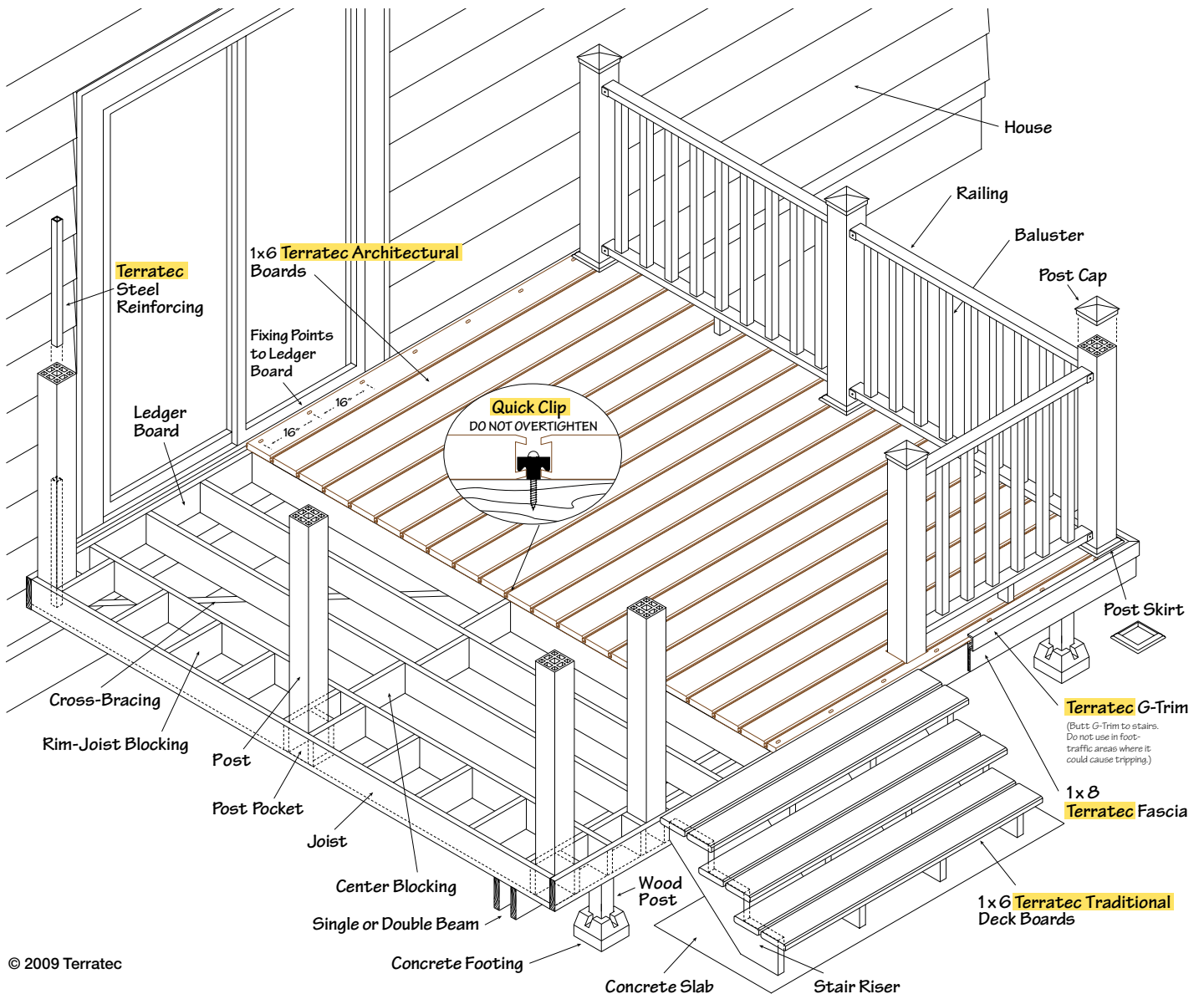


# TERRATEC™

## NATURALS

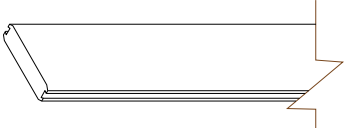
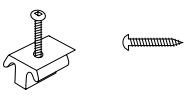
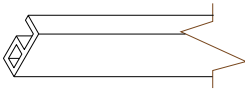
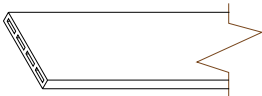
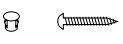
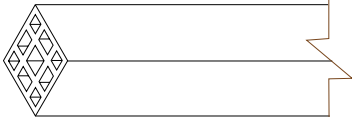

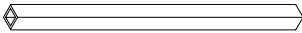
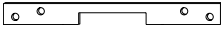
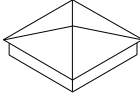
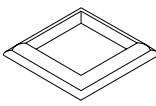
### EASY AS 1-2-3

# INSTALLATION GUIDE



BROWN indicates FLOATING PIECES  
BLACK indicates RIGID PIECES

# BASIC CALCULATION GUIDE FOR TERRATEC MATERIALS

<p><b>1x6 Architectural</b></p> <p>Architectural is a solid core profile. Boards come with traditional wood grain finish on both sides (12', 16' &amp; 20' lengths).</p>		<p>Square feet of deck surface = _____ x 2.133 Lineal feet = _____</p>
<p><b>3/16" Quick Clip Fasteners and Fixed Point Screws</b></p> <p>Clips fasten deck boards to joists with #6 x 1 1/2" self tapping screws (Box of 100). Ten #7 x 5/8" fixed-point screws and one driver bit included.</p>		<p>Square feet of deck = _____ x 2 Quick Clips (approx.) = _____</p>
<p><b>G-Trim</b></p> <p>Used at edge of deck to cover the deck board overhang and allow for expansion/contraction (12' lengths).</p>		<p>Deck perimeter length = _____ Overhang for miter + 4" each corner G-Trim lineal feet = _____</p>
<p><b>Fascia Boards</b></p> <p>Used below the G-Trim to cover the joists for an attractive finish. Comes in 1x8 (12' lengths).</p>		<p>Deck perimeter length = _____ Overhang for miter + 4" each corner Fascia lineal feet = _____</p>
<p><b>Screw Hole Caps with Self Tapping Screws</b></p> <p>Covers holes drilled for screws. #8 x 1 1/4" self tapping stainless steel screws are included (Box of 50).</p>		<p>Lineal feet of G-Trim + lineal feet of Fascia = _____ x 0.2 Screw Caps &amp; Screws = _____</p>
<p><b>Posts</b></p> <p>Used when deck height requires a handrail or simply to enhance the beauty of you deck. Check local building code for specifications.</p>		<p>Corners = 4 + One Post between each rail section (max. 72" COC) Number of Posts = _____</p>
<p><b>Post Carriage Bolts</b></p> <p>Used to attach posts to frame.</p>		<p>Two 5/16" x 8" carriage-bolts with nuts/washers for each Post (Three on corner Posts) = _____</p>
<p><b>Post Steel Reinforcing</b></p> <p>Inserts into center hole of post for code-compliant handrails.</p>		<p>Two for each Post = _____</p>
<p><b>Board Joint Connector</b></p> <p>Connects two Architectural profile deck boards together to prevent gaps.</p>		<p>One on each side of connection = 2 Number of board joints x Number of connectors = _____</p>
<p><b>Post Cap</b></p> <p>Slips easily onto posts for a classic finish.</p>		<p>One Post Cap for each Post = _____</p>
<p><b>Post Skirt</b></p> <p>Slides down post to trim post base and hide expansion/contraction gaps.</p>		<p>One Post Skirt for each Post = _____</p>

# DECK FRAME SIZING & DECK BOARD LENGTH COMBINATIONS

Like any premium product, you are paying a little more for the superior quality and performance of Terratec Composite materials. All the more reason you want to keep your project waste to a minimum. All construction projects have some waste. We'd like to eliminate as much as possible. The charts below were created to help you to buy only what you need.

