



INSTALLATION INSTRUCTION

For Evolution Decking

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INSTALLATION INSTRUCTION

(For Evolution Decking)

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READ BEFORE YOU START

! IMPORTANT:

Prior to installing any composite decking system, 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 wood plastic composite (Hereinafter referred to as WPC) product 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.

*Please read carefully and refer to the corresponding instructions during the installation. The methods and accessories involved in this instruction are the only recognized by the warranty. **Failure to follow this instruction or use other installation method besides this instruction may invalidate the warranty.***

SAFETY

When dealing with any type of construction project, it is necessary to wear appropriate safety equipment to avoid any risk of injuries. When handling, cutting, and installing, the following safety equipment is recommended but not limited to: 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 WPC products correctly. Please check with local building codes before ever installing any type of decking. If installation does not occur immediately, WPC products need to be put on a flat surface at all times. Never ever should it 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 project perfect.

CONSTRUCTION

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

VENTILATION

WPC 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. A minimum of 25 mm (1 inch) 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.

HEAT & FIRE

The continuous high temperature generated by fire or other heat sources will cause damage to outdoor decking. Therefore, do not install the decking near a heat source such as a fireplace.

STORAGE

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.

If the products won't be used for a long time, please keep the package complete and store in a well-ventilated and drained indoor environment, avoid direct sunlight and rainwater. Products must be raised up by joist and stacked neatly on an even and solid ground. **Uneven ground will cause the products to deform and warp.** The spacing of each joist should be no more than 500mm. Do not store the products by putting on the ground directly.

During the construction, please cover products that are not in use to prevent the sand and gravel generated by the construction operation from falling on the surface and causing scratches by friction with the surface. Please lift and drop the products gently, and it is forbidden to drag or extract the products.

INSTALLATION INSTRUCTION

WPC JOIST INSTALLATION

⚠ IMPORTANT

The WPC joist should be installed on a flat, sturdy ground with good ventilation and drainage. Before installing the joist, confirm that the maximum rainfall in the installation area does not exceed the height of the joist. It is recommended to use concrete to harden the ground and have a drainage slope of 1-2%.

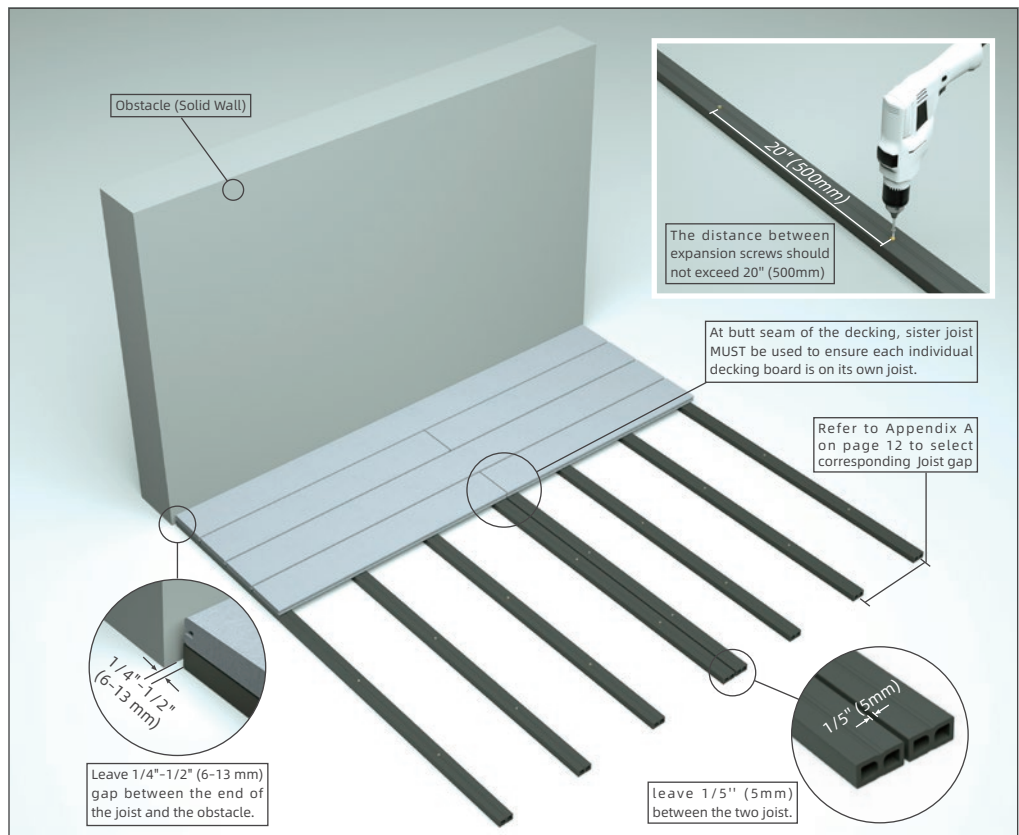
Please make a reasonable plan for the decking project before starting install the joist which is very important to the safety and beauty of the project.

- ① Normally, the joist should be laid as vertical to the decking as possible, the gap between the joist should be no more than 14" (350mm). If the joist and the decking cannot be vertical, please select the corresponding joist gap according to the angle between the joist and the decking ([Refer to Appendix A on page 12 for details](#)).

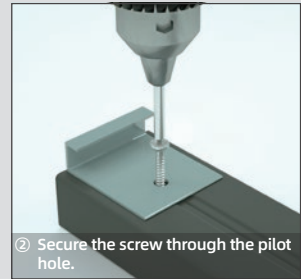
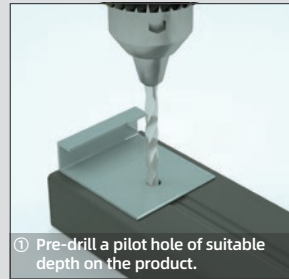
Leave 1/4"-1/2" (6-13 mm) gap between the end of the joist and the obstacle.

- ② At butt seam of the decking, sister joist MUST be used so that each individual decking board is on its own joist to ensure that the board will not slide off the joist, otherwise the warranty will be invalid. leave 1/5" (5mm) between the two joist for ventilation and drainage.

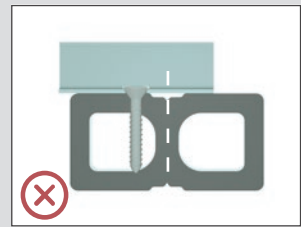
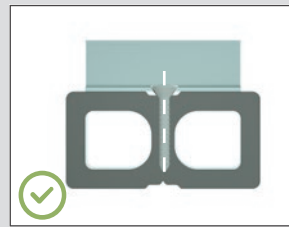
- ③ Fix the joist with expansion screws. Ensure that the expansion screw is installed at the center of the joist. The distance between expansion screws should not exceed 20" (500mm).



NOTE: When fixing accessories on the WPC joist with screw, always pre-drill pilot hole before securing the screw to avoid damage to joist.

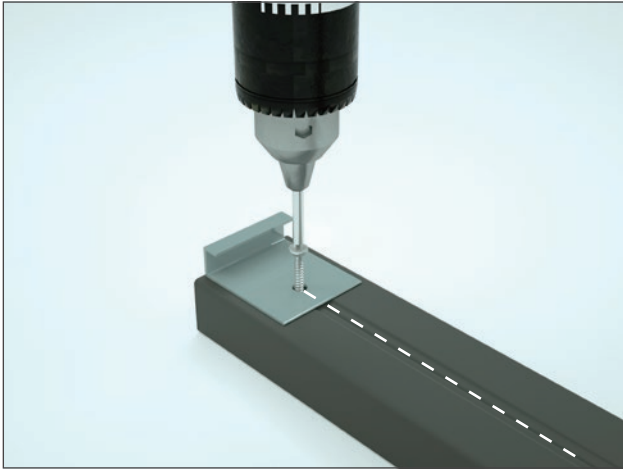


Ensure that the screw is installed vertically in the middle of the joist, offset may affect the fixing stability.

