

NewTechWood

CANADA



DECKING

INSTALLATION GUIDE



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IMPORTANT

READ ALL SECTIONS BEFORE YOU START

Prior to installing any 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 NewTechWood 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.

Ensure that the delivered product matches the order (color, model, size, quantity, accessories); inspect each piece before installation.

Do not install a product that appears or is believed to be defective.

A defective product will not be covered by the warranty if it is installed.

Safety

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

Tools

Standard woodworking tools may be used. Begin each project with a new blade. It is recommended that all blades have a carbide tip. Standard stainless steel or acceptable coated deck screws are recommended.

Environment

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

Planning

Plan a layout for your decking before starting it to ensure the best possible looking decking for your project. Building codes and zoning ordinances generally apply to permanent structures, meaning anything that is anchored to the ground or attached to the house. So nearly every kind of decking requires permits and inspections from a local building department. We recommend drawing out a site plan of your proposed project that you intend to do to minimize errors and make your perfect decking.

Pressure wash on a sample piece of material to make sure that it does not damage the Ultrashield coating before using it on the actual installation.

IMPORTANT

READ ALL SECTIONS BEFORE YOU START

Construction

NewTechWood UltraShield is NOT intended for use as columns, support posts, beams, joist stringers or other primary load-bearing members. NewTechWood must be supported by a code-compliant substructure. While NewTechWood products are great for retrofits, NewTechWood's products CANNOT be installed on existing decking boards.

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 conductive 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. NewTechWood's products have been tested against EN 1815 - Assessment of Static Electrical Propensity and have received values under the maximum standard of 2kV.

Ventilation

NewTechWood 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 100 mm (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 100 mm (4 inches), it is recommended to look up the maximum rainfall of the area to determine what height would need to be built to ensure no flooding of the deck occurs.

If the rainfall is determined not to flood 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 100 mm (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 NewTechWood products from external sources such as but not limited to fire or reflection of sunlight from energy efficient window products. Low-emissivity (Low-E) glass can potentially harm NewTechWood 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 NewTechWood products to melt, sag, warp, discolor, increase expansion/contraction, and accelerate weathering.

Current or potential NewTechWood 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.

IMPORTANT

READ ALL SECTIONS BEFORE YOU START

Acclimate

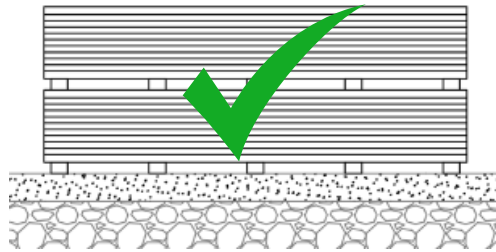
Acclimating at least 2 days prior to installation is recommended.

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

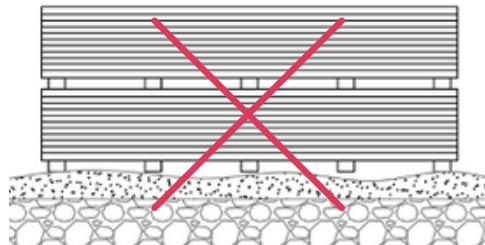
Note: Always remember when allowing the boards to acclimate at the job site it is important to put it on a flat and even surface. If put on an uneven surface there is a possibility that the boards could warp to the shape of the terrain.

Storage

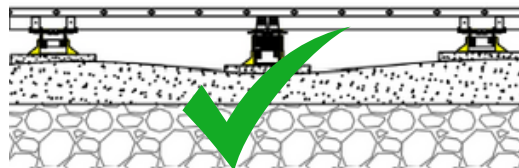
NewTechWood's products always need to be stored on flat solid surfaces. Surfaces such as dirt and grass are not sufficient as they can move over time.



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



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



NewTechWood 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 NewTechWood's products.

IMPORTANT

READ ALL SECTIONS BEFORE YOU START

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 below to see what spacing is required for your profile.