## Deck Framing Length Chart

This chart gives you the ideal frame length for finished decks measuring 6' to 40'.

Example: If the desired finished deck length is 32', the ideal frame size would be 395". Using the deck board chart to the right, which will give you the right combination of board lengths, you'll end up with the appropriate overhang for G-Trim installation with the least amount of waste.

Deck Length	Frame Length
	Outside of line joist to outside of line joist
6 feet	71 inches
7 feet	83 inches
8 feet	95 inches
9 feet	107 inches
10 feet	119 inches
11 feet	131 inches
12 feet	143 inches
13 feet	155 inches
14 feet	167 inches
15 feet	179 inches
16 feet	191 inches
17 feet	203 inches
18 feet	215 inches
19 feet	227 inches
20 feet	239 inches
21 feet	251 inches
22 feet	263 inches
23 feet	275 inches
24 feet	287 inches
25 feet	299 inches
26 feet	311 inches
27 feet	323 inches
28 feet	335 inches
29 feet	347 inches
30 feet	359 inches
31 feet	371 inches
32 feet	383 inches
33 feet	395 inches
34 feet	407 inches
35 feet	419 inches
36 feet	431 inches
37 feet	443 inches
38 feet	455 inches
39 feet	467 inches
40 feet	479 inches

## Deck Framing Width Chart

This chart will give you the deck frame width that makes it possible to end up with a full deck board width at the furthest edge leaving the appropriate overhang for G-Trim. This also prevents you from having to rip boards to fit.

The following calculations are for 1x6 boards.

Deck Width	Frame Width
	House of ledger joist to outside of rim joist
6 feet	70 <sup>9</sup> / <sub>16</sub> inches
7 feet	81 <sup>7</sup> / <sub>16</sub> inches
8 feet	97 <sup>3</sup> / <sub>4</sub> inches
9 feet	108 <sup>5</sup> / <sub>8</sub> inches
10 feet	119 <sup>1</sup> / <sub>2</sub> inches
11 feet	130 <sup>3</sup> / <sub>8</sub> inches
12 feet	141 <sup>1</sup> / <sub>4</sub> inches
13 feet	157 <sup>9</sup> / <sub>16</sub> inches
14 feet	168 <sup>7</sup> / <sub>16</sub> inches
15 feet	179 <sup>5</sup> / <sub>16</sub> inches
16 feet	190 <sup>3</sup> / <sub>16</sub> inches
17 feet	206 <sup>1</sup> / <sub>2</sub> inches
18 feet	217 <sup>3</sup> / <sub>8</sub> inches
19 feet	228 <sup>1</sup> / <sub>4</sub> inches
20 feet	239 <sup>1</sup> / <sub>8</sub> inches
21 feet	250 inches
22 feet	266 <sup>5</sup> / <sub>16</sub> inches
23 feet	277 <sup>3</sup> / <sub>16</sub> inches
24 feet	288 <sup>1</sup> / <sub>16</sub> inches
25 feet	298 <sup>15</sup> / <sub>16</sub> inches

## Deck Board Length Chart

This chart shows the best combination of deck board lengths to make up the desired finished deck size.

Example: If the desired deck is 32' long, the best combination of boards is a 20' length and a 12' length. For decks longer than 20', boards should be connected with board joint connectors to avoid gapping at the joint.

Deck Length	Board Length
	Best combination of board lengths
6 feet	12 ft boards in half
7 feet	16 ft boards in half
8 feet	16 ft boards in half
9 feet	20 ft boards in half
10 feet	20 ft boards in half
11 feet	5 ft and 6 ft
12 feet	12 ft
13 feet	10 ft and 3 ft
14 feet	10 ft and 4 ft
15 feet	10 ft and 5 ft
16 feet	16 ft
17 feet	12 ft and 5 ft
18 feet	10 ft and 8 ft
19 feet	16 ft and 3 ft
20 feet	20 ft
21 feet	16 ft and 5 ft
22 feet	16 ft and 6 ft
23 feet	20 ft and 3 ft
24 feet	16 ft and 8 ft
25 feet	20 ft and 5 ft
26 feet	20 ft and 6 ft
27 feet	16 ft and 12 ft
28 feet	16 ft and 12 ft
29 feet	20 ft and 5 ft and 4 ft
30 feet	20 ft and 10 ft
31 feet	20 ft and 12 ft
32 feet	20 ft and 12 ft
33 feet	20 ft and 10 ft and 3 ft
34 feet	20 ft and 10 ft and 4 ft
35 feet	20 ft and 10 ft and 5 ft
36 feet	20 ft and 16 ft
37 feet	20 ft and 12 ft and 5 ft
38 feet	20 ft and 10 ft and 8 ft
39 feet	20 ft and 16 ft and 3 ft
40 feet	20 ft and 20 ft or 20/16/4

# PLANNING YOUR DECK

**(For decks 40' or less in length)** Comply with local building codes. Use this guide to figure out your materials list and to calculate the quantities required for your deck project (formulas on page 2). This guide also gives you the correct installation methods. For larger decks, please refer to Architectural Pro Install Guide—[terratec.info](http://terratec.info).

## TOOL LIST

### Tools Required

Pencil\*  
Tape measure  
Level  
Square  
Chalk line  
Drill (cordless preferable)  
Bits ( $9/64$ " predrill)  
Jigsaw  
Skill Saw

### Optional But Helpful:

Chop saw  
Table saw

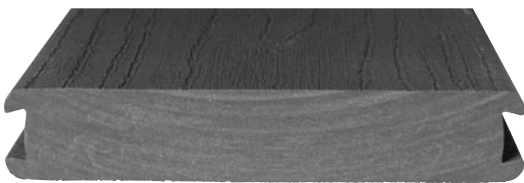
**\*Minimize pencil marks as they are difficult to remove.**

## BEFORE YOU BEGIN

1. Check all local building codes.
2. Confirm intended use as Residential Outdoor Construction.
3. Obtain local Building Permit.
4. Design and Submit your decking project to obtain building permit.
5. Use Code-compliant Pressure Treated Sub-structure.
6. When using ACQ or CA treated lumber, use manufacturer's recommended Fasteners, Joist Hangers and Cross-bracing.
7. Use bracing or blocking to eliminate rack (this is necessary because this is a floating deck system).
8. Follow all safety precautions. Use gloves, goggles and respiratory protection. Use extreme caution with all power tools. Inhalation of dust particles is potentially harmful to your health.
9. Follow the detailed instructions provided in this Installation Guide.

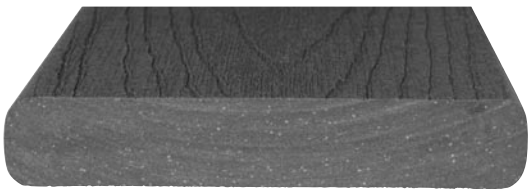
**For more information on Terratec, refer to our website: [www.terratec.info](http://www.terratec.info)**

## TERRATEC BOARD PROFILES



### Terratec Naturals Architectural Board Profile

Our Architectural board profile is a very popular option. It gives you the advantage of installation using our hidden Quick Clip system and a more natural looking wood grain texture. The result is a beautiful deck with no visible screws.



