

# CALI<sup>®</sup> decking

TruOrganics™



**Installation Guide**

(888) 788-2254  
[www.CALIfloors.com](http://www.CALIfloors.com)

## Decking Systems



**TRUORGANICS 3G**  
5-7/16" Wide  
Plank Dims: 144"L x 5-7/16"W x 7/8"H



**TRUORGANICS 3G WIDE**  
8-1/4" Wide  
Plank Dims: 96"L x 8-1/4"W x 7/8"H



**TRUORGANICS SQUARE EDGE**  
5-7/16" Wide  
Plank Dims: 144"L x 5-7/16"W x 7/8"H

## Decking Accessories



**3G END CAP**



**3G WIDE END CAP**



**UNIVERSAL HIDDEN FASTENERS**



**UNIVERSAL BUTT SEAM CLIPS**

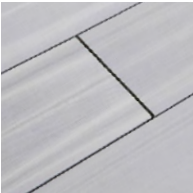


**STARTER CLIPS**

## Available Colors



**SEDONA**



**GLACIER**



**DENALI**



**YOSEMITE**

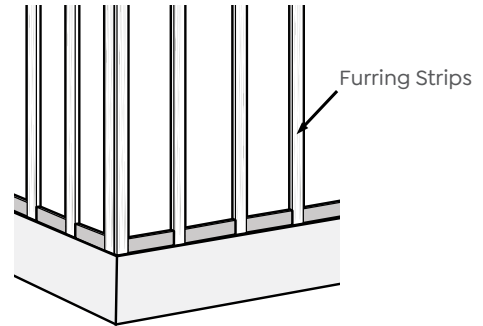
Before you begin installation, remember to take your T.I.M.E. with the checklist below. Full installation instructions and maintenance guidelines can also be found online at [www.CALifloors.com](http://www.CALifloors.com)

## T I M E TAKE TIME TO READ



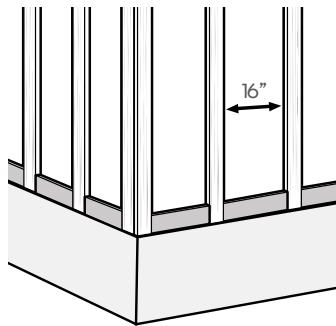
Take time to read the local building codes for any special requirements or restrictions.

## T I M E INSTALL VENTILATION



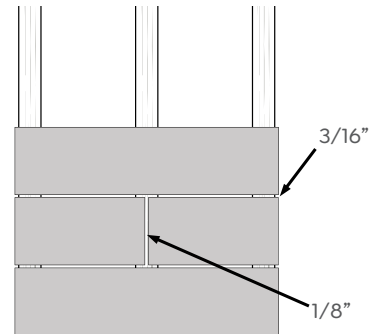
Decking used for Cladding must be attached to joists/furring strips to allow proper room for ventilation.

## T I M E MEASURE YOUR JOIST



Measure your joist/furring strip spacing to ensure it is 16" on center for cladding application.

## T I M E EXPANSION SPACE



Expansion space is required! Decking boards should always have 3/16" expansion space between boards and 1/8" expansion space on all butt ends.

## IMPORTANT: Pre-Installation Guidelines

**Note: Decking not used for its intended purpose will not be covered under warranty.** For the most up-to-date information, please visit our website at [CALIfloors.com](http://CALIfloors.com)

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 TruOrganics 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. CALI recommends the following safety equipment when handling, cutting, and installing CALI decking: gloves, respiratory protection, long sleeves, pants, and safety glasses.

## Tools Needed

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.

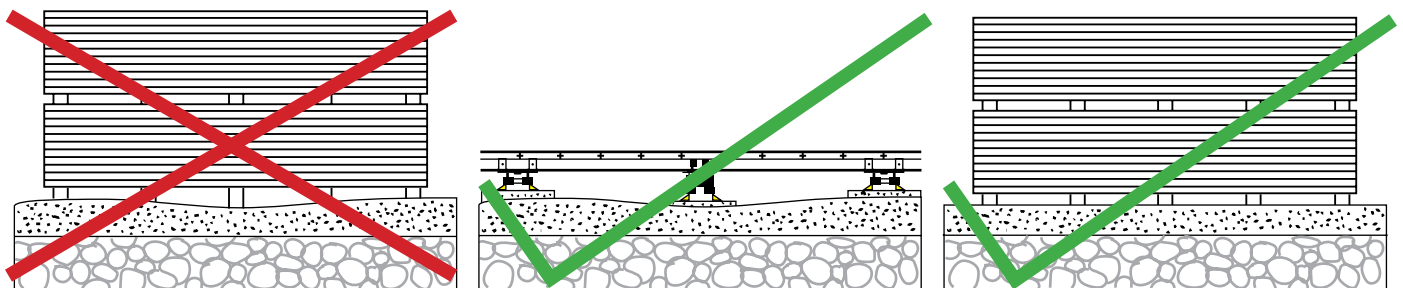
Typical tools needed include but are not limited to:

- Hammer
- Circular Saw (Carbide Tipped Blade)
- Level
- Tape Measure
- Screw Gun
- Chalk Line
- Rasp
- Miter Saw

**Note:** Any time the decking boards need to be marked use white chalk, straight boards, or string lines as templates for straight lines. NEVER USE COLORED CHALK. Colored chalk will permanently stain TruOrganics products and is not recommended.