MAXIMUM DECKING SPANS ON CENTER-TO-CENTER

Profile	Dimensions	Residential Span	Commercial Span
UH02, grooved circle hollow board	138 x 22.5 mm (5.5 x 0.9 inches)	400 mm (16 inches)	300 mm (12 inches)
US33, bullnose	138 x 22.5 mm (5.5 x 0.9 inches)	400 mm (16 inches)	300 mm (12 inches)

JOIST SPANNING ON CENTER-TO-CENTER WITH ANGLED DECKING INSTALLATIONS

Degree of angle	Spacing
90	Refer to the above tables
60	50 mm (2 inches) less than the stated above tables
45	100 mm (4 inches) less than the stated above tables
30	1/2 the distance stated in the above tables

IMPORTANT

READ ALL SECTIONS BEFORE YOU START

EXPANSION AND CONTRACTION TABLE OF VALUES FOR NORTH AMERICA

Installation temperature (°C)	12 feet (3.66 m)	16 feet (4.88 m)
0	3/16 in	1/4 in
5	3/16 in	1/4 in
10	1/8 in	3/16 in
15	1/8 in	3/16 in
20	1/16 in	1/8 in
25	1/16 in	1/16 in
30	3/64 in	1/16 in

Note: If you are still unsure of what gapping to use, contact the manufacturer and they will give you the correct gapping requirements based on your environment and area.

IMPORTANT

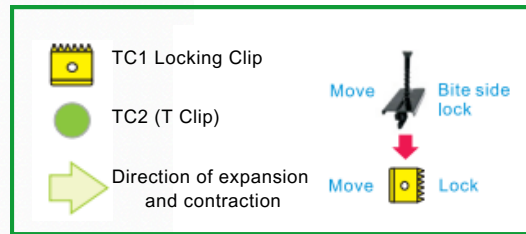
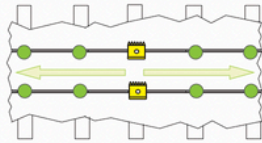
READ ALL SECTIONS BEFORE YOU START

Locking Clip Installation

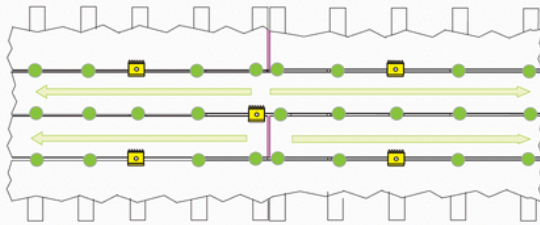
When installing boards one full length across the deck, we recommended locking the board in the middle to allow for even expansion and contraction to take place on both ends.

Place one and only one locking clip in the middle of every boards

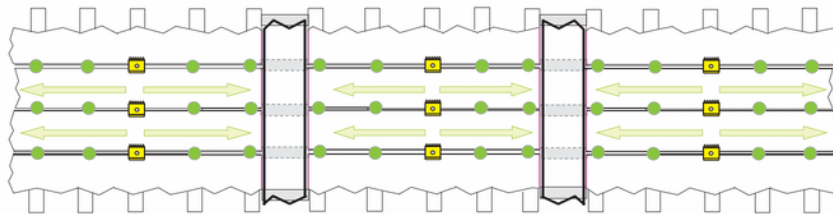
One Board/Row:
Lock in the middle



Two Board/Row
& Brick Style:
Lock in the middle



Three + Boards /Row:
Lock in the middle
and use breaker
boards



IMPORTANT

READ ALL SECTIONS BEFORE YOU START

The below shows the recommended installation methods using breaker 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 1 and Diagram 2.