### Terratec Naturals Traditional Board Profile

Our Traditional board profile is for people who prefer the look and installation method of screwing your deck boards through the surface to the frame. This installation guide should not be used for Traditional boards. For proper installation procedures, please visit [www.terratec.info](http://www.terratec.info).

### IMPORTANT: IF USING ARCHITECTURAL PROFILE IN HIGH WIND AREAS.

In some situations, high winds can cause Terratec Architectural boards to make a whistling sound. The whistle is caused by air moving rapidly under the deck, then up between the boards and across the board's installation clip grooves. For this reason, we recommend using Terratec Naturals Traditional deck boards in locations prone to high winds. Terratec Architectural boards can be used if steps are taken to prevent winds from flowing under the deck and through the deck boards. You can prevent wind from flowing under the deck by using solid fascia panels around the deck. You can use an under-deck system like Rain Escape. Either approach will work.

# READ BEFORE YOU START

These Easy As 1-2-3 instructions should only be used with Architectural boards on decks 40' in length and smaller. For larger decks and Traditional board applications, obtain a Professional Installation Guide by visiting [www.terratec.info](http://www.terratec.info).

## IMPORTANT COMPOSITE MATERIAL CONSTRUCTION GUIDE- LINES EVERY BUILDER NEEDS TO KNOW.

### Terratec's Floating Deck System Controls Natural Expansion and Contraction.

All composite materials expand and contract with temperature and moisture changes. Controlling expansion and contraction in composites is different from the building methods used in traditional wood construction. Understanding and following the building methods detailed in this guide is the key to a proper Terratec installation.

There are two new composite building innovations to be aware of:

1. Custom designed Fasteners and Trims to control and conceal expansion and contraction movement.
2. Post Pocket Framing and Deck Frame Bracing methods to ensure post/rail stability and deck structural integrity.

## 1. Fastening and Trim Techniques

### Expansion Control Technology

This building system was developed at our testing facility to maximize the performance and beauty of our composite building materials. Our technicians and builders spent years designing and evaluating the effectiveness of the following components and techniques:

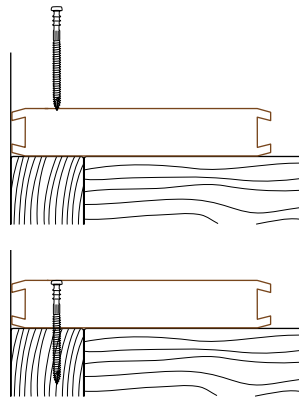
### Fixed Point Connections

To eliminate gapping between board joints and at the edge of your deck, each deck board is FIXED securely to the sub-structure at a designated POINT using a screw drilled through the board and into a joist (specific locations

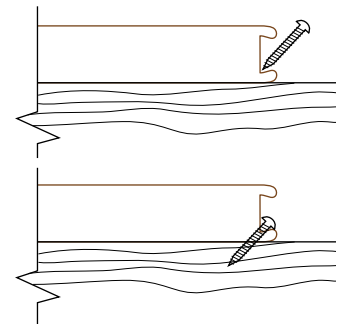
detailed inside). This will force any expansion (caused by fluctuating temperatures) toward the edge of your deck and into our specially designed G-Trim where the movement can be hidden from view.

To fix board to ledger and rim joist, pre drill two adjoining 7/64" pilot holes every 16" on center, screwing screw into the center of the elongated hole to allow for board movement.

ALL DECK BOARDS MUST HAVE A FIXED POINT CONNECTION.



Fix Points at Ledger and Rim Joist



Fix Point at Joist

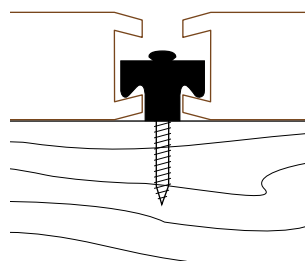
### Terratec Quick Clip Fasteners

QUICK CLIPS are spacer, fastener and the primary component of our floating deck system. They make it simple to precisely align your deck boards while allowing them to expand and contract freely under each T-shaped clip. Clips are fastened with a screw at every joist along the length of your deck boards.

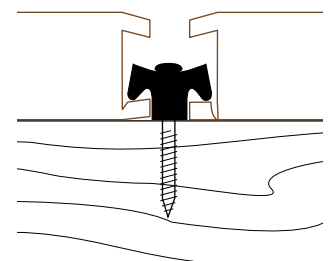
### The Proper Way to Tighten a Quick Clip

IT IS VERY IMPORTANT NOT TO OVERTIGHTEN SCREWS.

Quick Clips should be tightened just to the point where the clip seats to the joist. Overtightening could lead to fastener failure (deck board lip could bow or eventually crack).



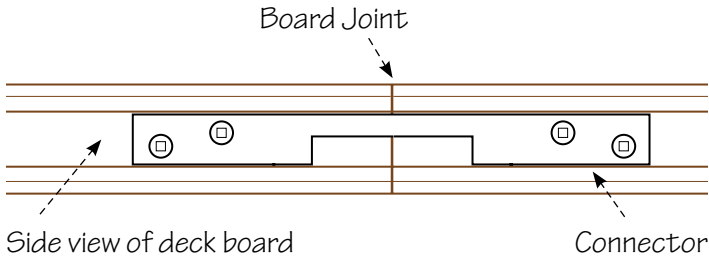
Tightened Correctly



Overtightened

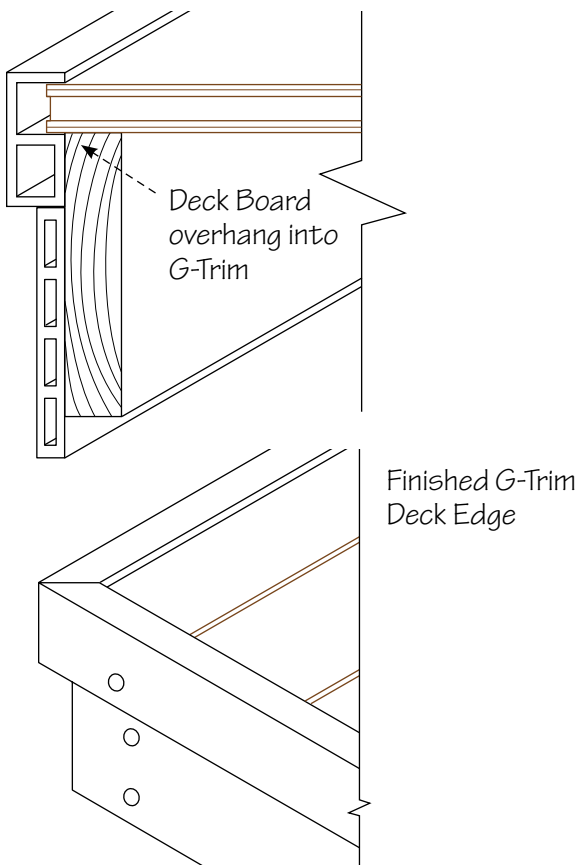
## Board Joint Connector (for Architectural profile only)

For projects that require more than one deck board to span the full length of your deck, these connectors allow you to securely connect two boards together. This eliminates the possibility of surface gapping between boards.