## Storage

A clean, smooth, flat, and strong frame is needed to install TruOrganics products correctly. TruOrganics products need to be stored on a flat and even surface at all times. Surfaces such as dirt and grass are not recommended as they can move over time and potentially cause warping or distortion. Always remember to keep TruOrganics boards dry until you are able to start installation.



## Planning

Plan a layout for your decking before starting to ensure the best possible look 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. Therefore, nearly every kind of decking requires permits and inspections from a local building department.

## Construction

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

## Static

Static build-up is a natural occurring phenomenon that can occur with many plastic products. Dry and windy environments may make this more apparent and varies depending on the climate and age of the decking.

## Ventilation

TruOrganics products CANNOT be directly installed on a flat surface. They must be installed on a substructure so there is adequate and unobstructed air flow under the decking to prevent excessive water absorption. A minimum of 4 inches of continuous net free area under the decking surface is required for adequate ventilation. This will ensure air can circulate between adjacent members to promote drainage and drying.

## Heat and Fire

Excessive heat on the surface of TruOrganics products from external sources such as fire or reflection of sunlight from energy efficient window products can cause passive heat gain within a structure. This can lead to unusual heat build-up on exterior surfaces. This extreme elevation of surface temperatures can make TruOrganics products susceptible to melting, sagging, warping, discoloration, increased expansion/contraction, and accelerated weathering.

## Framing

A clean, smooth, flat, and strong frame is needed to install TruOrganics products. Determine the joist spacing of the frame and ensure that it is completely level before installing any boards. Adequate spacing between 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
TruOrganics, Solid Board	5.5" x 0.9"	16"	12"
TruOrganics, 3G Board	5.5" x 0.9"	16"	12"

**Joist Spanning on Center-to-Center with Angled Decking Installations**

Degree of Angle	Dimensions	Spacing
90	5.5" x 0.9"	Refer to table above
60	5.5" x 0.9"	2" less than the span stated in the above table
45	5.5" x 0.9"	4" less than the span stated in the above table
30	5.5" x 0.9"	1/2 the distance stated in the table above

## Face Fasteners

When fastening TruOrganics products all screws that are face fastened must be driven in at a 90 degree angle to the decking surface. See Diagram 1. An extra (sister) joist should be added if a 90 degree angle cannot be driven into the board. Never toe/edge screw the deck boards.

All screws that are face fastened must be stainless steel. **Only facescrew the first row, use hidden fasteners to secure all other rows. Failure to do so can result in cracking.**

To ensure structural integrity of the boards maximum overhang should be 5/8" as shown in Diagram 1. Always use screws designated for use with composite decking material. Test the screws on a scrap piece of board to ensure the screws do not cause the surface of the decking mushroom or bulge around the head of the screw. If it does cause this issue, change to a different brand of screw. CALI recommends using 2-1/2" TrapEase 3 Ultimate composite decking screws.

Diagram 1

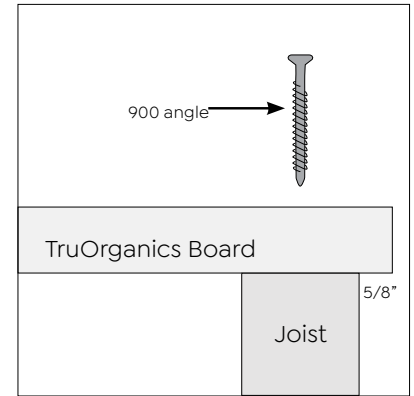


Diagram 2

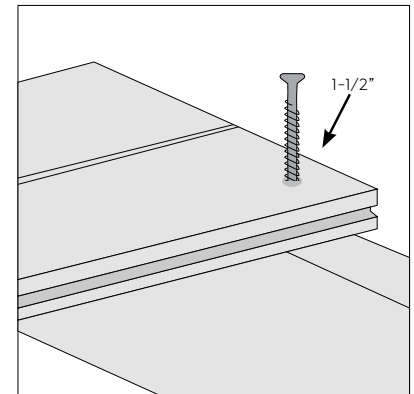


Diagram 3

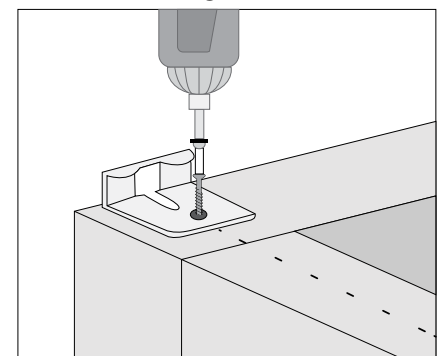
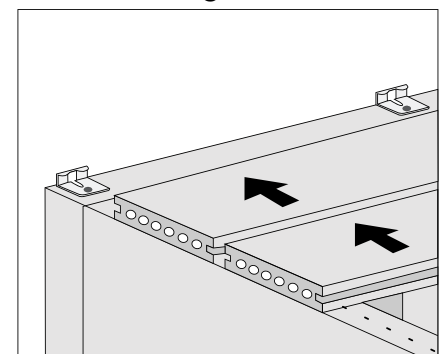