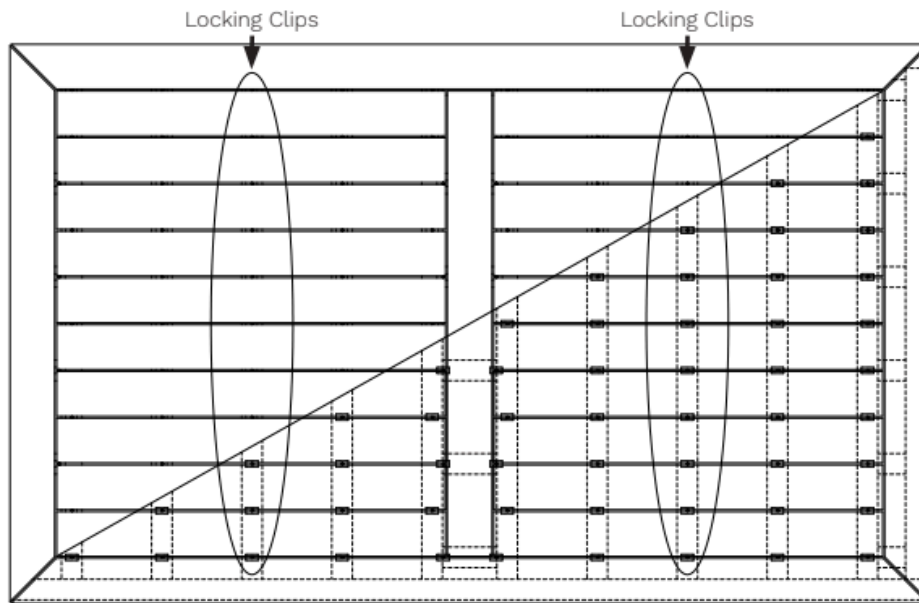


Diagram 1

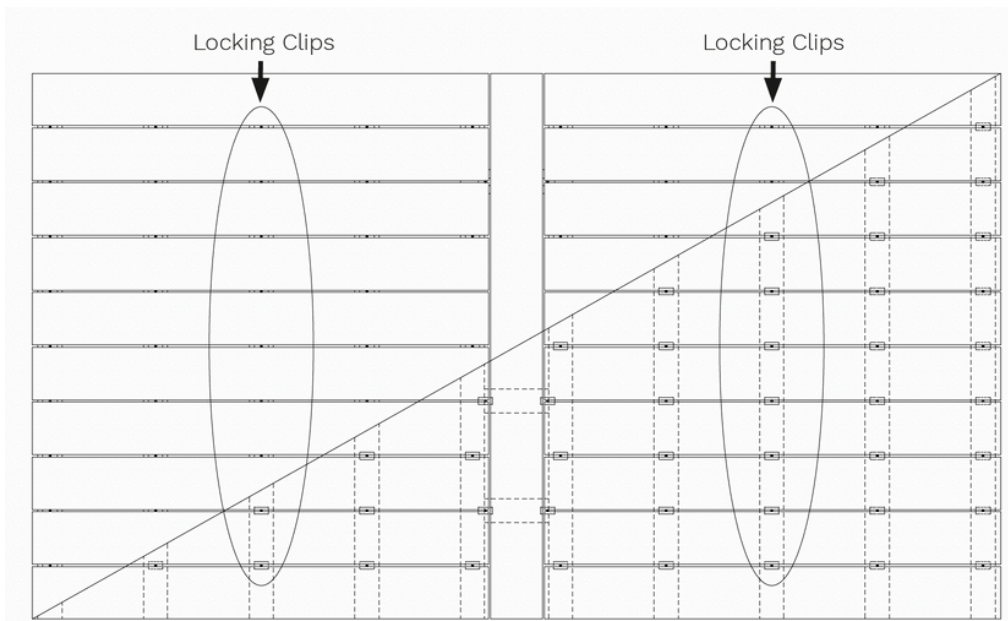



Diagram 2







Decking

- BOARDS

PRODUCT CODE	PRODUCT NAME AND PURPOSE	PART
UH02	Main decking board	
US33	Bullnose	
US05	Large Fascia, 11 inches	
US03	Medium Fascia, 7 inches	
US08	Small Fascia, 5 1/2 inches	

Decking

- CLIPS AND ACCESSORIES

PRODUCT CODE	PRODUCT NAME AND PURPOSE	PART
TC2	Deck Clip W/ Screw for Wood Joist	
TC27	Breaker Board and Transition Clip	
TC1	Locking Clip	
MG3	Starter clip / Clip for bullnose (US33)	
CS	Coloured screws	
EC-UH02	EndCaps	

Decking

- FASTENERS

When fastening NewTechWood's products, all screws that are face fastened should always be driven in at a 90 degree angle to the decking surface. Toe screwing should never be done to the products. An extra joist must be added if a 90 degree angle cannot be driven into the board, as shown in Diagram 3.

Please note: Face screwing with any kind of screw, will void the material warranty on the UH02 Hollow Board Series of Decking.

All fasteners should be on their own independent joists, when two boards ends meet each other there must be a sister joist with a minimum of 5 mm (0.2 inch) between the sister joists for water to go down between the joists. Excessive build of water over long periods of time at the ends could result in swelling. The end of each board must sit on its own joist as shown in Diagram 4.

Use white chalk, straight boards, or string lines as templates for straight lines. **NEVER USE COLOURED CHALK.** Coloured chalk will permanently stain NewTechWood's products and are highly not recommended.

All screws that are face fixed should be NewTechWood stainless steel screws (CS profile). Always pre-drill to avoid mushroom or bulge around the head of the screw. When face fixing, always go in at least from the ends and width of the board by 38.1 mm (1.5 inches) as shown in Diagram 5.

Recommend screws from other manufacturers: Cap-tor xd screws by Starborn Industries.

