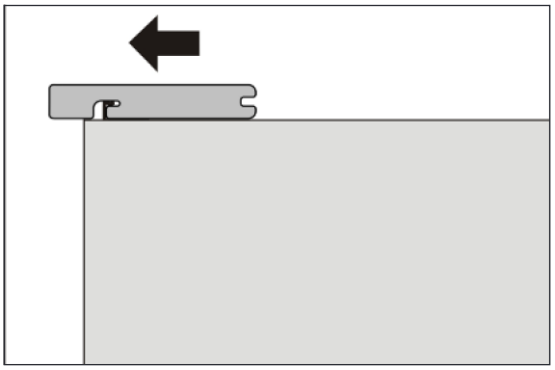


DIAGRAM 13

3 Now take the next board and have it situated behind the bullnose profile as shown in Diagram 14.

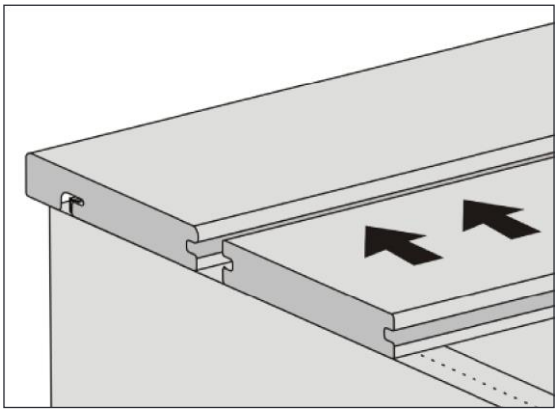


DIAGRAM 14

4 Slide in 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 15 and 16.

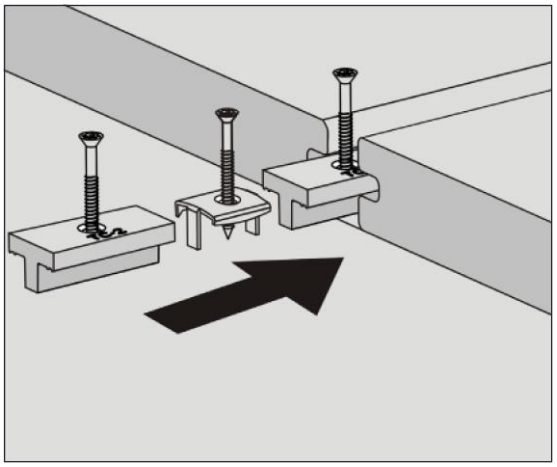


DIAGRAM 15

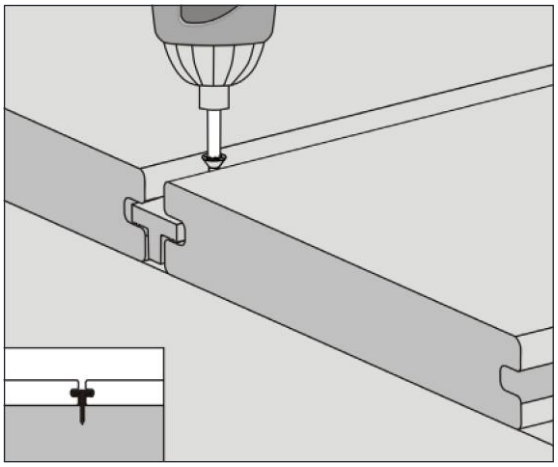


DIAGRAM 16

5 Finally, Fnish your last board by face fixing into the board at every joist as shown in Diagram 17.

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 1” 1/2 by 1” 1/2 from the ends and the width of the board.

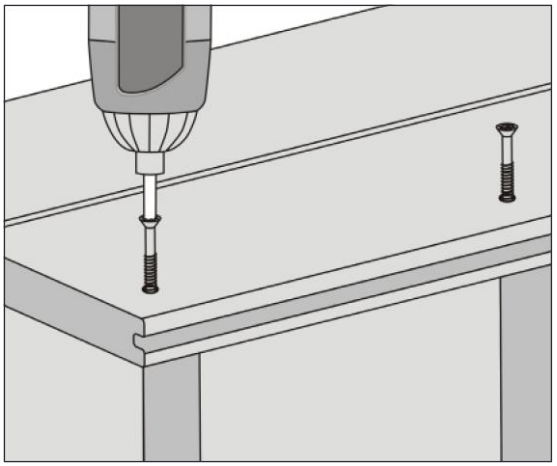


DIAGRAM 17

Diagram 18 below shows a completed staircase from the side to get a better idea of how the final installation will look.