Diagram 4



TrapEase 3 Color Match to CALI Decking TruOrganics	
TruOrganics Color	TrapEase 3 Color Match
Caribou	Woodland Brown
Denali	Vintage Lantern
Glacier	n/a
Mohave	Rope Swing
Sedona	Tiki Torch
Yosemite	Island Mist

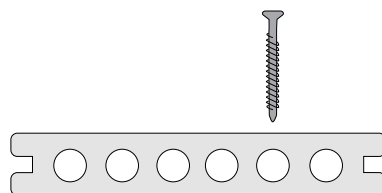
## Decking Installation

When installing the deck boards, you have the option of using starter clips on your first row. Every other board will use the hidden fastener for installation.

### Starting Accessory Installation

1. After calculating the decking span and making the frame of your deck the first board is ready to be installed.
2. First pre-drill into the joist then fix the starting accessory into the joist as shown in Diagram 3.
3. Then take your first board and push it into the starting accessory as shown in Diagram 4.

**Quick Tip:** When face fastening it is a best practice to line the screw up with one of the holes in the 3G decking.

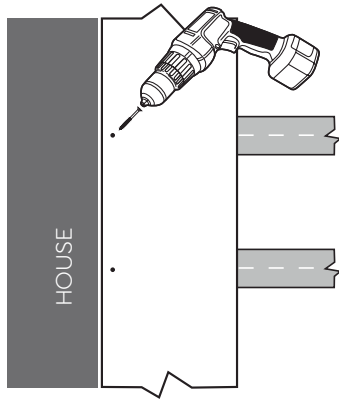


## TruOrganics Universal Hidden Fastener Installation

### 1. Installing First Row

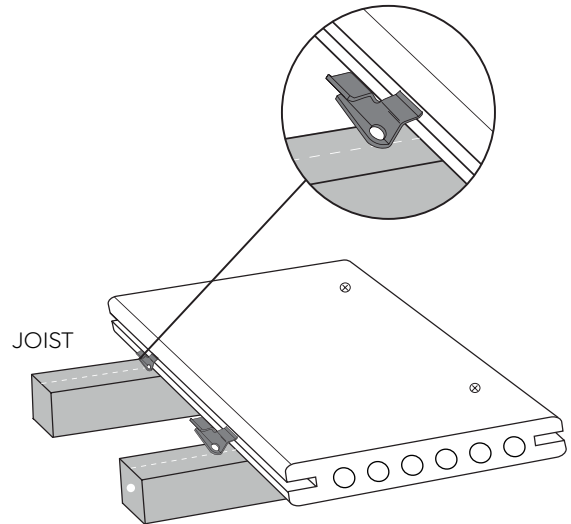
Fasten one edge of the first board at each framing support using a quality 2-1/2" (64mm) deck screw. It is important that this board is straight and well secured.

**Only facescrew the first row, use hidden fasteners to secure all other rows. Failure to do so can result in cracking.**



### 2. Position Fasteners

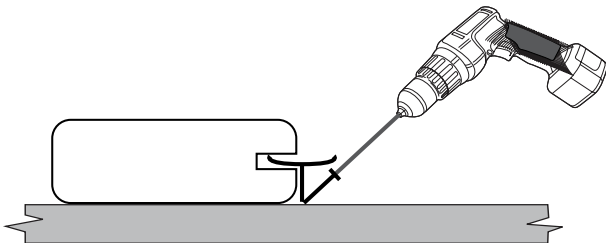
Fully insert Universal Hidden Fastener into grooved edge of deck board. Screw hole should line up with the center of support joist.



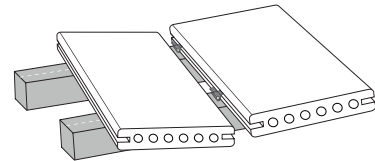
### 3. Installing First Fasteners

While standing on deck board, install provided screw at 45° angle through fastener and into joist, while applying pressure on fastener. Install one fastener and screw at each support joist.

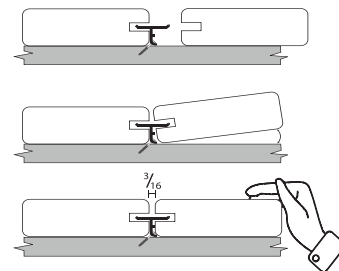
Make sure fastener body is vertical to deck board and the screw is holding fastener down tight to support joist. adjust torque setting on screw gun to prevent spin out of the screw head.