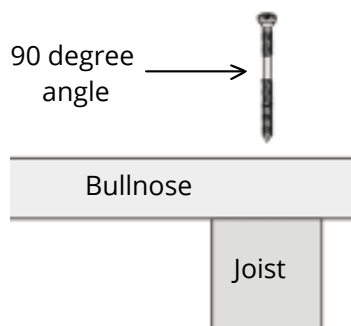


Diagram 3

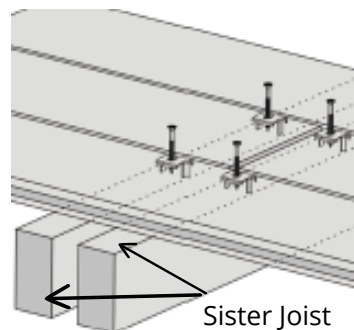


Diagram 4

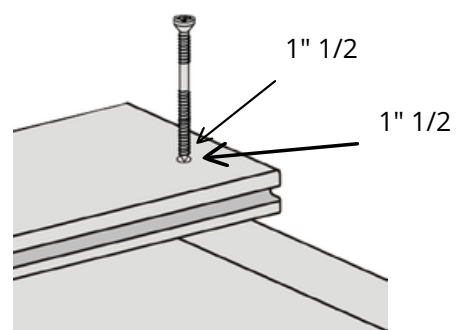


Diagram 5

Decking

- BULLNOSE INSTALLATION

Use the table on page 5 to determine the center to center spacing for the bullnose profile. Overhang should not exceed more than 15 mm (5/8inch).

Starting Accessory Installation:

First, determine how many boards your perimeter is going to take to finish (with clips) and then you can start to measure where the MG-3 starting clip will go. Use a white chalk line (NEVER USE COLOURED CHALK) to ensure that all MG-3 starting clips are lined up on each joist.

Note: The bullnose profile can only cantilever 15 mm (5/8 inch). If the bullnose profile cantilevers more than this, the warranty will be voided.

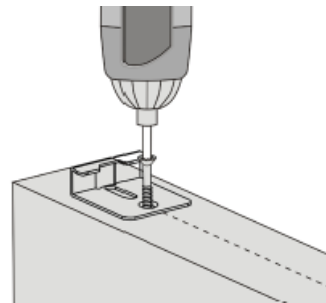


Diagram 6

Bullnose Installation:

1

Now take the bullnose profile and place it right over all the MG-3 starting clips and push down as show in Diagram 7.

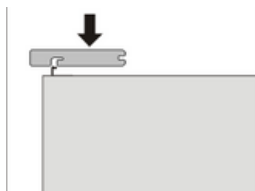


Diagram 7

2

Now that the 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 8.

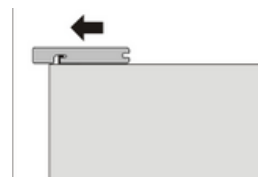


Diagram 8

3

Now take the next board and have it situated behind the bullnose profile as shown in Diagram 9.

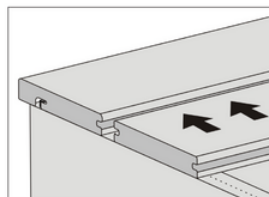


Diagram 9

Decking

- DECKING INSTALLATION

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 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 (MG3). Every other board will use the hidden fastener for its installation.

Starting Accessory Installation if no bullnose is installed:

- 1 Pre-drill into the joist, then fix the starting accessory into the joist as shown in Diagram 10.

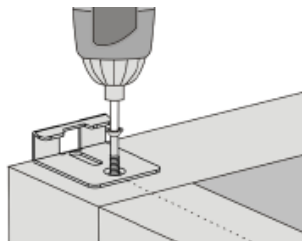


Diagram 10

- 2 Then, take your first board and push it into the starting accessory as shown in Diagram 11.

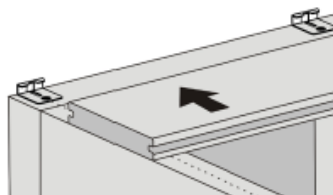


Diagram 11

T-Clip and TC-1 Locking Clip Installation:

- 1 After calculating the decking span and making the frame of your deck, the first board is ready to be installed.
- 2 Slide the TC1 and TC2 clips into the grooves of the boards with screws facing up as shown in Diagram 12.

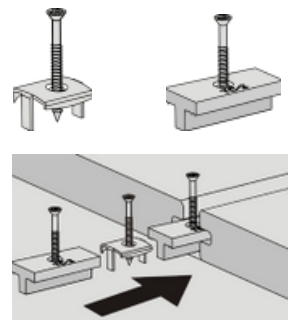


Diagram 12

Decking

- DECKING INSTALLATION

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 13 and 14.

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.