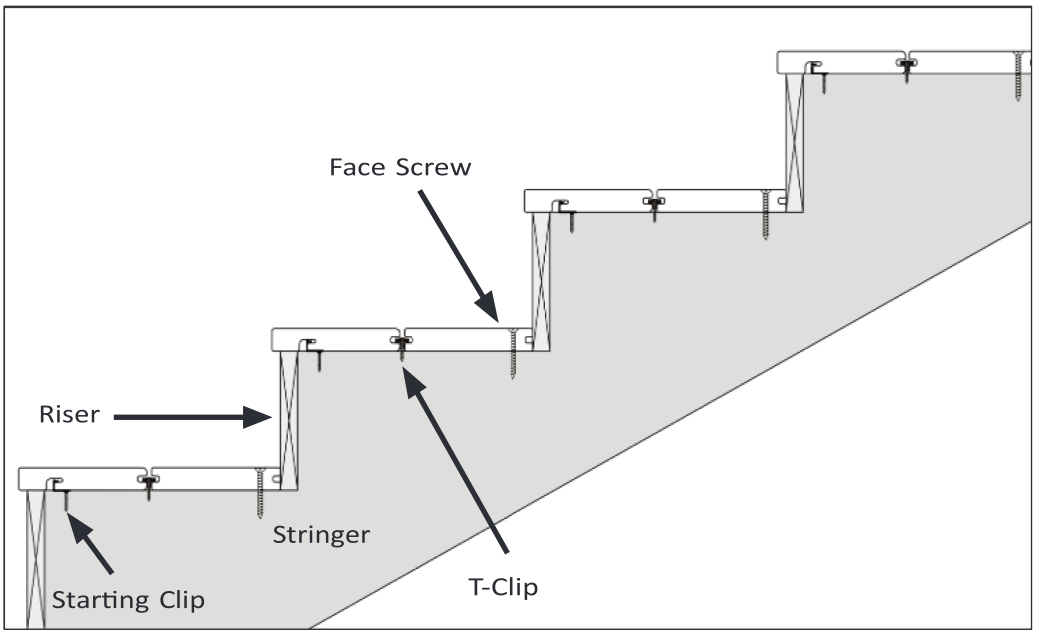


DIAGRAM 18

Framing

First, determine the decking span, that is, how far apart your joists will be. The frame needs to be completely level before installing any boards.

Note: Adequate spacing in the joists is required to keep the deck boards from bending. Please review the chart on page 6-7 of this installation guide to see what spacing is required for your profile.

Decking Installation

When installing the deck, the first and last board of your project will need to use a starting accessory. Every other board will use the hidden fastener for its installation.

Starting Accessory Installation:

1. First, slide the TC-1 and TC-2 clips into the grooves of the boards with screws facing up as shown in Diagram 21.

2. Pre-drill into the joist, then fix the starting accessory into the joist as shown in Diagram 19.

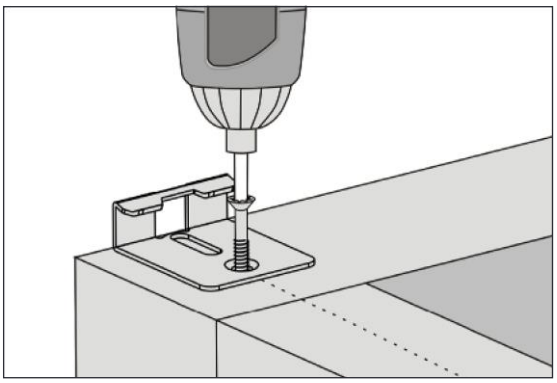


DIAGRAM 19

3. Then, take your first board and push it into the starting accessory as shown in Diagram 20.

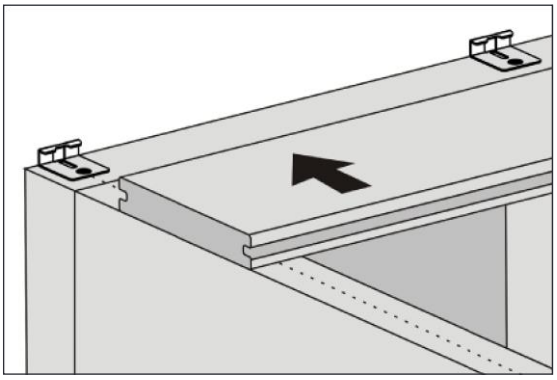
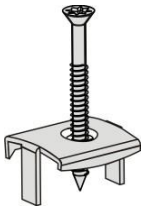


DIAGRAM 20

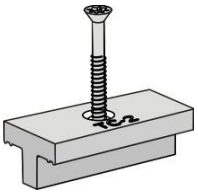
Decking Installation

Locking Clip (TC-1) and T-Clip (TC-2)

1 After calculating the decking span and making the frame of your deck, the first board is ready to be installed.



Locking Clip (TC-1)



T-Clip (TC-2)

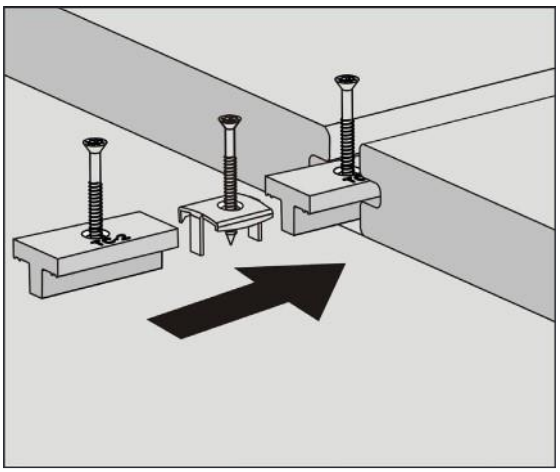


DIAGRAM 21

2 After getting all the TC-1 and TC-2 clips into position above each respective joist, begin to fasten them from above as shown in Diagram 22 and 23.

Note:
The fastest way of installation is by pushing all the boards together and then coming back and sliding the clips into the grooves from the side and then fixing from above.

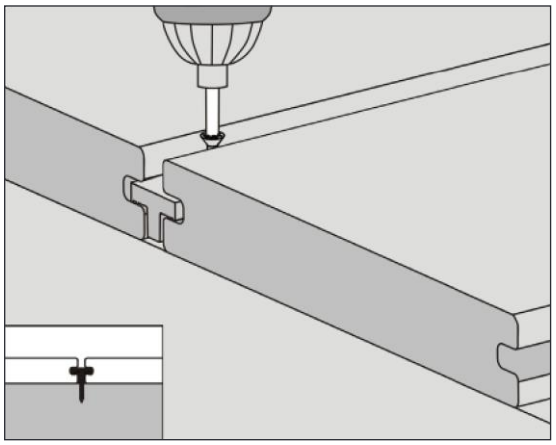


DIAGRAM 22

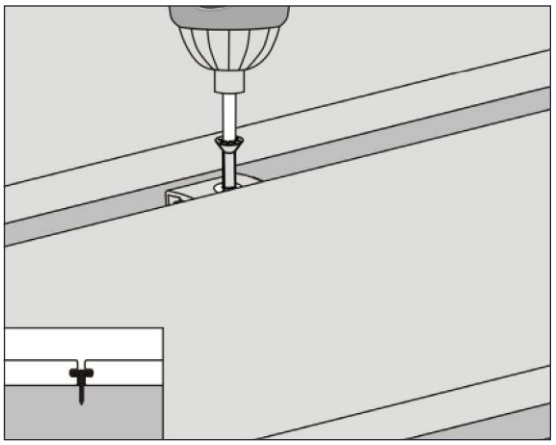


DIAGRAM 23

3 Repeat steps 1-2 until the deck is complete.

4 The final installed clips should look like Diagram 24.

Note:
The locking clip is in the middle of Diagram 24 to show the expansion, and contraction is happening in both directions. For more information on how to install the locking clips and their placement, check page 8-9 of this installation guide.