## Terratec G-Trim

G-TRIM is a grooved edge trim that attaches to the rim joist allowing deck boards to expand and contract inside the open cavity hiding any movement from view.



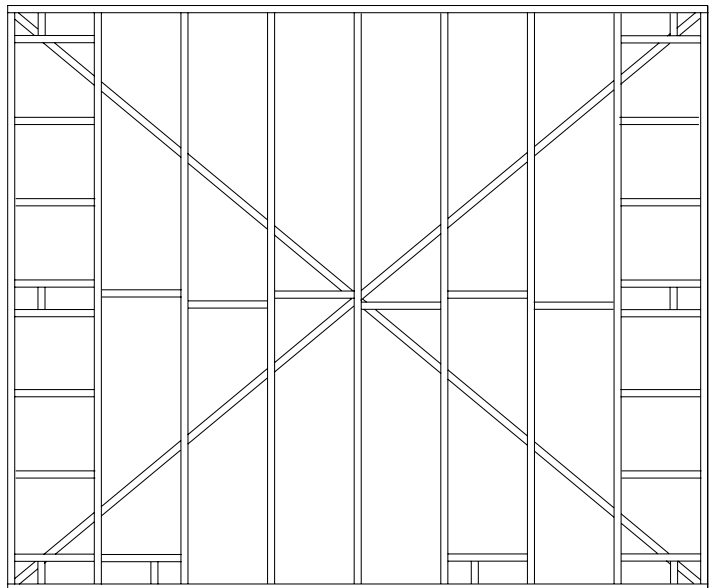
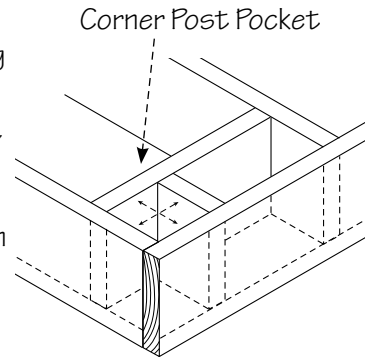
## 2. Post Pockets and Bracing Methods

### Post Pocket / Bracing Layout and Framing

Proper layout and framing of Post Pockets and Bracing is required to maintain the structural integrity of your deck, posts and rails. See other side for detailed post pocket and bracing instructions.

- Make sure sub-structure complies with local building codes.
- Framing cannot exceed 16" On Center.
- For deck boards are laid on 45° angle, framing should not exceed 12" O.C.
- Deck frame should be braced and blocked to avoid racking
- Post pockets should be framed in before decking boards are installed

**• POST POCKETS ARE MANDATORY**



Basic Post Pocket and Bracing Layout

**IMPORTANT:** If utilizing pressure treated structural framing, follow the metal fastener manufacturer's recommendations to avoid corrosion.

# 1. FRAMING

To get the most from your new Terratec composite building system, please read through these instructions carefully before you begin. Important Terratec-specific steps are highlighted in yellow.

Terratec decks are built on a standard code-compliant wood frame with a few required additions. Make sure your deck frame is square.

Because Terratec is a floating system that allows for expansion/contraction, cross-bracing and blocking are required for stability (Decks more than 30" above the ground or where local building code requires, must have cross-bracing).

**A.** Diagonal metal (Simpson Steel Strapping) or wood (1x4) Cross-Bracing, should be screwed to the underside of the frame at every joist (Check local codes for acceptable materials).

**B.** Install repetitive Rim-Blocking every 16" center to center between the rim joist and neighboring joist.

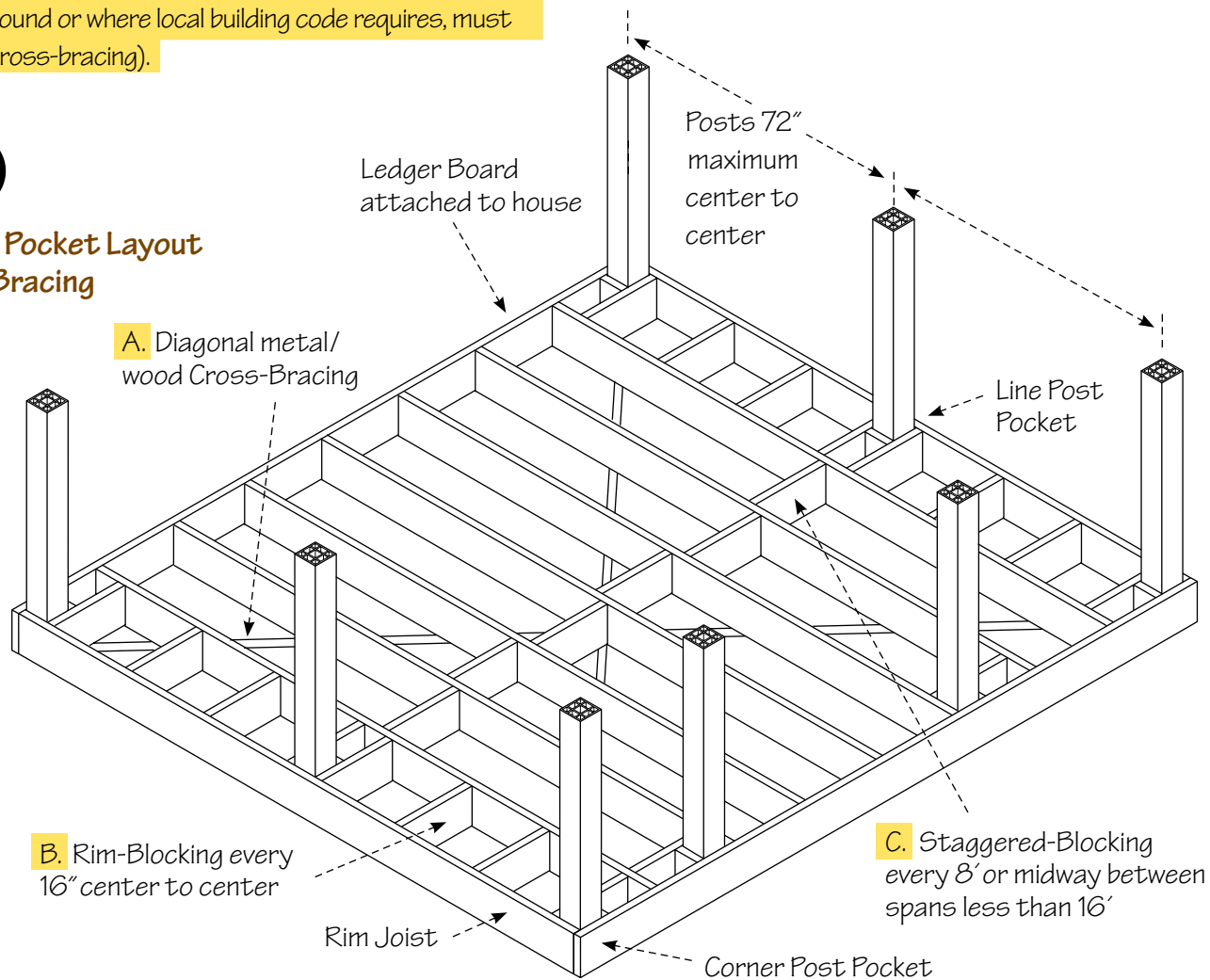
**C.** Joists require Staggered-Blocking every 8' or midway between spans less than 16' (measured from house).

Framing in post pockets is the next step. Start by mapping out pockets (shown in illustration 1a). You'll find post pocket framing details below (illustrations 1c - 1f).