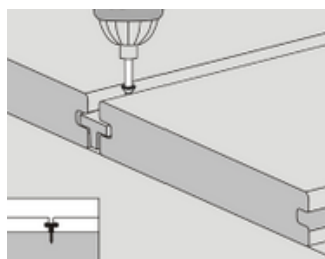


Diagram 13

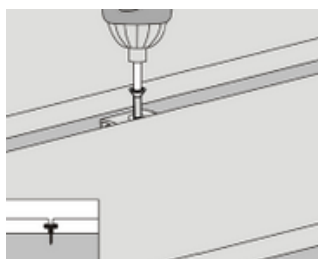


Diagram 14

3

Repeat steps 1-2 until the deck is complete.

4

The final installed clips should look like Diagram 15.

Note: The locking clip is in the middle of Diagram 14 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 pages 7-8 of this installation guide.

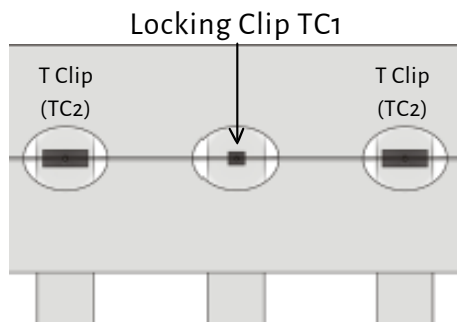


Diagram 15

Decking

- BREAKER BOARD INSTALLATION

Diagram 16,17 and 18 below show how framework and installation of the breaker board respectively.

Diagram 16 framework uses a ladder joist installation where the user is building a frame perpendicular for the board that will be running down it.

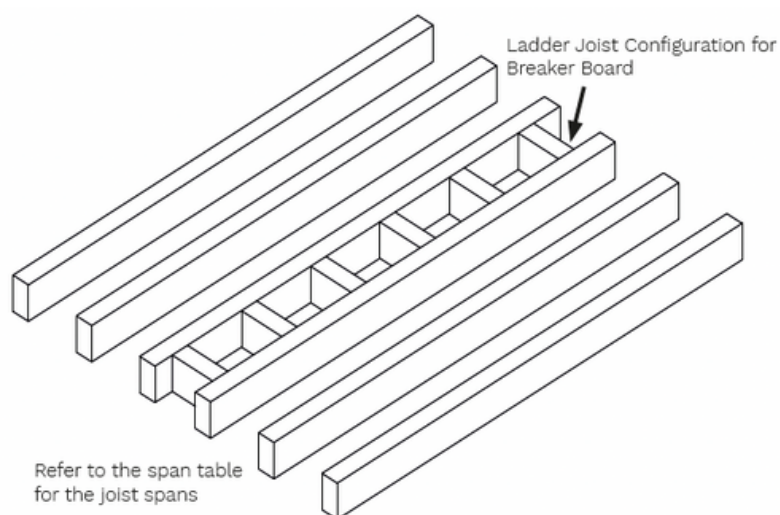


Diagram 16

Note : 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.

Also there needs to be a minimum of 5 mm (0.2 inch) between the sister joists for water to go down between the joists or swelling could occur at the ends.

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.