### 4. Completing Installation of Boards



Place next deck board into position against fasteners. Slightly raise outer edge of board being installed and slide board onto fastener until board contacts spacer tabs.



Check gap between boards for consistency. Apply force to ensure board is fully installed.

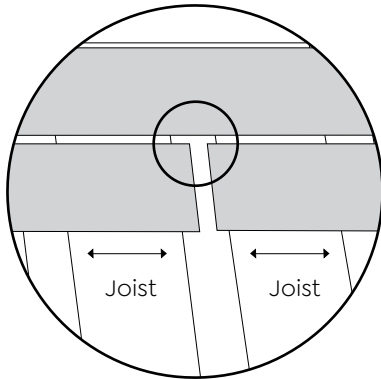
**Repeat steps 2 thru 4 until deck is complete.**

## Universal Butt Seam Clip Installation

### 1. Determine Location of Seam

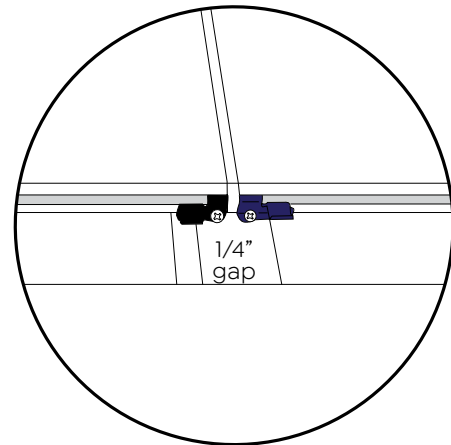
Determine upon which joist your next row of boards will have a seam. If this is not known ahead of time it may be necessary to adjust clip when butt seam location is determined.

Be sure to install a Universal Hidden Fastener and Butt Seam Clip at the joist where the next seam will land. If this is not known ahead of time it may be necessary to adjust clip when butt seam location is determined.



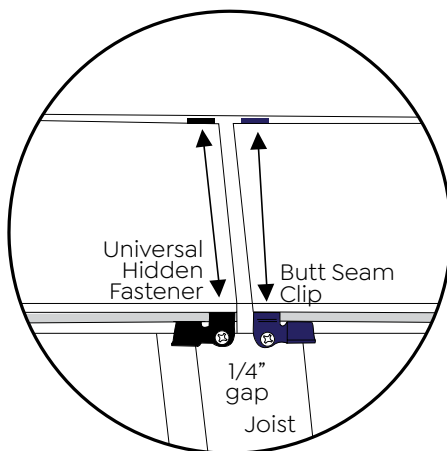
### 2. Position Boards

Install a Universal Hidden Fastener and Butt Seam Clip into the groove of the deck board. Position the fasteners towards the center of the joist, leaving about a 1/4" gap between the fasteners. Install screws provided at 45° angle into joist.



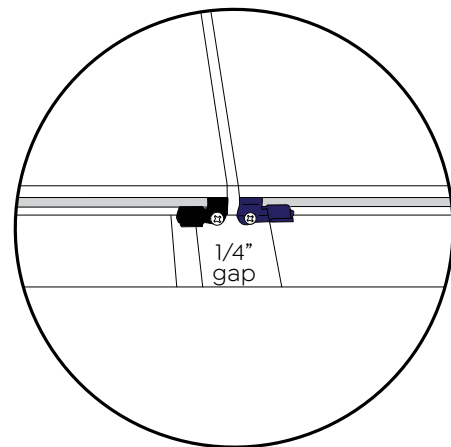
### 3. Install Universal Hidden Fasteners and Butt Seam Clip

When installing the next row. Make sure the seam of the two boards is centered over the joist. Install a Universal Hidden Fastener and Butt Seam Clip on like shown in step 2.



### 4. Install Next Board

Install next board and continue with Universal Hidden Fastener installation following Universal Hidden Fastener instructions.



**Please Note:** TruOrganics boards should always have 3/16" expansion space between boards and 1/4" expansion space on all butt ends.