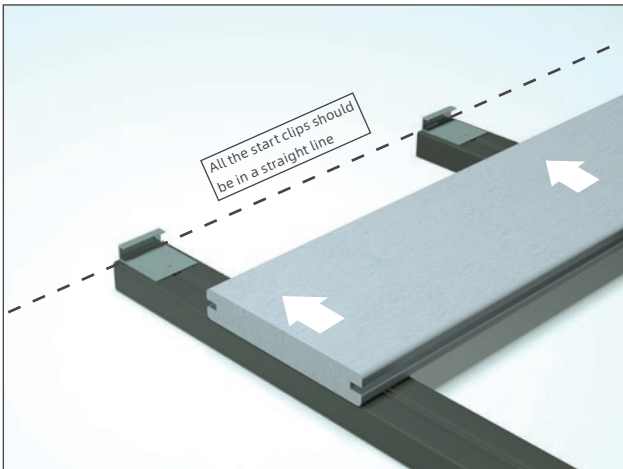


START CLIP INSTALLATION

- ① Pre-drill pilot hole and use screw to fix the start clip on the middle of joist. Ensure that each start clip is installed in a straight line.



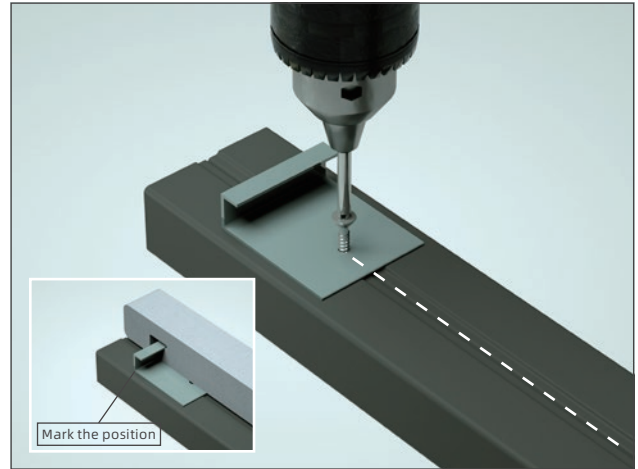
- ② Slide the decking board into the start clip. Important: First board MUST be straight and well secured.



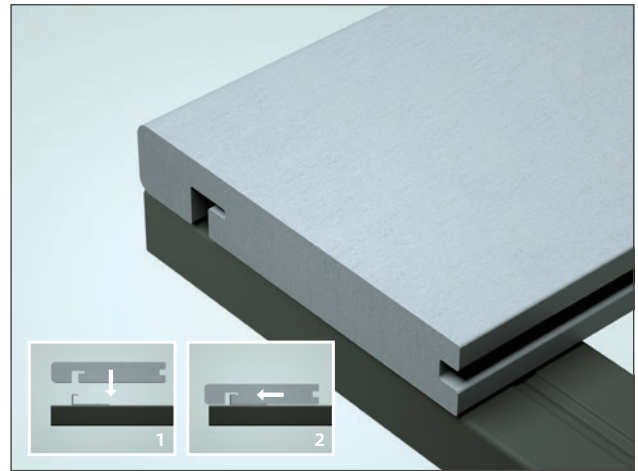
START BOARD INSTALLATION

1" (25MM) START BOARD

- ① Use a short board to determine the position of start clip and mark. Use screw to fix start clip to the joist ([Refer to the START CLIP INSTALLATION on page 3 for detailed steps](#)) at the marked position.

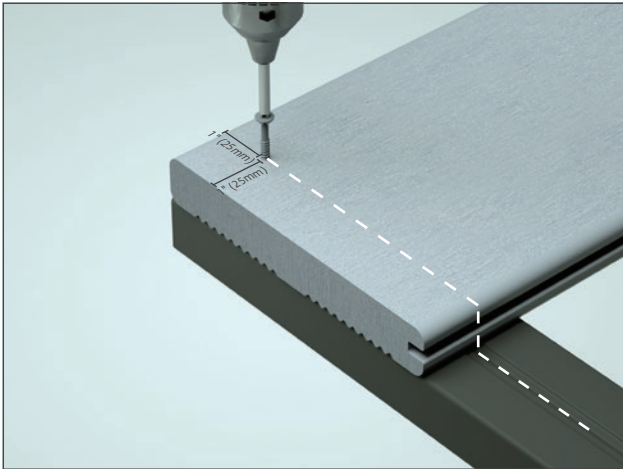


- ② Place the start board over all start clips, lay down, make the start clip are all inside of the underside of the start board. Then, push forward to the end.

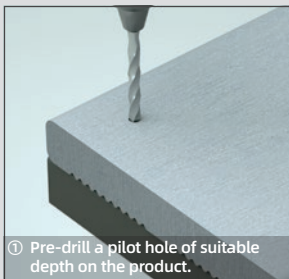


0.82" (21MM) START BOARD

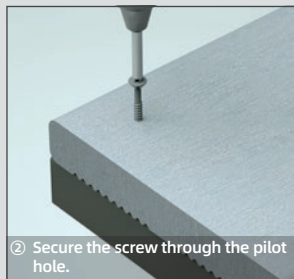
Put the 0.82" 21mm start board on the joist. Fix the screw at the angle of 90° to the middle of the joist. The distance between the screw and the side ends of the decking should be at least 1"(25 mm).



NOTE: Always pre-drill pilot hole before fixing the screw to avoid damage to WPC product.



① Pre-drill a pilot hole of suitable depth on the product.



② Secure the screw through the pilot hole.

DECKING CLIP INSTALLATION

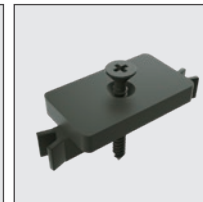
⚠ IMPORTANT

Please select the correct decking clip and screw for the installation of the decking. Unsuitable accessories may affect the service life of the decking.

INSTALL BY TS SERIES CLIP



TS-F

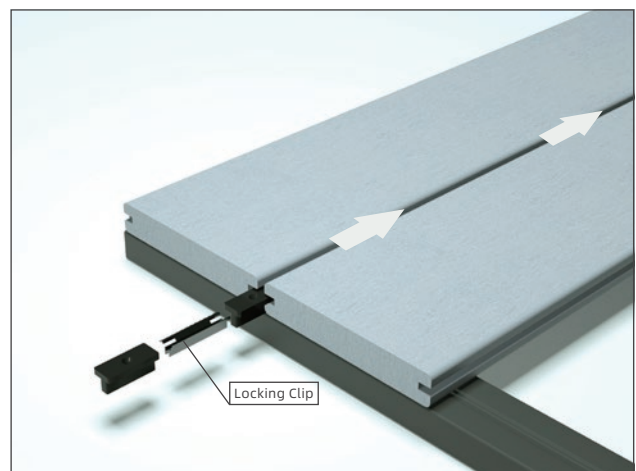


TS-H

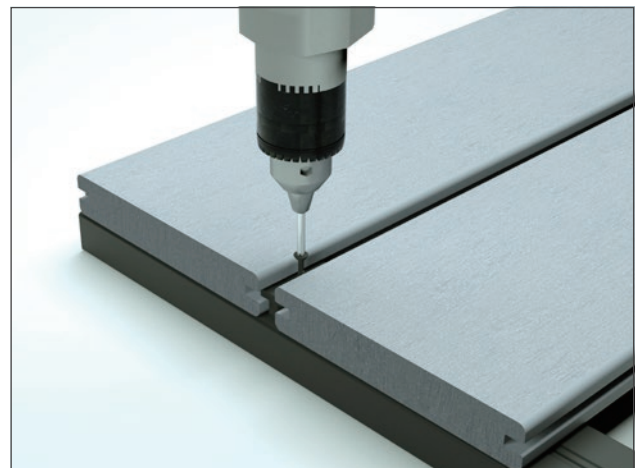


Locking Clip
(for locking decking)