Decking

- BREAKER BOARD INSTALLATION

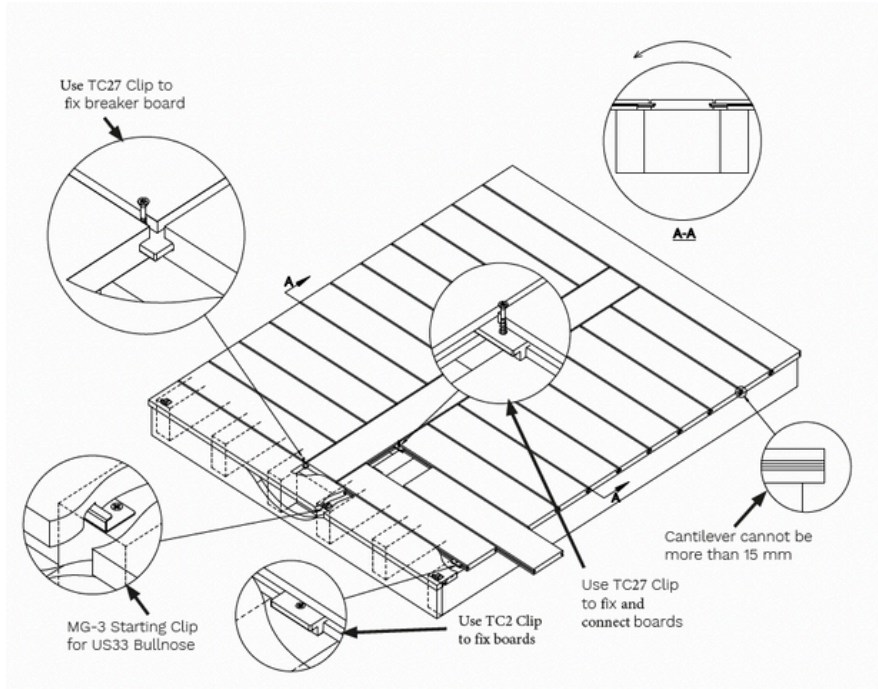


Diagram17

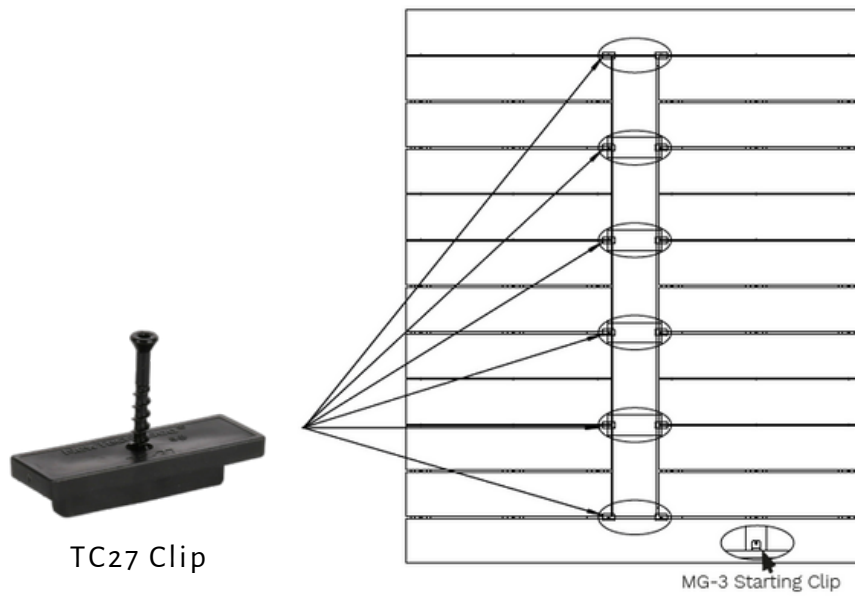


Diagram 18

Decking

- FASCIA BOARD INSTALLATION

Installing against the width and length of decking

1

Fascia Boards with a thickness of less than or equal to 10 mm (US08) need to be installed on 12 inches on centers to prevent warping or buckling. Fascia boards with a thickness greater than 10 mm (US03, US05) can be installed on 16 inches on centers.

All fascias need to use two screws 1"1/2 away from the ends as shown in Diagram 19 regardless of the thickness.

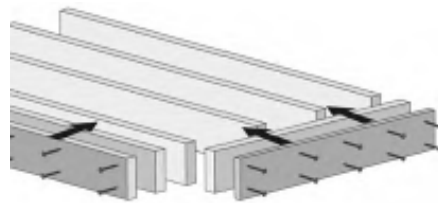


Diagram 19

2

First, pre-drill the holes for the fascia board with the Smart-Bit Predrilling and Countersinking Tool, the Smart-Bit Tool must be used in order to ensure the correct finish for the fascia boards. The tool can be found here at <https://starbornindustries.com/>.

The fascia boards must then be fixed using our composite fascia color head screws which are #9 1-7/8".

3

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.

Decking

- STAIRS INSTALLATION

Review Diagram 20 and the table below with the maximum spacing from center to center for stair tread installation.

Stair treads built with NewTechWood 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.