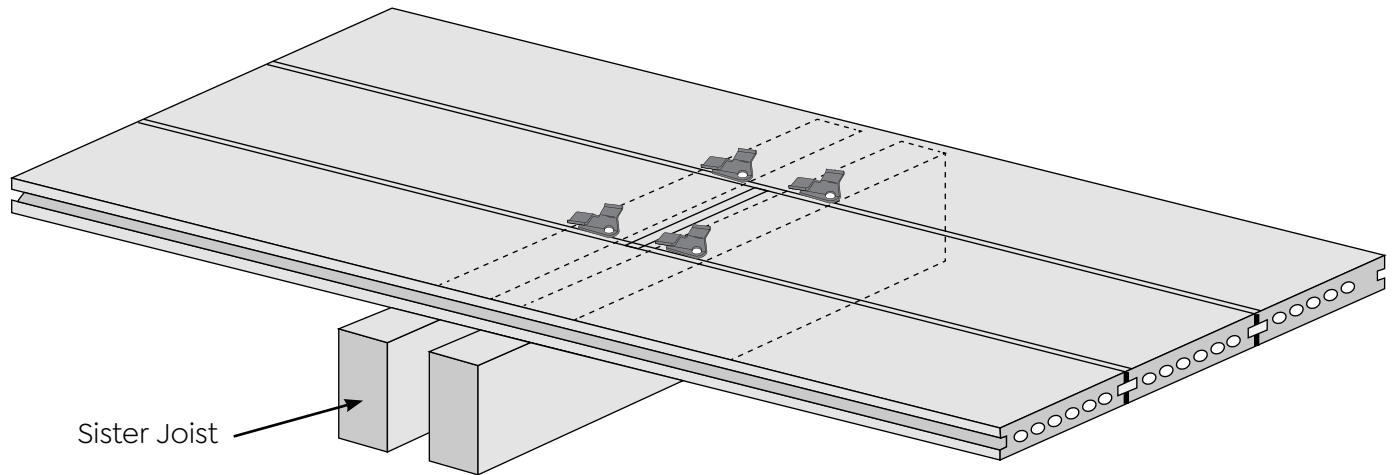


## End Joint Installation without Universal Butt Seam Clips

All fasteners should be on their own independent joists. When two board ends meet each other, there must be a sister joist. The end of each board must sit on its own joist as shown in Diagram 5.

All end joints need a minimum of 1/4" expansion gap from board to board.

Diagram 5



## Additional Installation Information

### Metal Framing

CALI considers metal framing to be a custom installation. It is an acceptable installation but please note that it is up to the installer to provide the correct screws for the hidden fasteners as the screws that are provided are for wooden joists only.

Number 7 or 8 self tapping screws are usually recommended. Contact the screw manufacturer to ensure proper application.

### Routing

Solid boards can be routed for hidden fasteners to be placed as shown in Diagram X.

**Note: Boards should never be routed the entire length.**

Fascia boards can also be routed to allow for expansion and contraction.

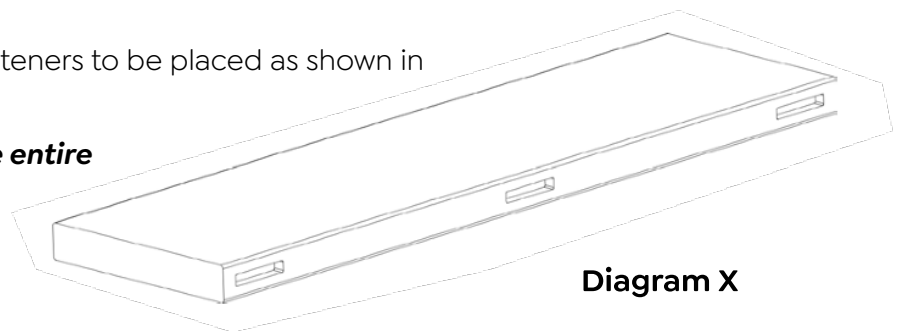


Diagram X

## End Cap Installation - Installing the End Caps

1. Place the end cap in front of the TruOrganics 3G boards holes and push in as shown in Diagram 5. If additional pressure is needed to install the end caps a rubber mallet should be used.
2. Silicone (shown in Diagram 5) is recommended to be used on the end cap or inside the holes of the board in order to secure the end caps and seal the end of the deck board.
3. When finished, the ends of the boards should look like Diagram 6 below.

Diagram 5

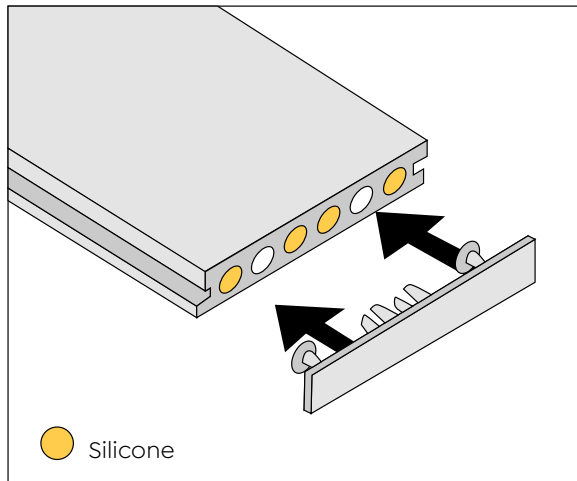
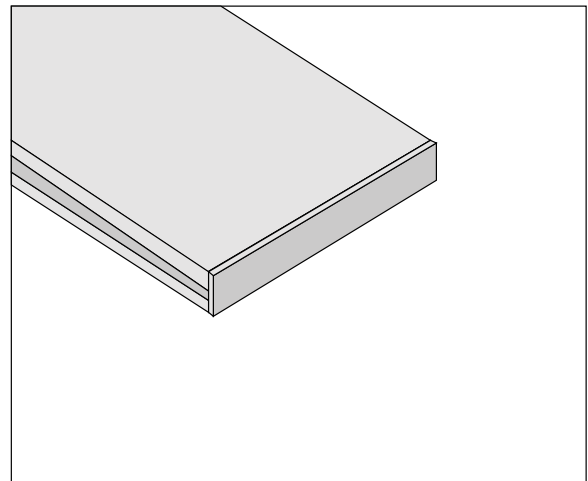