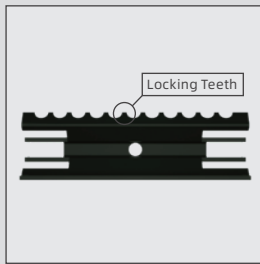
- ① Place the two boards close to each other at a suitable distance, slide in the clips into the two grooves and glide them along until they are on their respective joists. The locking clip is used to prevent the decking from sliding, it is located in the middle of the decking.



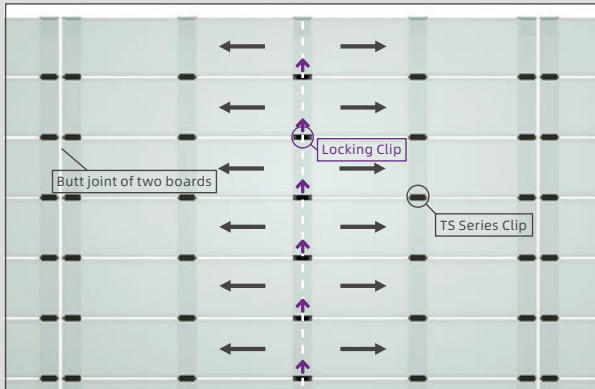
- ② Slide the clip to the middle of the joist, Pre-drill pilot holes and fix the clip with screws.



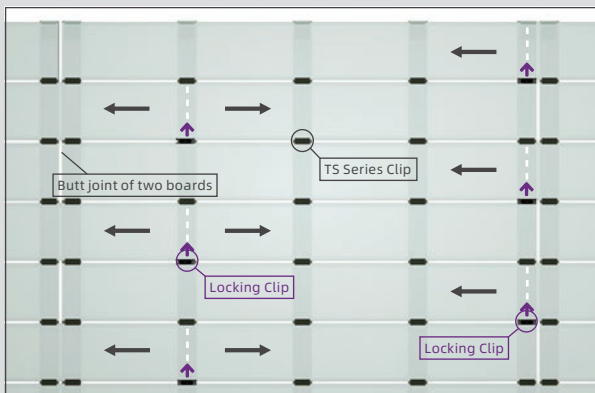
NOTE: Only one piece of locking clip on one side of the decking is required, make sure that the locking clip is in the middle of each decking, and the side with the locking teeth of the locking clip face the same direction.



Normal Installation:

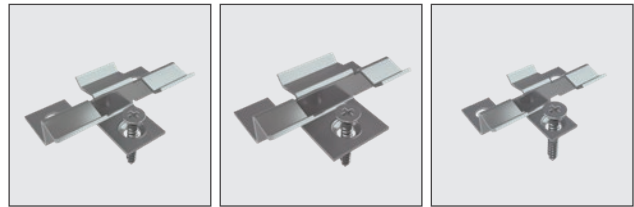


Decking Splicing Installation:



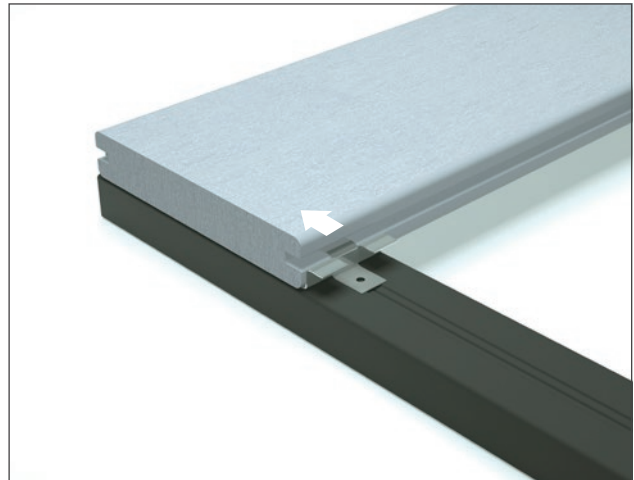
- - - : Middle of decking
- ↑ : Direction of locking teeth of locking clip
- : Direction of expansion and contraction of decking

INSTALL BY TW SERIES CLIP

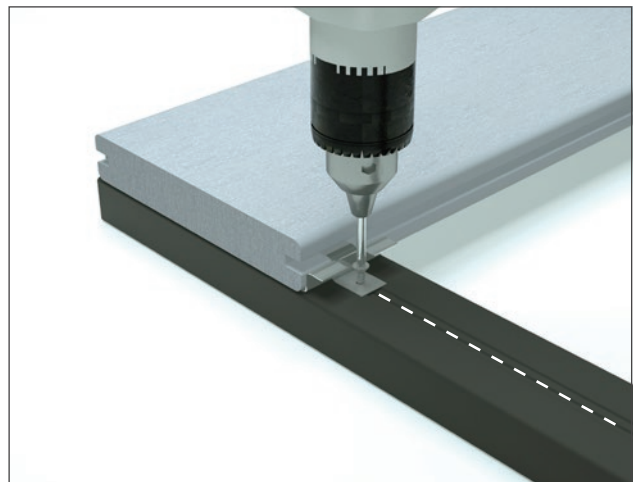


TW-C TW-H TW-K

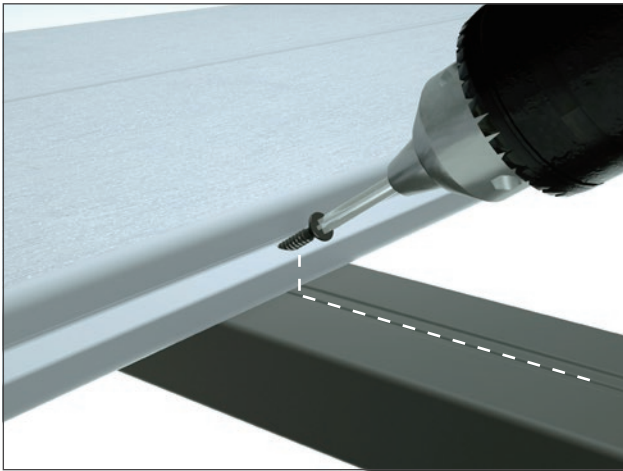
① Slide the clips into the grooves of the boards.



② Pre-drill pilot holes on the middle of the joist and fix the clip with screw.