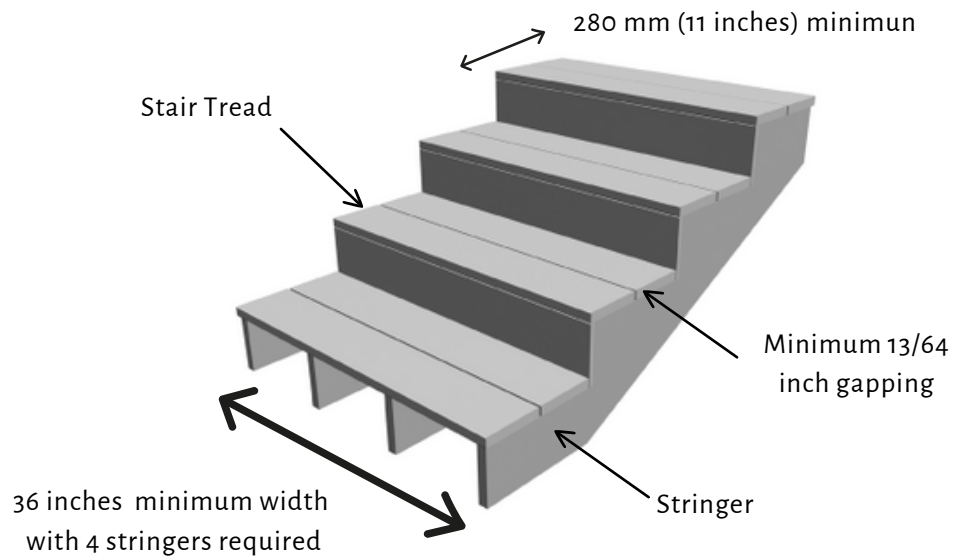


Diagram 20

MAXIMUM SPACING CENTER-TO-CENTER ON STAIR STRINGERS AND BULLNOSE

Profile	Dimensions	Spacing
US33 Bullnose	138 x 22.5 mm (5.5 x 0.9 inches)	305 mm (12 inches)
UH02 Hollow deck board	138 x 22.5 mm (5.5 x 0.9 inches)	305 mm (12 inches)

Decking

- STAIRS INSTALLATION

Use the table on the previous page to determine the center to center 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 15 mm (5/8inch).

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 MG-3 starting clip will go. Use a white chalk line (NEVER USE COLORED CHALK) to ensure that all MG-3 starting clips are lined up on each joist.

Note: The bullnose profile can only cantilever 15 mm (5/8 inch). If the bullnose profile cantilevers more than this, the warranty will be voided.

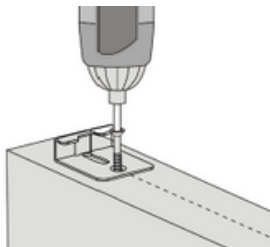


Diagram 21

Bullnose Installation:

1

Now take the bullnose profile and place it right over all the MG-3 starting clips and push down as show in Diagram 22.

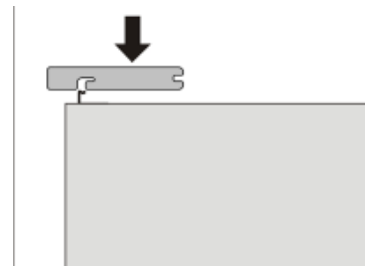


Diagram 22

2

Now that the 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 23.

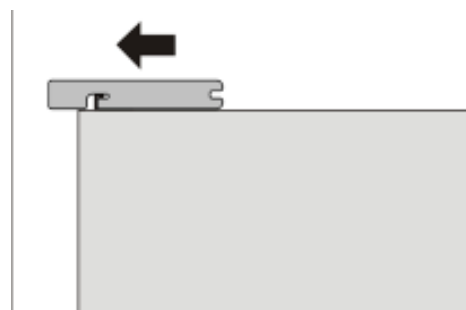


Diagram 23

Decking

• STAIRS INSTALLATION

3

Now take the next board and have it situated behind the bullnose profile as shown in Diagram 24.

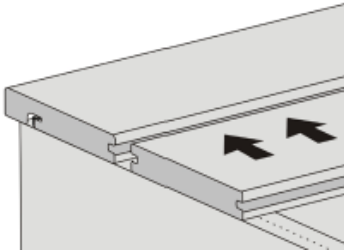


Diagram 24

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 25 and 26.

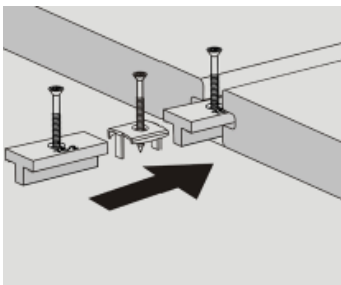


Diagram 25

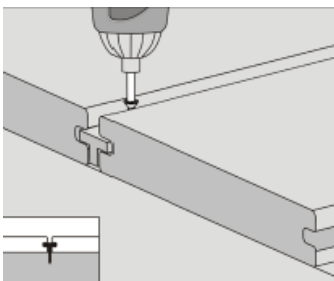


Diagram 26

5

Finally, finish your last board by face fixing into the board at every joist as shown in Diagram 27.

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.