**Note: POST POCKETS ARE MANDATORY.**

## 1a

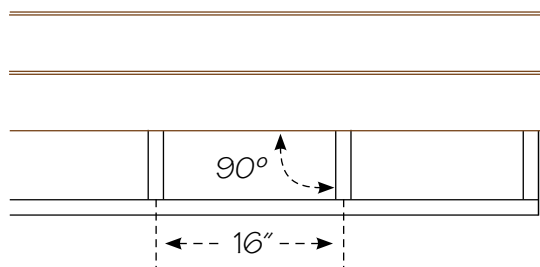
### Post Pocket Layout and Bracing



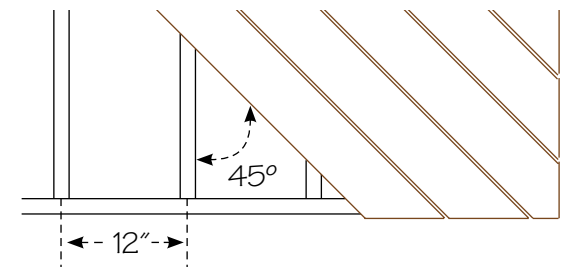
## 1b

### Joist Spacing

90° Decking: Joists 16" center to center



45° Decking: Joists 12" center to center



# POST POCKETS

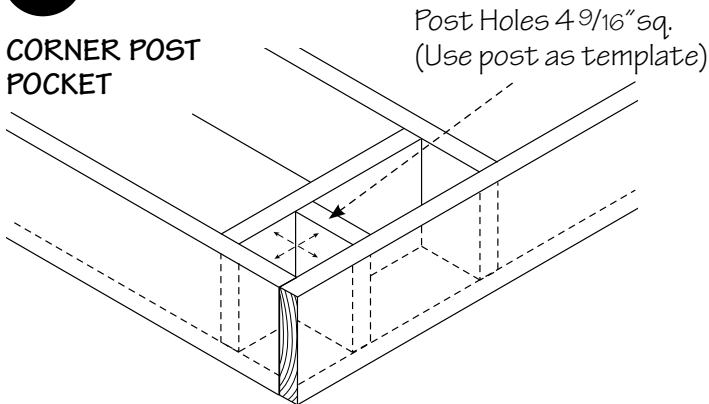
## 1c Approved Post Pocket Framing

Frame in Corner Post Pockets first, then evenly space and frame in Line Post Pockets (Illustration 1d).

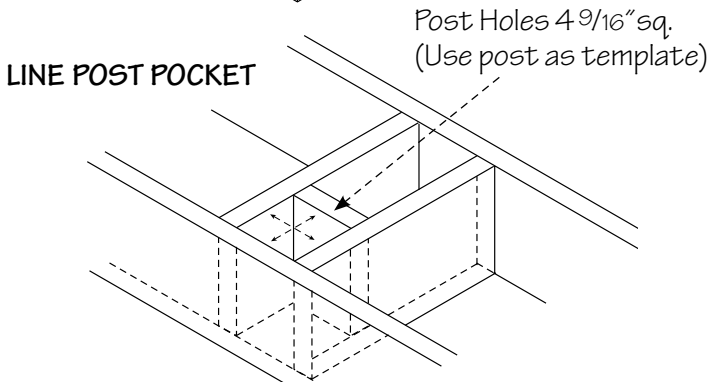
Use a Post as a template when framing Post Pockets to ensure proper hole dimension. To work with handrail kit sections, the maximum distance between posts is 72" center to center.

## 1d Post Pocket Types

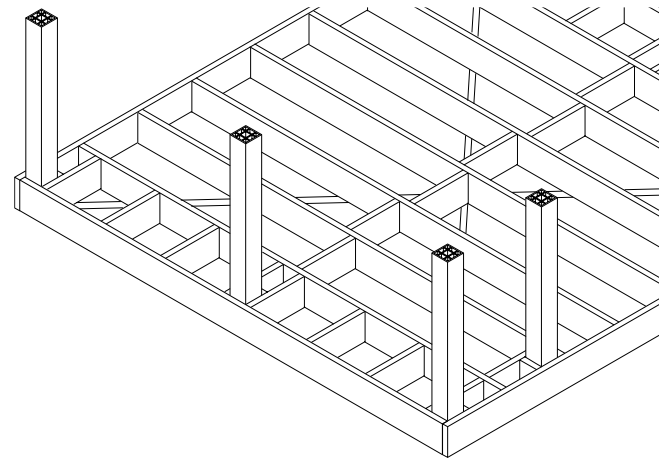
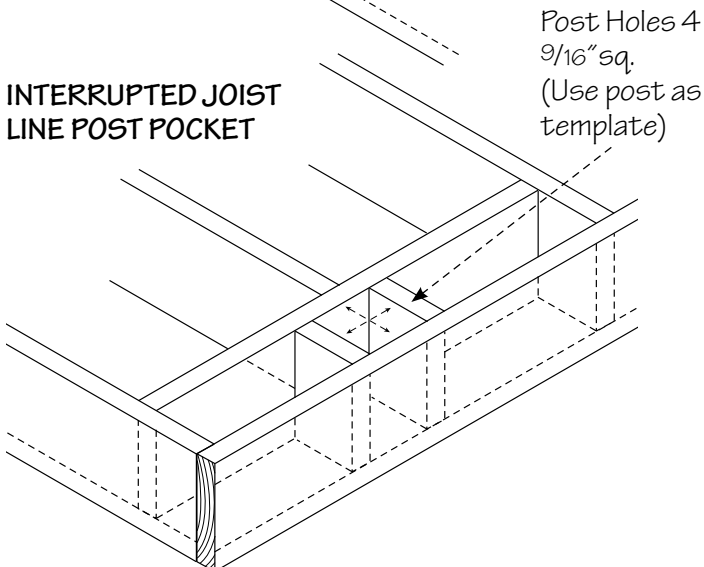
### CORNER POST POCKET



### LINE POST POCKET



### INTERRUPTED JOIST LINE POST POCKET



Install Post Pocket Bottoms (Illustration 1e). Use scrap lumber to keep post heights level and keep insects out.

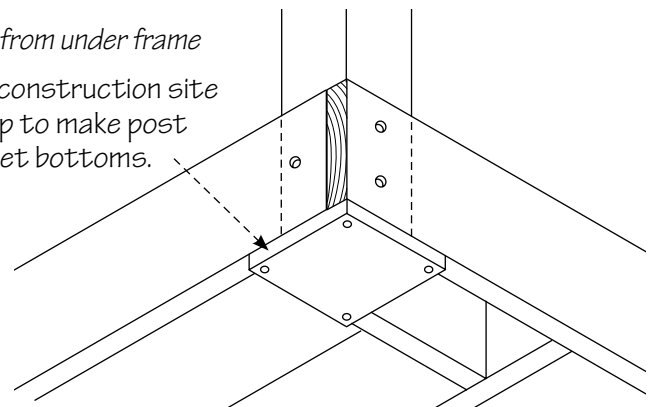
Posts should not be placed and secured until all decking has been laid. Notch deck boards as they are being placed and secured (illustration 3c).

When ready to install posts, please refer to (illustrations 3d) for proper way to secure Posts into Post Pockets. When ready to install posts, please refer to (illustrations 3d) for proper way to secure Posts into Post Pockets.

## 1e Post Pocket Bottoms

View from under frame

Use construction site scrap to make post pocket bottoms.