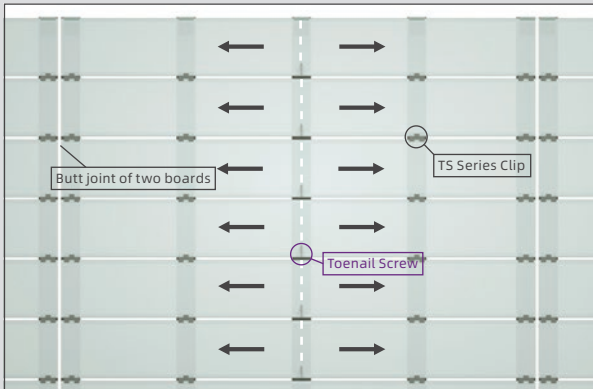


- ③ In the middle of the board, toenail screw at an angle through grooved edge of decking board to fix to the middle of the joist. Then continue to install the next piece of board.

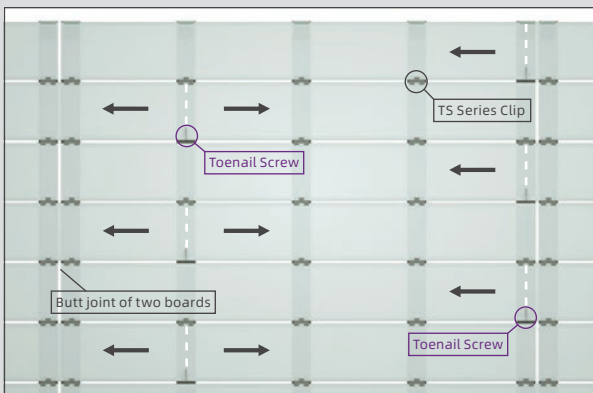


NOTE: One piece of board only needs to be fixed one screw at middle to prevent from sliding.

Normal Installation:



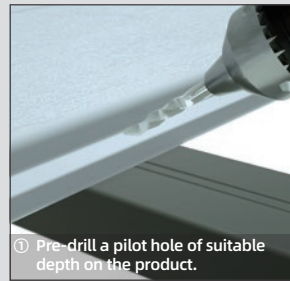
Decking Splicing Installation:



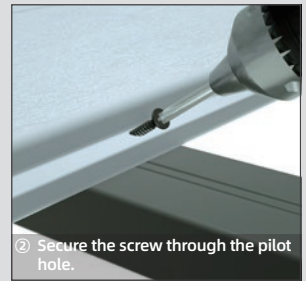
--- : Middle of decking

→ : Direction of expansion and contraction of decking

NOTE: Always pre-drill pilot hole before fixing the screw to avoid damage to WPC product.

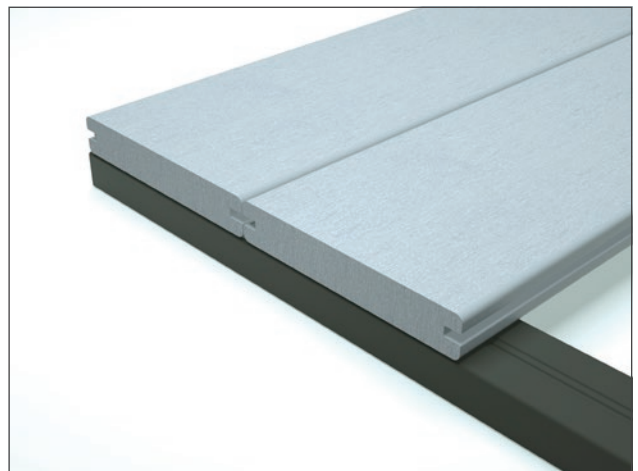
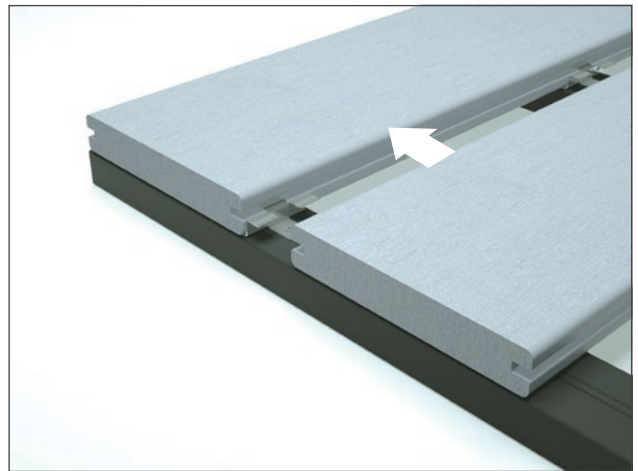


① Pre-drill a pilot hole of suitable depth on the product.



② Secure the screw through the pilot hole.

- ③ After fixing all clips, push the next board into the clips.



RESERVE DECKING GAP

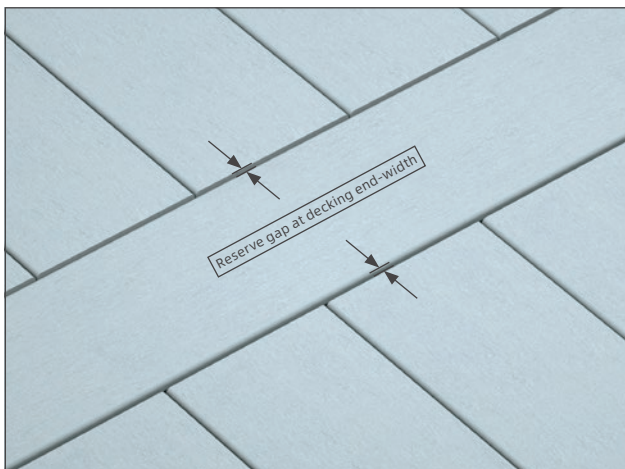
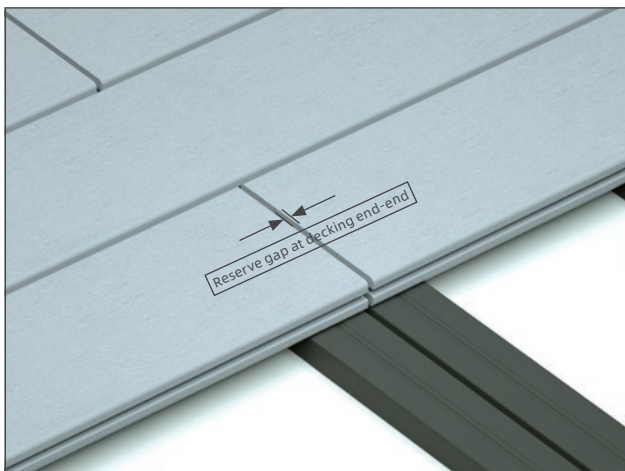
⚠ **IMPORTANT:**

The decking will expand and contract to a certain extent as the environment changes, and gap at the end of decking must be reserved during installation to prevent deformation and warpage caused by thermal expansion and contraction. Gapping also allows for the shrinkage of the WPC joist.

Please select the correct reserved decking gap when end-width or end-end according to the length of the decking and the temperature during installation. ([Refer to Appendix B on page 13 for details](#)).

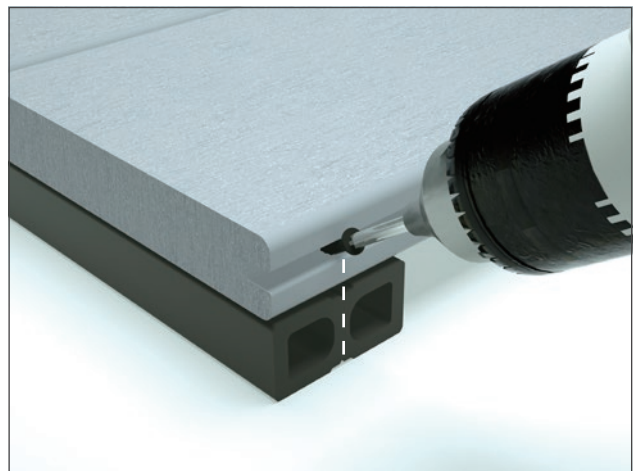
Gap decking from solid object (i.e. wall) should be 1/4"-1/2" (6-13 mm).