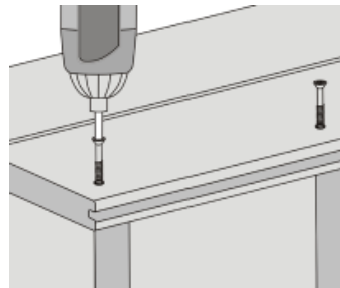


Diagram 27

6

Diagram 28 below shows a completed staircase from the side to get a better idea of how the final installation will look.

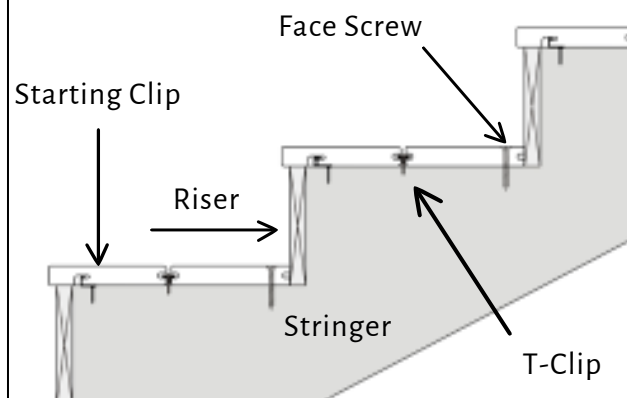


Diagram 28

Decking

- END CAP INSTALLATION

1

Place the end cap in front of the hollow boards holes and push in as shown in Diagram 29.
Note: A mallet could be used as well to push in the end caps.

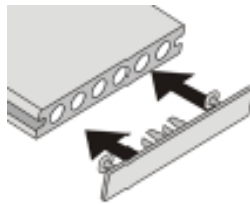


Diagram 29

2

The final finish should look like Diagram 30 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.

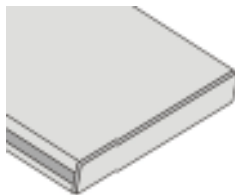


Diagram 30

Decking

- REMOVING A BOARD

1

Start by unfastening all the clips from the joist on both sides of the board as shown below in Diagram 31.

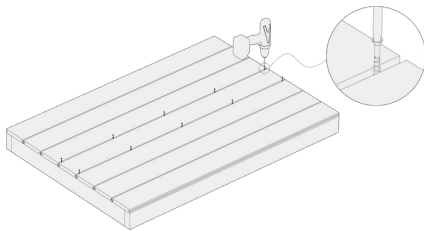


Diagram 31

2

Next, slide all clips out of the board as shown below in Diagram 32.

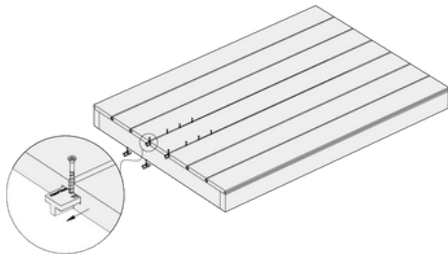


Diagram 32

3

Next, slide out the board as shown below in Diagram 33.

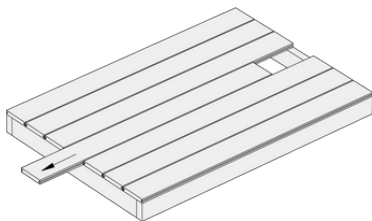


Diagram 33

4

After the board is removed the new board can be inserted as shown below in Diagram 34 and 35.

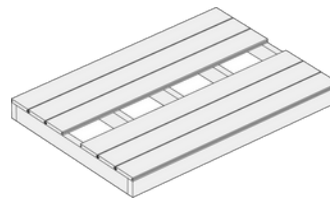


Diagram 34

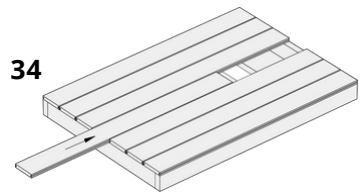


Diagram 35

5

After the new board is in position insert the clips through the groove and into the correct position as shown in Diagram 36. The clips should then be installed as shown in Diagram 37.

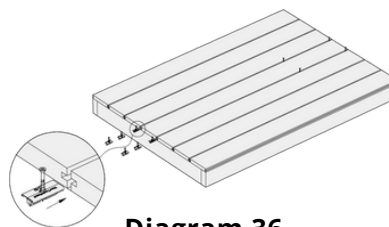


Diagram 36

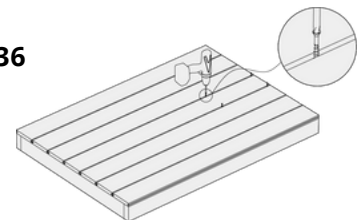


Diagram 37

DECKING

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