Diagram 6



## Additional Installation Information

### Routing

Solid boards can be routed for hidden fasteners to be placed in them as shown in Diagram 7. Please note that boards should not be routed the entire length of the deck.

### Expansion Space in Extreme Climates: Manual Equation

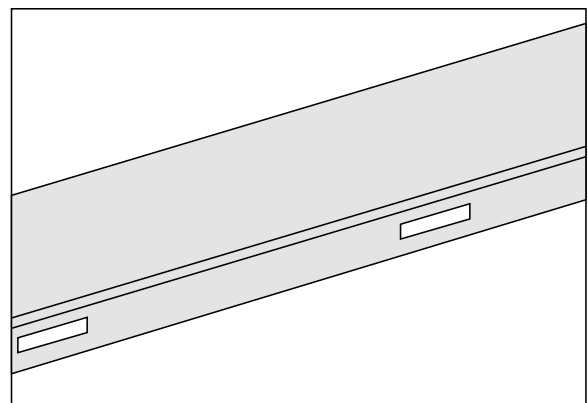
In extreme climates additional expansion space between the boards may be necessary. Please reference the formula below to calculate your expansion space.

#### What you will need to know:

- Coefficient of Linear Expansion (CLE): 0.04 mm/m (°C) / 20.2 x 10E-6 inch/inch/ (°F)
- Installation Temperature (°C or °F)
- Max or Minimum Temperature in your region (°C or °F)
  - A. When installing at a low temperature always use the maximum temperature in your region to calculate
  - B. When installing at a high temperature always use the minimum temperature in your region to calculate
- Length of the Board (mm / inches)

**Expansion space** = Coefficient of Linear Expansion (CLE, °C or °F) x Length of the Board (mm / inches) x (Max. or Min. Temp. in your region - Installation Temp., (°C or °F).

Diagram 7



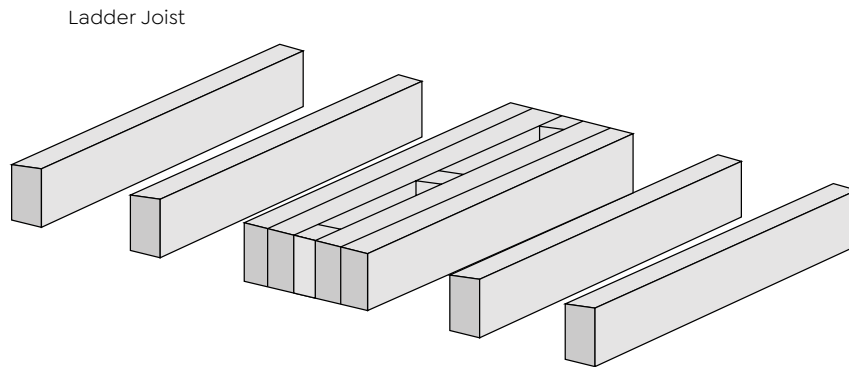
## Breaker Board Installation

When a length of more than two boards is needed to install the deck, we recommend adding a breaker board as shown in Diagram 9. This will help minimize the appearance of normal expansion and contraction.

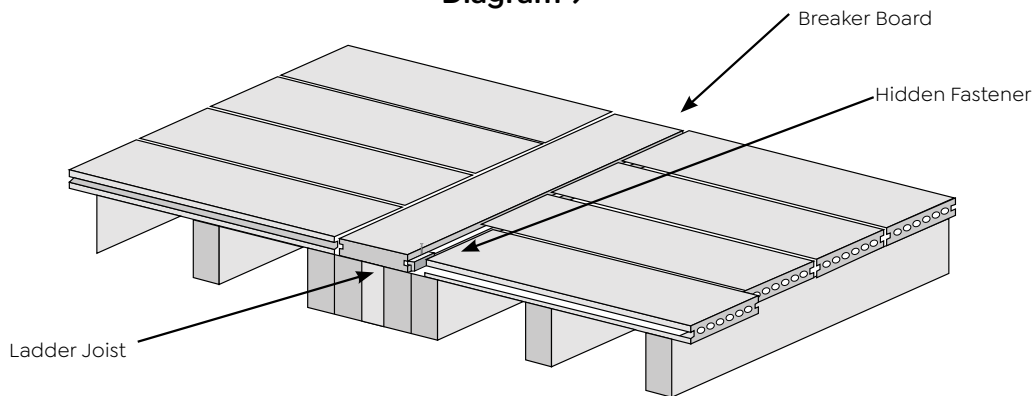
Diagram 8 and 9 show the framework and installation of the breaker board respectively.