## DECK BOARD COLOR VARIATION

Terratec Naturals decking is an eco-friendly product manufactured from rice hulls and recycled plastic. While strict quality control guidelines are followed in an attempt to maintain consistent board colors, some variation may occur prior to installation. To ensure your deck looks great in situations where some color variation does occur, please follow these instructions:

Before installation, deck boards should be laid out in a pattern that evenly distributes any color variations throughout the surface. Over a period of 60-90 days, the deck boards will weather and these color variations will soften and become less noticeable.

# 2. DECK BOARD INSTALLATION

Installing Terratec correctly is important. The keys to success are understanding Fixed Point Connections and proper use of our Quick Clip fastener.

FIXED POINT CONNECTIONS are very important. They direct thermal expansion toward the edge of your deck, into the G-Trim (Illustration 3a).

QUICK CLIPS are both spacer and fastener. They make it simple to install deck boards with craftsman-like precision while allowing for expansion/contraction. Important: **DO NOT OVERTIGHTEN SCREWS** (Illus. 2a).

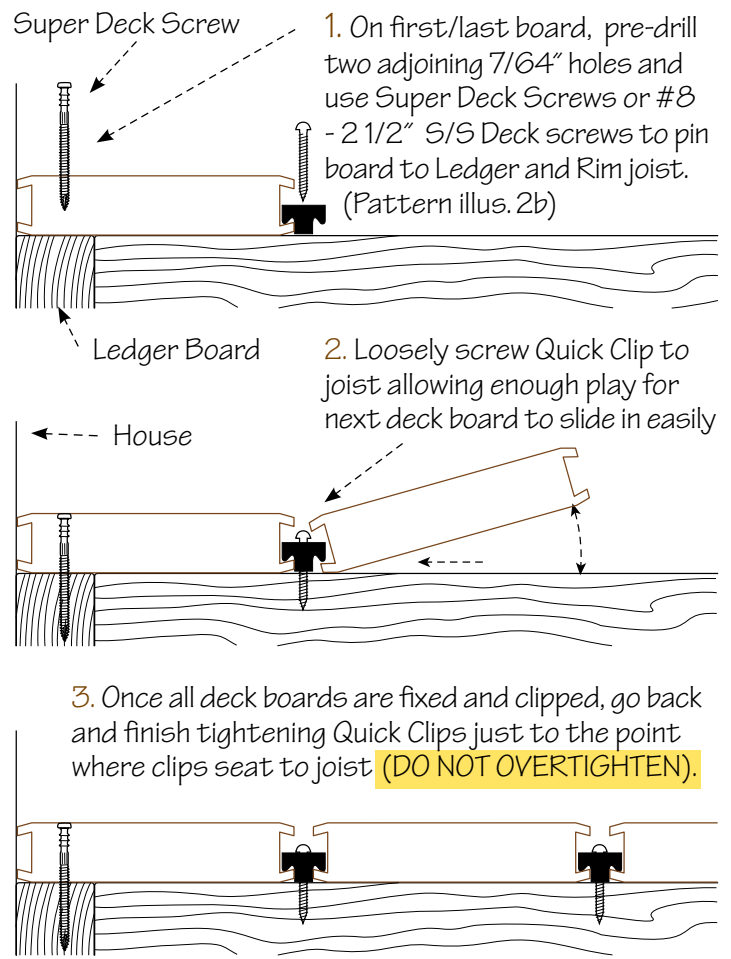
Your first Fixed Point is to the Ledger Board against the house (Illustration 2a). Install Quick Clip at each joist. Fix next deck board (Illus. 2c). Refer to Fixed Point Patterns (illus. 2b). Install Quick Clips. Repeat process until all deck boards are installed.

Leave a minimum 3/4" overhang at both ends of the deck to allow for an even trim cut after all decking is installed (Illustration 2b, 2d).

When installing Decking around Posts, on length sides leave a 3/4" gap to allow for expansion/contraction. On width sides leave a 1/8" gap (Illustration 3c). Gaps will be concealed by Post Skirt. Be sure to install skirts before fastening rail brackets to post.

When all your deck boards are secured, it's time to even up your deck board overhang (Illus. 2b, 2d, 3a).

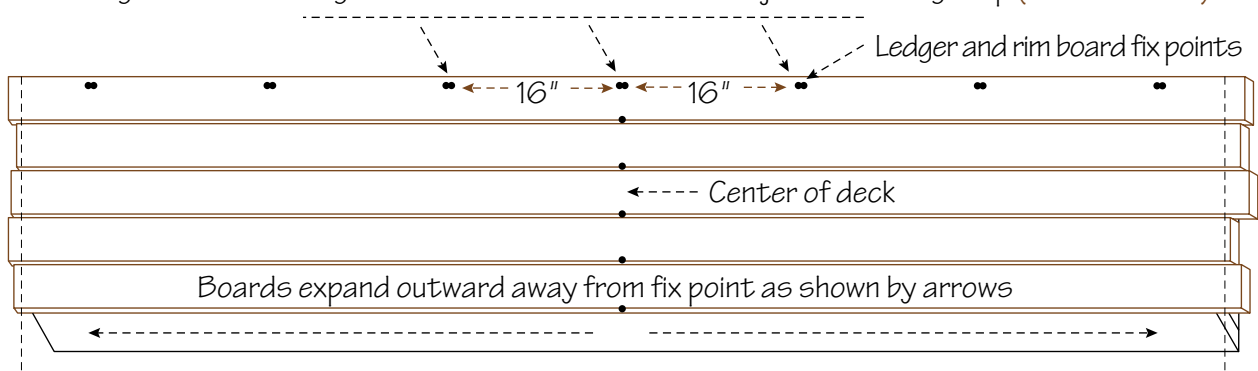
## 2a Fixed Point Connection for first board against house and Quick Clip installation



**VERY IMPORTANT:** Trim deck boards at the same time to an even overhang length. Since temperature is a key factor in expansion and contraction of composite materials, use the temperature chart (2e) to determine the appropriate overhang length based on the air temperature at the time of trimming. Trimming all deck boards using these guidelines is the best way to avoid gaps.

## 2b Deck Board Fixed Point Connection Patterns for various Deck Lengths

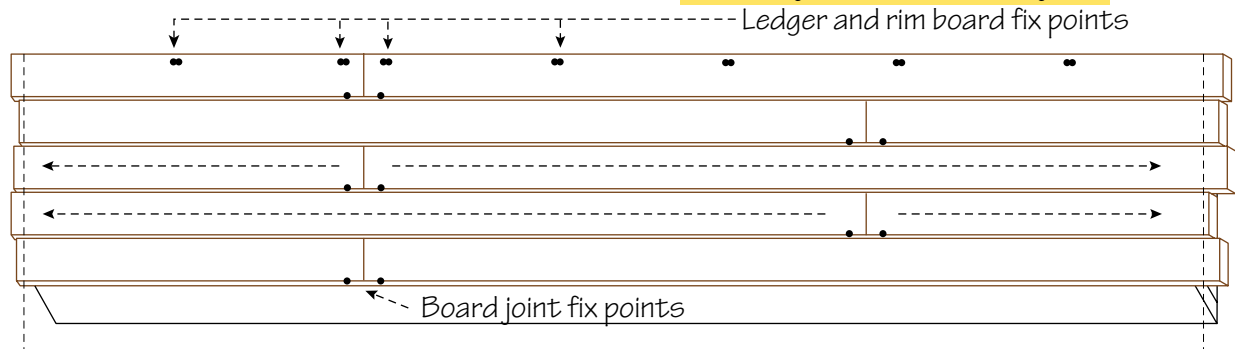
1. Fix Point Pattern for decks using a single continuous board. Fix each board to joist closest to center of board length. First board against house and last board at rim joist fix through top (illustration 2a).