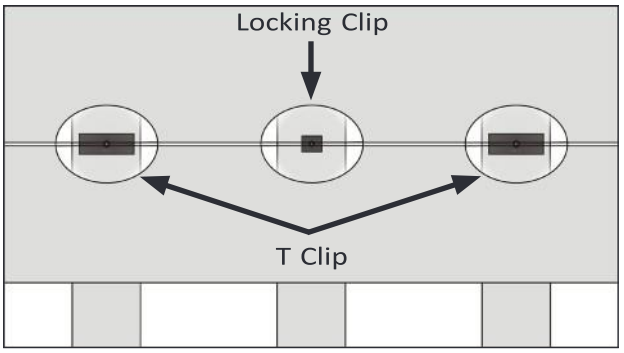


DIAGRAM 24

Fascia Board Installation

Installing against the width and length of decking

1 Fascia boards with a thickness of less than or equal to 25/64 inch need to be installed on 12 inches on centres to prevent warping or buckling. Fascia boards with a thickness greater than 10 mm can be installed on 16 inches on centres. All fascia's need to use two screws 1" 1/2 away from the ends as shown in Diagram 31 regardless of the thickness.

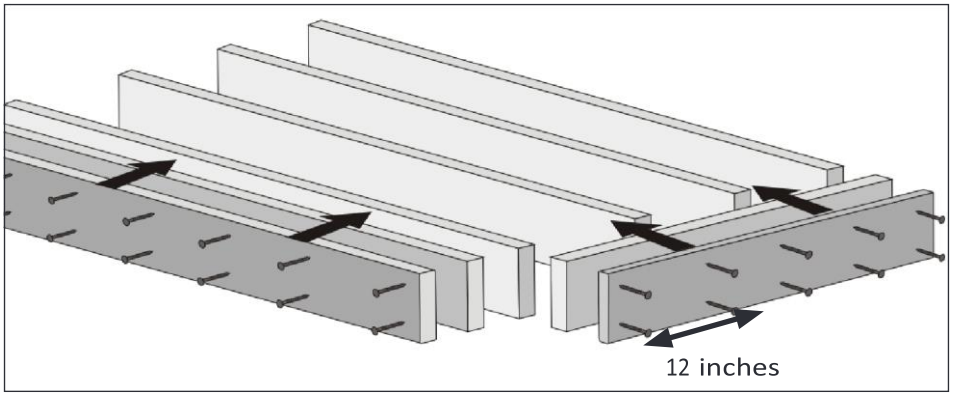


DIAGRAM 31

2 First, pre-drill the holes for the fascia board. The fascia boards must then be fixed using our composite fascia colour head screws.

4 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.

End Cap Installation

1 Place the end cap in front of the hollow boards holes and push in as shown in Diagram 32.

Note: A mallet could be used as well to push in the end caps.

2 The final finish should look like Diagram 33 below.

Note: A dab of silicon can be used on the end cap or inside the holes of the board in order to secure the end caps better.