Diagram 8 framework uses a ladder joist installation where the user is building a frame perpendicular to the board that will be running down it.

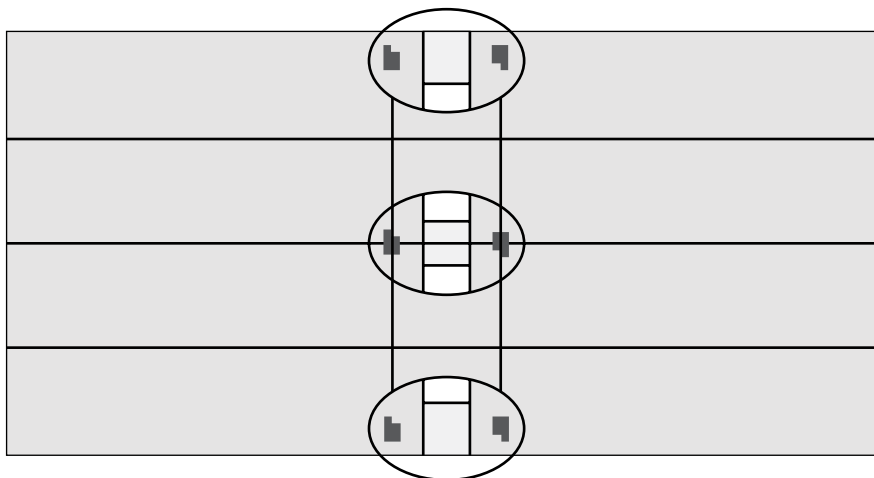
**Diagram 8**



**Diagram 9**



**Diagram 10**



*View from above of completed breaker board with Universal Hidden Fastener cut in half.*

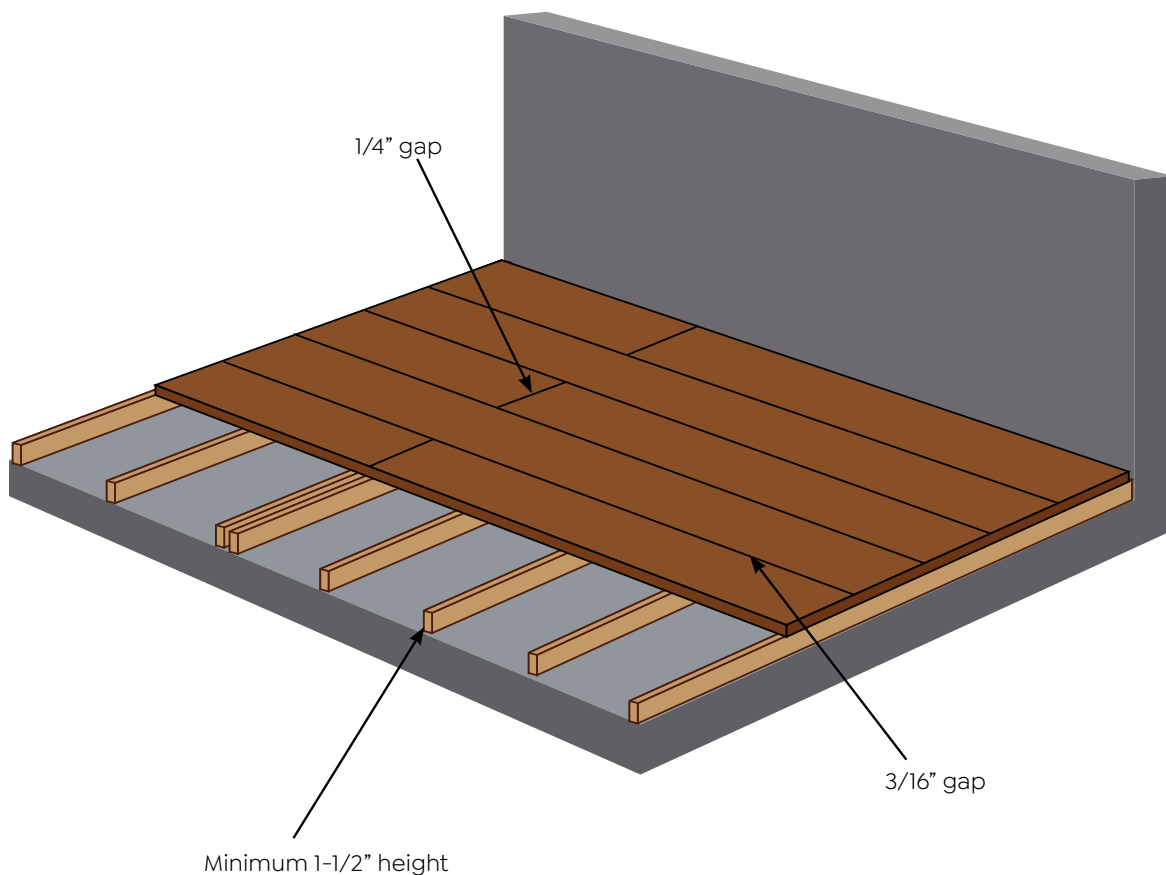
**Note: The Universal Hidden Fastener can be used as a breaker board clip by cutting the square notch side of the clip off. A blade rated for metal will be needed for this.**