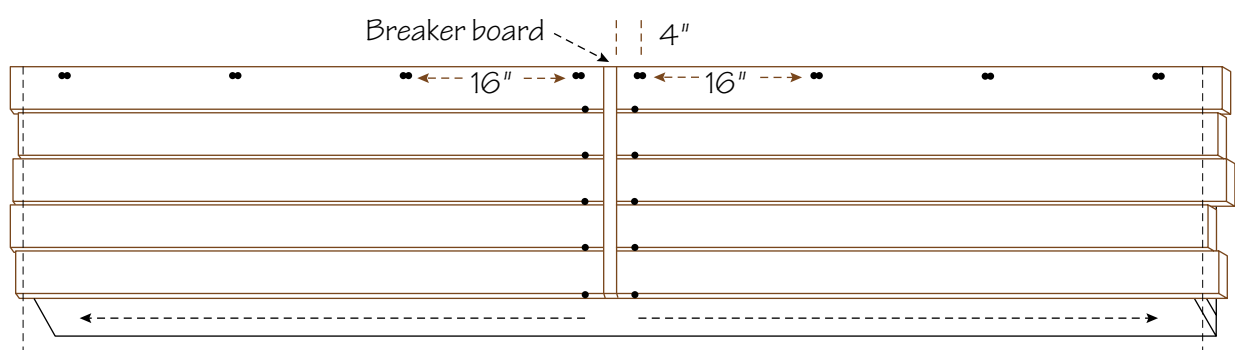
## 2b

### Deck Board Pinning Patterns for various Deck Lengths (continued)

2. Fix Point Pattern for staggered Deck Boards. Fix both boards (illustration 2c). First boards against house and last boards at rim joist fix through top (illustration 2a). Decks that require joining three board lengths, use board joint connector at board joints, then fix only at one point closest to center of total board length as shown above. **All board joints must fall on a joist.**



3. Fix Point Pattern for 40' deck using two 20' Deck Board lengths and breaker board. Fix both boards (illustration 2d). First boards against house and last boards at rim joist fix through top (illus. 2a).

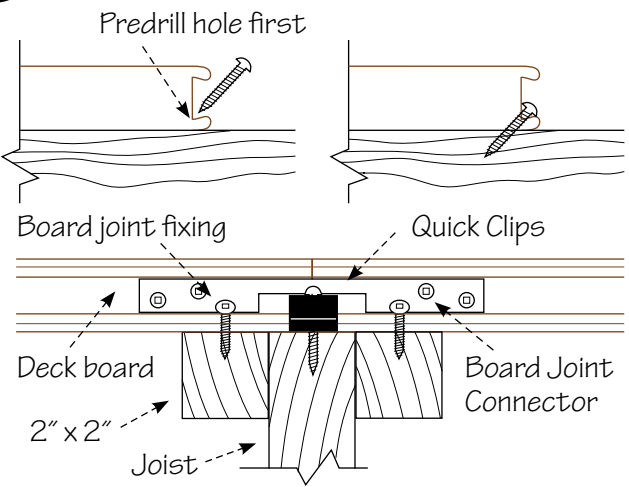


Boards expand outward away from fix point as shown by arrows

After installation of all deck boards, trim ends at the same time to recommended overhang (see chart 2e)

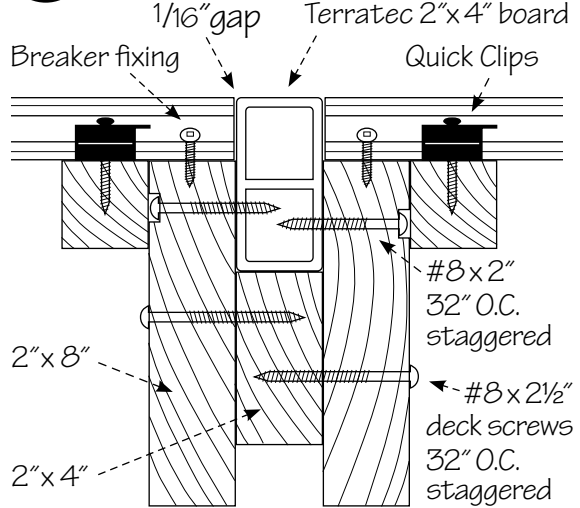
## 2c

### Fixing and Board Joints



## 2d

### Fixing Breaker Board Joints



## 2e

### TEMPERATURE CHART for determining deck board overhang (illus. 3a)

35°F or 2°C = 1/4"

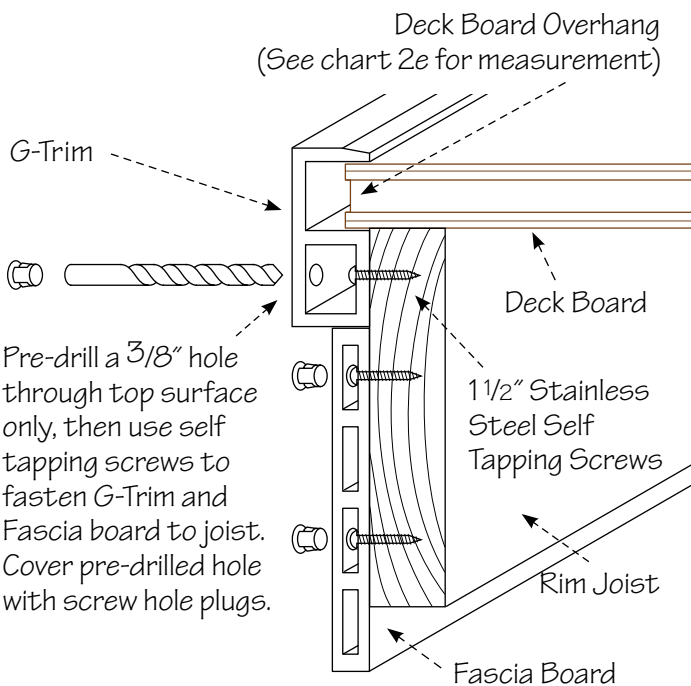
75°F or 24°C = 1/2"

110°F or 43°C = 3/4"

# 3. FINISH TRIM AND POST INSTALL

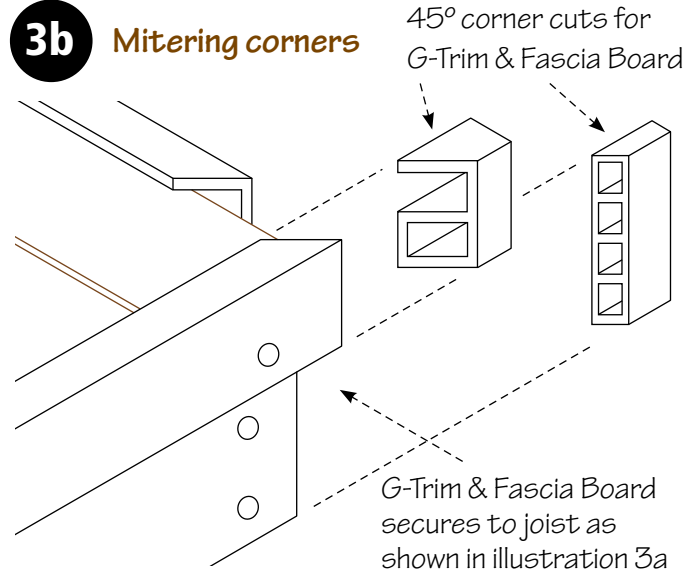
First step is to measure and miter cut your G-Trim and Fascia. Fit G-Trim's open channel over deck board overhang and secure to frame 4" from each end and every 16" using 1 1/2" SS (Stainless Steel) self tapping screws and screw plug (Illustration 3a). Butt Fascia Board up to bottom of G-Trim and attach to joist 4" from each end and every 16" using 1 1/2" SS self tapping screws and screw cap. Slide your Post Skirts over each post (Illustration 3c).