Maximum allowable perpendicular overhang for decking is 2" (50 mm).

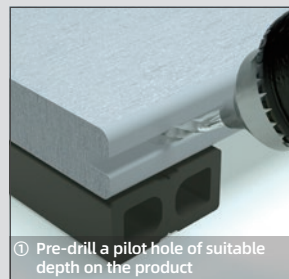


DECKING FINISHING

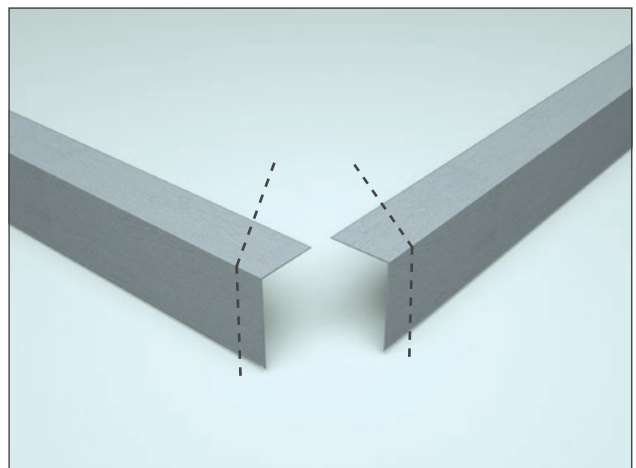
- ① Slide the last piece of decking board into the clip, toenail screw at an angle through grooved edge of board to fix to the middle of joist.



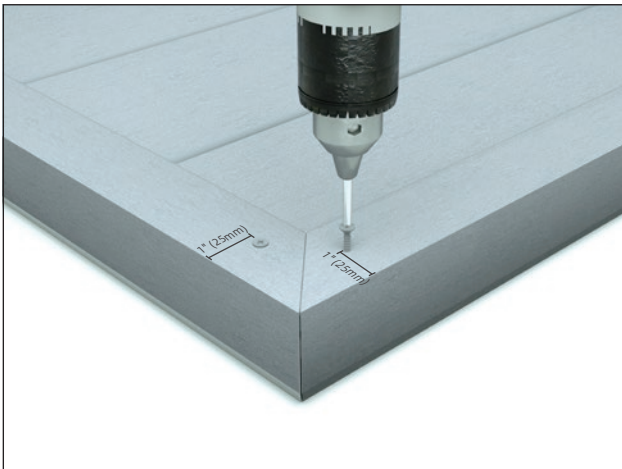
NOTE: Always pre-drill pilot hole before fixing the screw to avoid damage to WPC product.



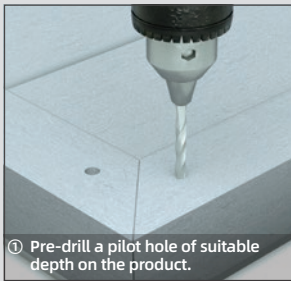
- ② Trim the L corner at a suitable angle.



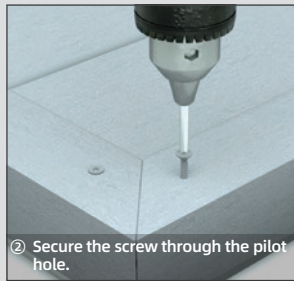
- ③ Fix the color-match screw at the angle of 90 ° to the L corner. The distance between the screw and the side ends should be at least 1"(25 mm).



NOTE: Always pre-drill pilot hole before fixing the screw to avoid damage to WPC product.



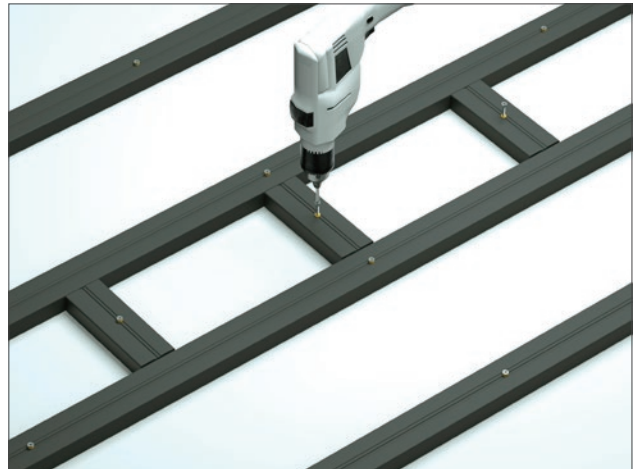
① Pre-drill a pilot hole of suitable depth on the product.



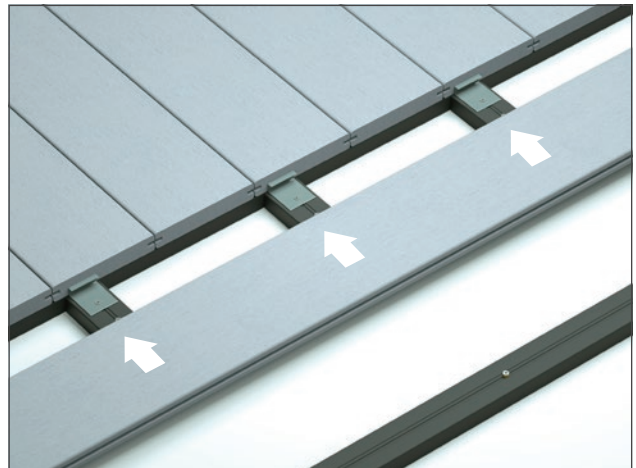
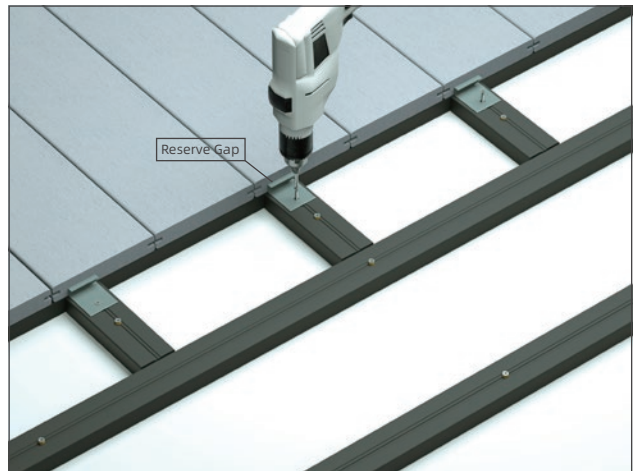
② Secure the screw through the pilot hole.