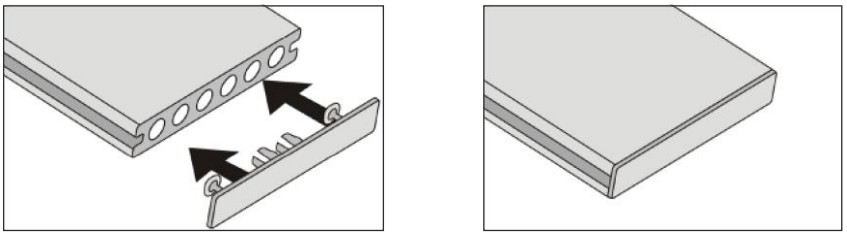


DIAGRAM 33

Removing a Board

1 Start by unfastening all the clips from the joist on both sides of the board as shown below in Diagram 34.

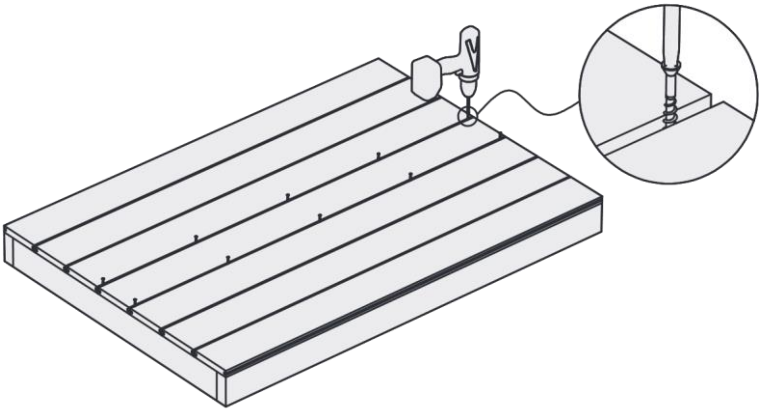


DIAGRAM 34

2 Next slide all clips out of the board as shown below in Diagram 35.

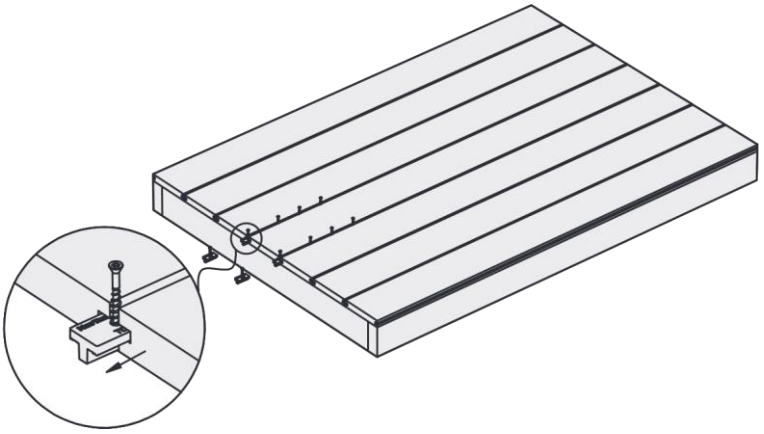


DIAGRAM 35

3 Next slide out the board as shown below in Diagram 36.

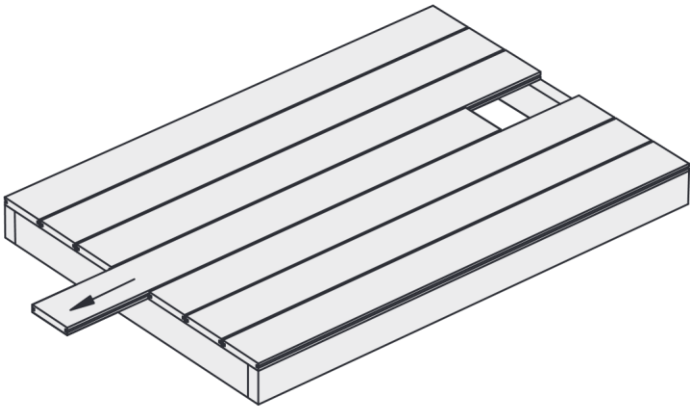


DIAGRAM 36

4 After the board is removed the new board can be inserted as shown below in Diagram 37 and 38.

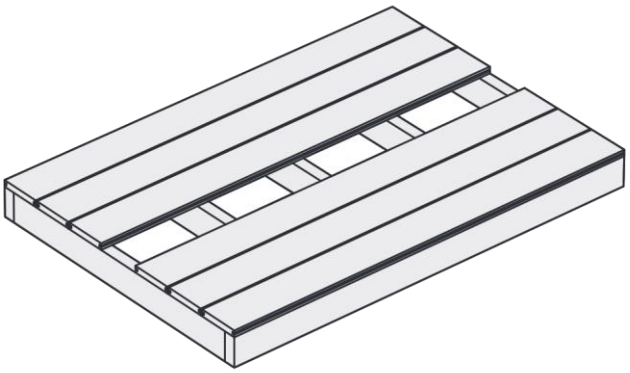


DIAGRAM 37

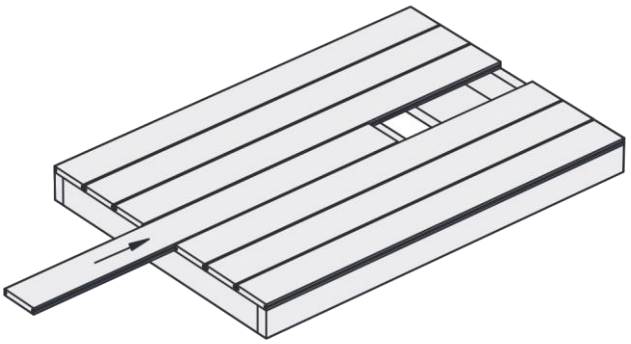


DIAGRAM 38

5 After the new board is in position insert the clips through the groove and into the correct position as shown in Diagram 39.

The clips should then be installed as shown in Diagram 40.

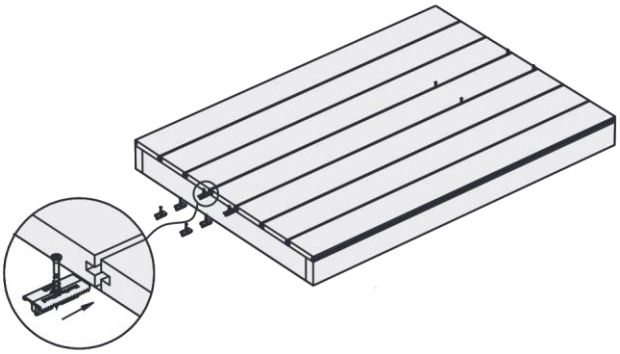


DIAGRAM 39

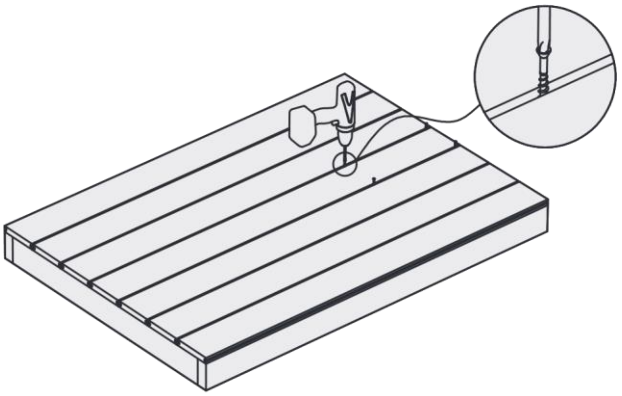


DIAGRAM 40

Warranty

CastleWood Decking boards come with a 10 year limited warranty.

1. CastleWood will be free of any mould. That is, mould originating from within the board and not caused by biodegradable materials resting on the surface of the deck. i.e. vegetation build up, or falling leaves.

2. CastleWood will be free from stains. (i.e. household liquids, such as, ketchup, mustard, beer, wine, oil etc...) Due care and attention should be paid to ensure that substances with the potential to cause staining are not spilt on the deck, and that where they have been spilt, that they are cleaned up within a reasonable time frame.

3. Colour fading. CastleWood may subtly change colour through time and normal wear and tear. However, where there has been an extreme change of colour such as Walnut changing to pink, blue, green, white or yellow, we will replace these boards.

4. Cracking of any kind that is not due to improper installation.

5. Bending, so long as you have adhered to our installation guide and the maximum spans listed therein.

6. De-lamination of the boards (where the surface covering comes away from the board, revealing the core.)

7. Chalking. This is where the whole product turns white.

8. Labour will only be covered if a failure occurs within 2 years of purchase. Labour will be paid to a maximum of £25 per hour per man with a minimum of 5 boards per hour laid per man.

9. Delivery of replacement boards is not included in the warranty.

10. Installation MUST be as per the Installation Guide to make a warranty claim

Ultraguard Composite Decking Installation Guide

Castlewood Decking

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