**Otherwise the breaker board should be face screwed on both side every 16" for the length of the board.**

## Sleeper System Installation

- Make sure to fix any water run-off or pooling problems that may exist on the patio
- The system must be solid, no floating systems allowed
- Pre-drill holes for concrete screws
- Sleepers need to be at least 1-1/2" in both width and height
- Do not install sleepers on any loose substance such as dirt, concrete pavers or sand
- Solid surface must be flat and level
- Spacers are permitted (highly recommended) between sleeper system and concrete to improve drainage
- Make sure to use code approved, weather and rot resistant material for your sleeper system
- It is always recommended to use joist tape on your sleeper system to help protect against any possible moisture
- When installed, the screws holding the sleepers down should penetrate the concrete at least 1"
- Always install sleepers parallel to the water run off
- Follow same joist spacing as regular deck install. Residential 16" on center, Commercial 12" on center
- Always review all local building code before starting your project

**Diagram 11**



## Fascia Boards

Fascia boards can be installed on either 12" or 16" on center.

First, pre-drill the holes for the fascia board. It is recommended to drill bigger holes or to route the fascia board to allow for expansion and contraction.

Boards must be fastened at every joist and at both ends with 2 screws 1-1/2" from the edges, See Diagram 12

The fascia board will be installed into the block wood and through the joist.

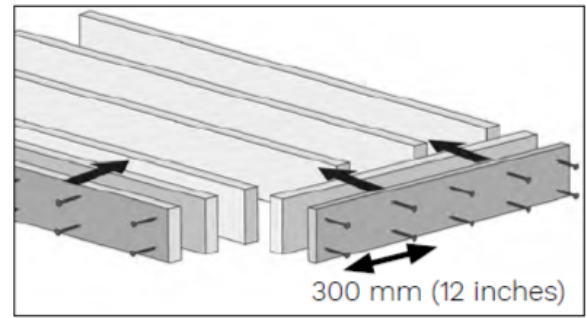


Diagram 12

**Quick Tip:** NEVER install the fascia by drilling into the decking. ALWAYS install the fascia into the joist and ALWAYS pre-drill the fascia board.

## Stair Tread Installation

Stair treads built with TruOrganics must meet requirements set forth by major national building codes. Consult your local municipality for specific requirements.

Review Diagram 13 and reference the table below with the maximum spacing from center to center for stair tread installation.

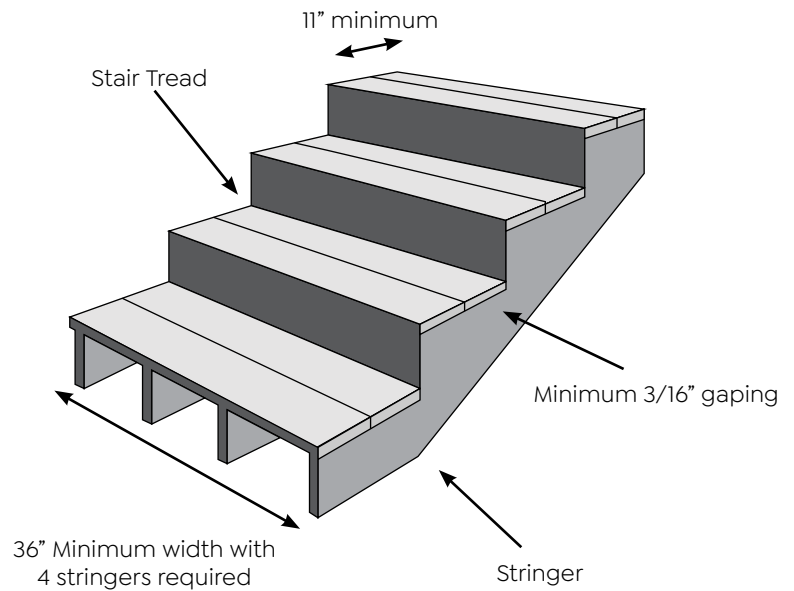
A minimum of four (4) stringers are required. Overhang on a stair tread should not exceed more than 5/8".

Remember to pre-drill before face fixing into the board. 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 width of the board.

**Solid planks used for stair tread installation can be face nailed.**

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

Diagram 13



Maximum Spacing Center-to-Center on Stair Stringers and Decking

Profile	Dimensions	Spacing
TruOrganics, Solid Board	5.5" x 0.9"	12"