BREAKER BOARD INSTALLATION

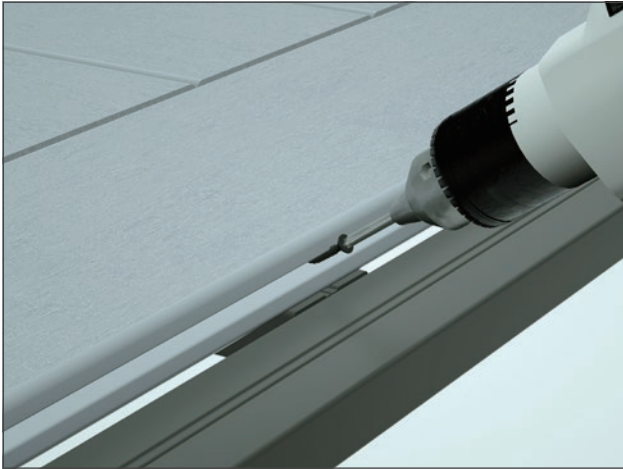
- ① Plan the location of the partition. Install the joist ([Refer to WPC JOIST INSTALLATION on page 2 for detailed steps](#)) vertically to the breaker board.



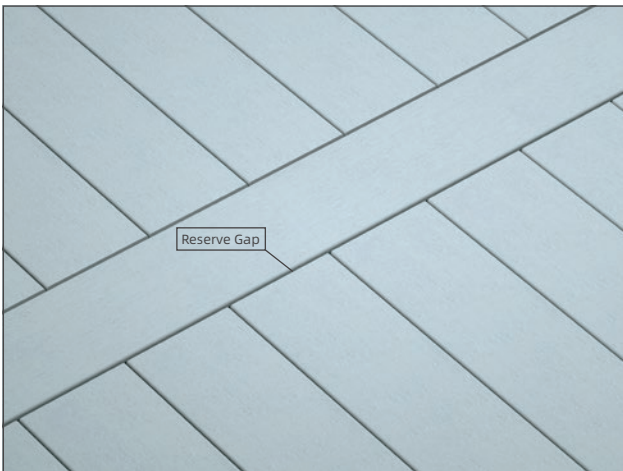
- ② After installing the decking before the partition, fix the start clips and slide the breaker board into the start clips; You can also use start board this step ([Refer to START CLIP INSTALLATION / START BOARD INSTALLATION on page 3 for detailed steps](#)). Leave suitable gap between the end of decking and breaker board ([Refer to RESERVE DECKING GAP on page 7 for details](#)).



- ③ Toenail screw to fix the breaker board to the middle of joist ([Refer to the DECKING FINISHING step 1 on page 7 for details](#)).



- ④ Continue to install another part of decking. Leave suitable gap between the end of decking and breaker board ([Refer to RESERVE DECKING GAP on page 7 for details](#)).



STAIR TREAD INSTALLATION

⚠ IMPORTANT:

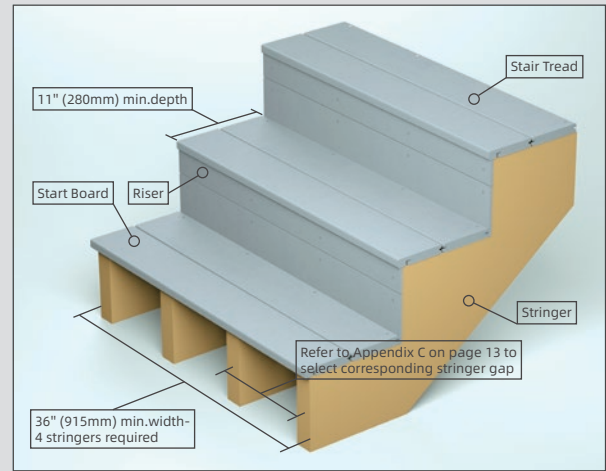
Stair treads built with composite decking must meet requirements by the major national building codes. Consult your local municipality for specific requirements.

Select correct gap between stringers according to the decking profile ([Refer to Appendix C on page 13 for details](#)).

Most model building codes require the stair treads to be constructed under the following requirements:

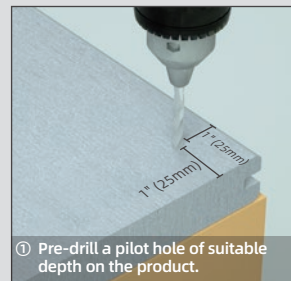
- Stairways must be at least 36" (915mm) wide*
- Stair treads must be at least 11" (280mm) deep

Gapping between decking boards on stair treads should be no less than 1/8" (3 mm). The overhang of the stair tread is not to exceed 1/2" (13 mm).

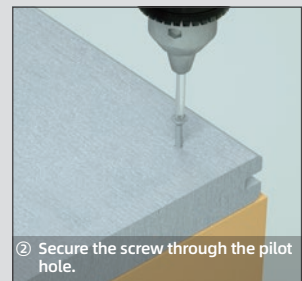


NOTE: Stair treads should only be installed using solid profiles. Using any type of hollow decking for stair treads will not be warranted.

NOTE: Always pre-drill pilot hole before fixing the screw to WPC product. Fix the screw at the angle of 90° and the distance between the screw and the side ends should be at least 1" (25 mm).



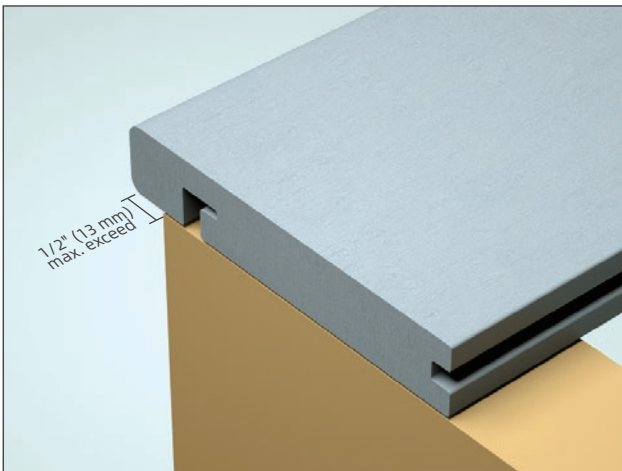
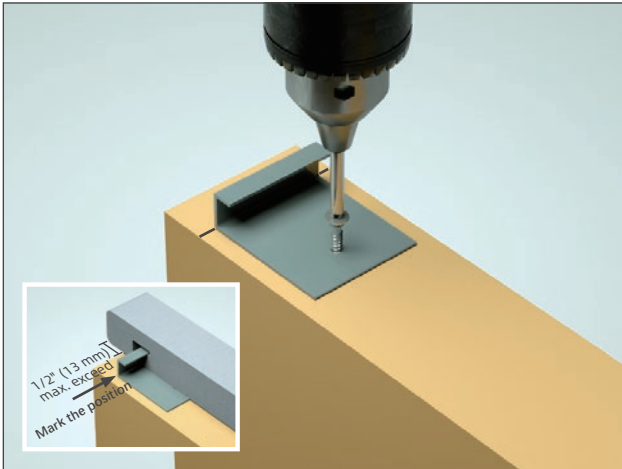
① Pre-drill a pilot hole of suitable depth on the product.



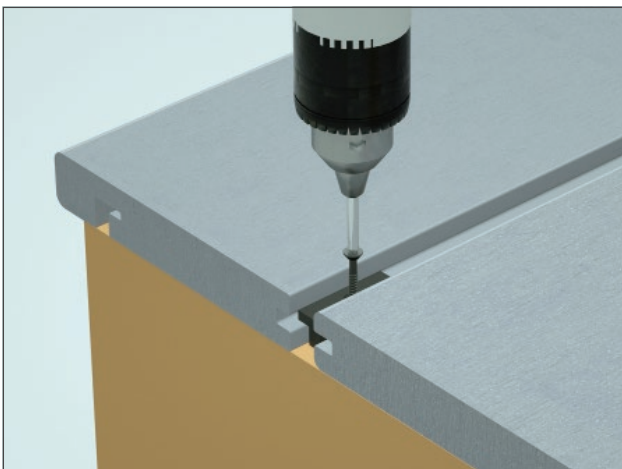
② Secure the screw through the pilot hole.