## 3a G-Trim hides Deck Board Expansion / Contraction

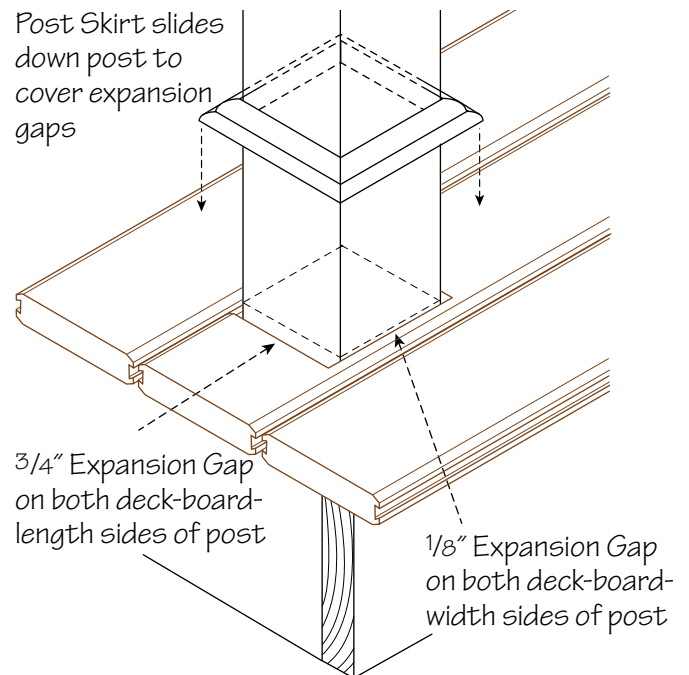


(Butt G-Trim to Stair Riser. Do not use G-Trim in foot-traffic areas where it could cause tripping.)

Railing installation guides are included with all Terratec railing kits. Please visit our website for more information on railing options: [www.terratec.info](http://www.terratec.info).

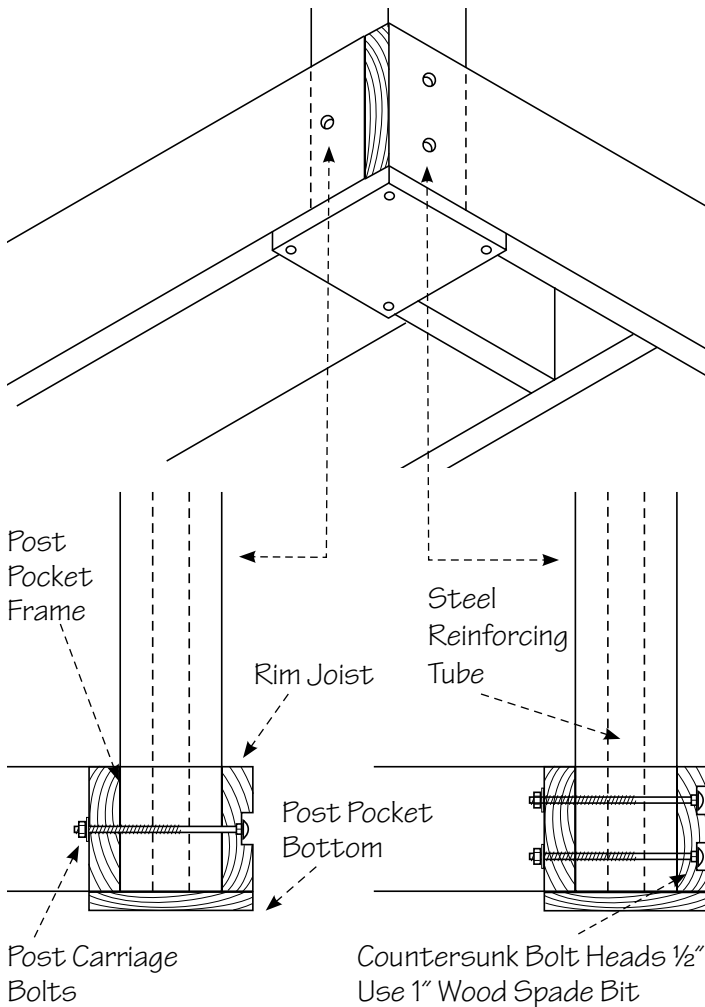


## 3c Deck Board Expansion Gaps around Posts and Post Skirt installation



### 3d Fastening Posts into Post Pockets

Drill  $\frac{5}{16}$ " diameter holes through joists and posts (A metal bit is required when using steel reinforcing). Drill rim joist hole slightly larger to countersink bolt head. Use two  $\frac{5}{16}$ " diameter x 8" carriage bolts with nuts and  $\frac{5}{16}$ " x  $\frac{3}{4}$ " diameter washers to fasten Line Posts. **Corner Posts require THREE carriage bolts**, bolting on both sides of post as shown in illustration to left.



## DO NOT DO THE FOLLOWING WITH TERRATEC NATURALS.

1. Never notch or secure posts to the outside of a rim joist.
2. Never insert wood fillers into any of the Terratec deck board profiles.
3. Never connect more than two deck boards together without using a board joint connector.
4. Never span a railing more than 6' when using a Terratec railing kit and no more than 5' 4" for standard Terratec stair rail construction.
5. Never nail Terratec.
6. Never secure 2x6 Terratec to top of railing or over 5x5 posts for expansion/contraction reasons. Make sure all top rails go between posts.
7. Never secure any of the Terratec deck board profiles to above ground pool copings for expansion/contraction reasons.
8. Never miter Terratec deck boards at corners when doing wrap-around decks. There is nowhere for expansion to take place, which will cause cupping and warping. Visit [terratec.info](http://terratec.info) for options.
9. Never use Terratec 5x5 posts to support decks. 5x5 posts are not meant to be used as structural members.
10. Never notch railings into the exterior walls of a post because it is not a standard railing practice that is approved in the Terratec installation guide.
11. Never surface mount screws when securing fascia to a rim joist. Always drill a  $\frac{3}{8}$ " hole and secure with screw through the back wall of the profile. Finish with a  $\frac{3}{8}$ " hole plug to cover hole (illustration 3a inside).
12. Never span Terratec deck boards more than what is recommended in the installation guide.
13. Never install  $\frac{5}{4}$ " deck boards over existing deck surface. Always remove old deck surface and secure Terratec decking to existing sub structure after making sure it meets the specifications outlined in this guide and after post pockets have been framed in.

**IF YOU HAVE NEVER USED TERRATEC BEFORE, DO NOT ATTEMPT TO BUILD A TERRATEC DECK WITHOUT CONSULTING THE MANUFACTURER OR A CERTIFIED DEALER.**