INSTALL BY 1" (25MM) START BOARD

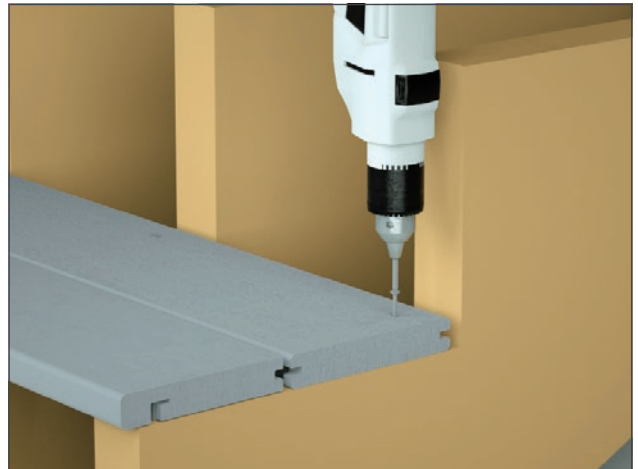
- 1 Fix the 25mm start board on the stringer ([Refer to START BOARD INSTALLATION—1" \(25MM\) START BOARD on page 3 for detailed steps](#)). Ensure that the overhang of the start board is not to exceed 1/2" (13 mm).



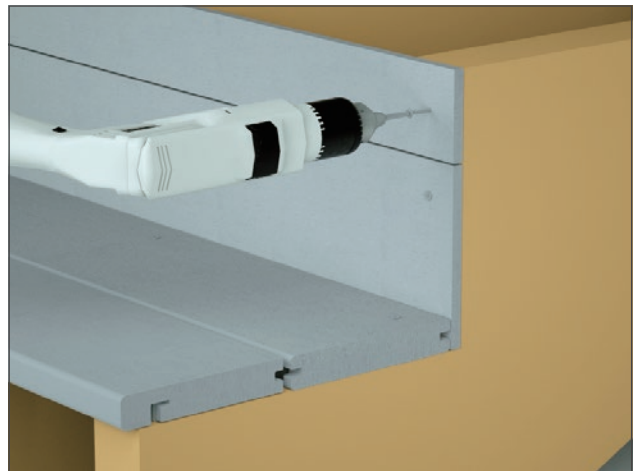
- 2 Use TS or TW series decking clip to continue to install the stair tread ([Refer to DECKING CLIP INSTALLATION on page 4 for detailed steps](#)).



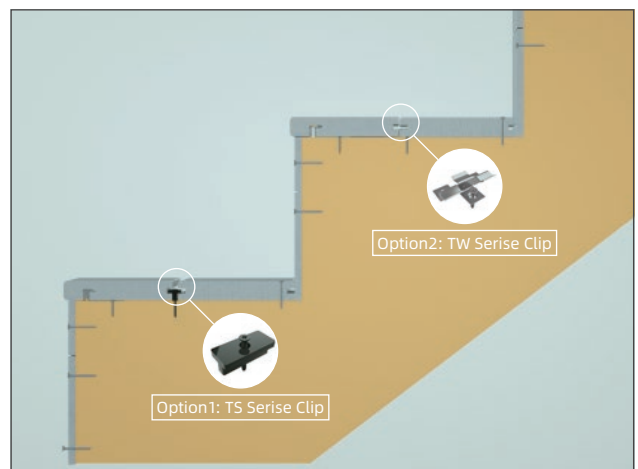
- 3 Pre-drill pilot hole and fix the other side of stair tread with screw.



- 4 Pre-drill pilot holes and use screw to fix the fascia board.

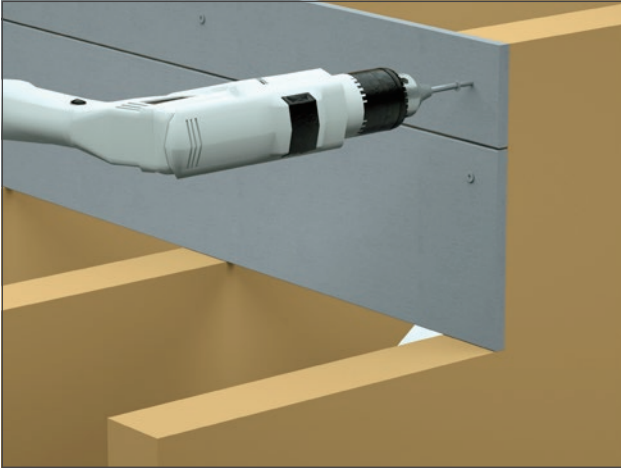


- 5 The finished effect of staircase is shown in the diagram blow.

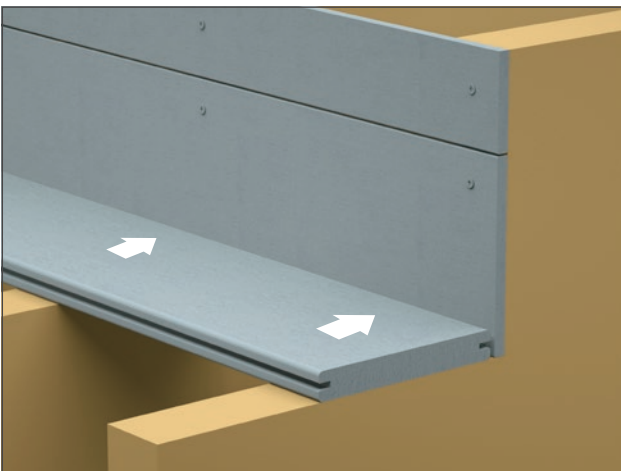
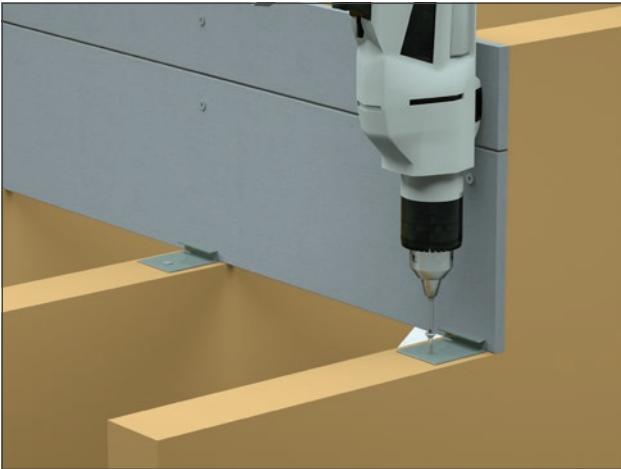


INSTALL BY 0.82" (21MM) START BOARD

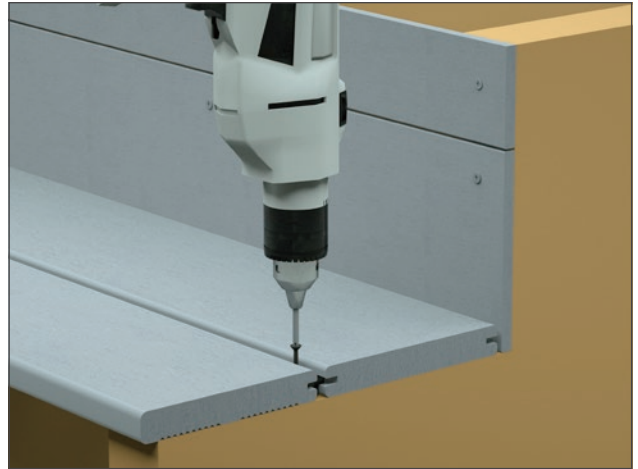
- 1 Pre-drill pilot holes and use screw to fix the fascia board first.



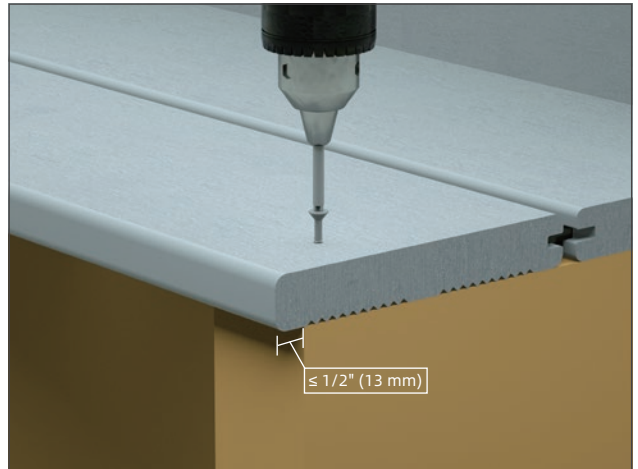
- 2 Use screw to fix the start clip to the stringer, and slide the first decking board (Refer to [START CLIP INSTALLATION on page 3 for detailed steps](#)). The decking board can also be fix with screw directly.



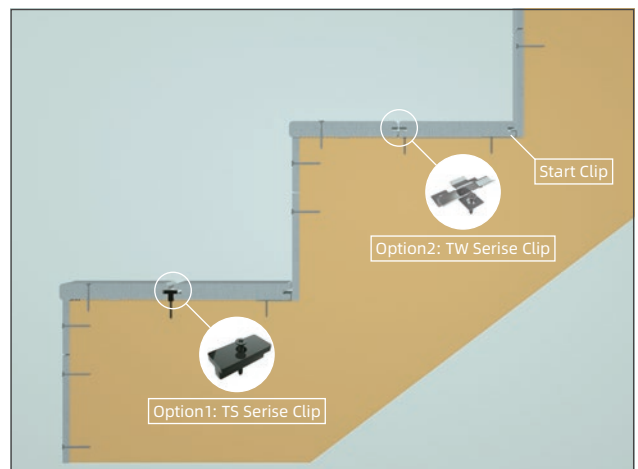
- 3 Use TS or TW series decking clip to continue to install the stair tread (Refer to [DECKING CLIP INSTALLATION on page 4 for detailed steps](#)).



- 4 Pre-drill pilot holes and use screw to fix the 21mm start board (Refer to [START BOARD INSTALLATION—0.82" \(21MM\) START BOARD on page 4 for detailed steps](#)). Ensure that the overhang of the start board is not to exceed 1/2" (13 mm).



- 5 The finished effect of staircase is shown in the diagram blow.



APPENDIX

Appendix A


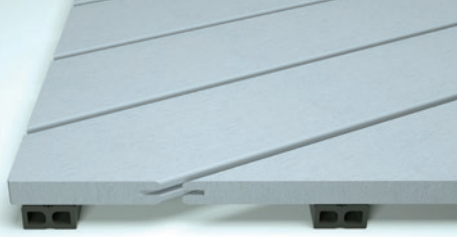
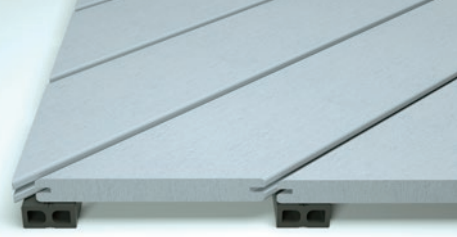
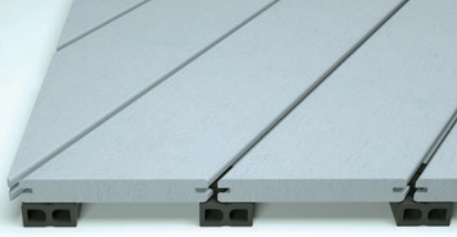
JOIST SPAN (ON CENTER) UNDER ANGLED DECKING INSTALLATION	
ANGLE WITH DECKING	SPAN
90° 	14" (350mm)
60° 	12" (305mm)
45° 	10" (254mm)
30° 	7" (178mm)

Table A
Joist Gap (On center) Under Angled Decking Installation

Appendix B

DECKING RESERVED GAP REFERENCE (TEMPERATURE-LENGTH)					
THE TEMPERATURE OF INSTALLATION \ DECKING LENGTH	7.2' (2.2m)	9' (2.7m)	12' (3.66m)	16' (4.88m)	18' (5.4m)
14° F (-10° C)	0.34" (8.5mm)	0.36" (9.0mm)	0.38" (9.5mm)	0.44" (11.0mm)	0.52" (13.0mm)
23° F (-5° C)	0.34" (8.5mm)	0.36" (9.0mm)	0.38" (9.5mm)	0.42" (10.5mm)	0.50" (12.5mm)
32° F (0° C)	0.32" (8.0mm)	0.34" (8.5mm)	0.36" (9.0mm)	0.40" (10.0mm)	0.48" (12.0mm)
41° F (5° C)	0.32" (8.0mm)	0.34" (8.5mm)	0.36" (9.0mm)	0.38" (9.5mm)	0.46" (11.5mm)
50° F (10° C)	0.30" (7.5mm)	0.32" (8.0mm)	0.34" (8.5mm)	0.36" (9.0mm)	0.44" (11.0mm)
59° F (15° C)	0.30" (7.5mm)	0.30" (7.5mm)	0.32" (8.0mm)	0.34" (8.5mm)	0.42" (10.5mm)
68° F (20° C)	0.28" (7.0mm)	0.28" (7.0mm)	0.30" (7.5mm)	0.32" (8.0mm)	0.40" (10.0mm)
77° F (25° C)	0.26" (6.5mm)	0.26" (6.5mm)	0.28" (7.0mm)	0.30" (7.5mm)	0.38" (9.5mm)
86° F (30° C)	0.24" (6.0mm)	0.24" (6.0mm)	0.26" (6.5mm)	0.28" (7.0mm)	0.34" (8.5mm)
95° F (35° C)	0.20" (5.0mm)	0.22" (5.5mm)	0.24" (6.0mm)	0.26" (6.5mm)	0.30" (7.5mm)
104° F (40° C)	0.16" (4.0mm)	0.18" (4.5mm)	0.20" (5.0mm)	0.24" (6.0mm)	0.24" (6.5mm)

Noted: The reserved gap in the table is for reference only, it still needs to be adjusted according to the product type and local climatic conditions, please consult your consultant for the recommended reserved gap.

Table B
Decking Reserved Gap Reference (Temperature-Length)

Appendix C

MAXIMUM STRINGER SPACING (ON CENTER) REFERENCE	
THICKNESS OF DECKING	STRINGER GAP
0.82" - 0.90" (21mm-23mm)	9" (229mm) <i>Note: Need at least 5 stringers</i>
> 0.90" (23mm)	12" (305mm) <i>Note: Need at least 4 stringers</i>

Table C
Maximum Stringer Spacing (On Center) Reference



INSTALLATION INSTRUCTION

(For Evolution Decking)

v2021