

# Installation Instructions



GeoDeck™

**GeoDeck™ Deck and Railing System (ICC-ES Legacy Report  
No. 21-71, former BOCA Report No. 21-71)  
Design and Installation Manual**

Congratulations! You have just purchased a state-of-the-art deck and railing system that will give you many years of carefree service and pride of ownership. The following instructions must be followed in order to reduce the possible risk of injury or non-performance. ***Failure to follow instructions may void the limited warranty.***

## **General Information**

### **Tools**

- Standard woodworking tools may be used.
- Protective clothing and safety glasses are recommended.

### **Ventilation**

- Installations 24" or less from grade or rooftop: use the Traditional deck board and provide a 3/16" space between boards (width of a 16-penny nail).
- Installations in excess of 24" from grade or roof top: use either the Traditional deck board with 1/8" space between boards or the Tongue & Groove board with at least two sides open for cross ventilation. Since the Tongue & Groove board restricts ventilation through the deck floor, ventilation under the deck is very important. Traditional boards should be used in any applications with questionable ventilation. Failure to adhere to proper ventilation may void the limited warranty.

### **Allow For Proper Drainage**

- Slope the deck slightly (1/16" per foot) away from the house for water run-off, particularly for Tongue & Groove boards.
- Use of proper flashing techniques is essential when installing a deck over a living space. Be certain that the deck properly drains and standing pools of water do not occur.
- When providing the proper pitch and crown is not possible, such as when remodeling an existing deck, drilling of 1/4" - 3/8" holes in each cavity on the underside ends of boards, to ensure water drainage, is acceptable.
- DO NOT FORCE Tongue & Groove boards together. The use of a spacer, such as a credit card (.030"), or similar device will provide adequate space between the boards to allow for drainage and expansion in width due to heat or moisture.

## Layout Considerations

- Use good building practices and comply with all local building codes.
- If possible, layout joist substructure to take advantage of full board lengths – eliminating butt ends.
- If butt joints are required, use of a Feature Strip (as detailed under Suggested Designs & Recommended Applications.) This will conceal the visual aspect of expansion/contraction. See the GeoDeck Design Guide for more information.
- Keeping the deck square as you proceed is essential. It is recommended that a check for squareness be made every 6' of deck being laid.
- Gapping is required when joining GeoDeck decking from end to end. Approximately 1/16" is required for every 20° F difference between the temperature during installation and the highest expected temperature in the area. For aesthetic purposes, it is recommended that construction of a GeoDeck deck take place during the time of the average daytime temperature in your local area. On extremely hot days (90°+) steps should be taken to reduce the effect of contraction as the boards cool, such as storing boards in the shade and making final cuts after boards have cooled. Utilizing boards that have not



been properly acclimated is discouraged. In order to achieve proper board spacing the boards must be at ambient temperature. Boards not handled in this fashion may have adverse results, immediate and future.

**IMPORTANT:** Allow a 3/16" spacing gap between the deck board and the wood newel-post. The GeoDeck 4 x 4 or 6 x 6 Post Sleeve, when placed over the wood newel-post with GeoDeck Post Sleeve Base Trim, will cover this gap.

**IMPORTANT:** Allow a 3/8" spacing gap between dwelling and deck's surface.

### Change in profile length in inches due to thermal expansion/contraction:

Change in Temp.	12 Foot Boards	16 Foot Boards	20 Foot Boards
-40°F	-1/16"	-1/8"	-3/16"
-20°F	-1/32"	-1/16"	-1/8"
Recommended Start Temperature	55°–65° F	55°–65° F	55°–65° F
+20° F	1/32"	1/16"	1/8"
+40° F	1/16"	1/8"	3/16"

*Disclaimer: It is important to note that all composite and plastic-based products will experience some degree of expansion and contraction with changes in temperature. Longer boards will experience a greater amount of expansion and contraction than shorter boards. Please note that the above chart lists average expansion/contraction rates. Actual expansion/contraction for individual boards may vary.*





## **GeoDeck™ Decking System**

- Structural joists should be spaced no more than 24" on center. In applications of prolonged direct sunlight or in climates of prolonged warm temperatures, 16" on center joist spacing can minimize deflection between joists. If applying deck boards diagonally across joists, the joist spacing should not exceed 16" on center.
- Heavy-duty commercial boards may be used diagonally on joists spaced 24" on center.
- Slope the deck slightly (1/16" per foot) away from dwelling, for positive drainage.
- Whenever a deck board meets the wall of a dwelling, leave a 3/8" space for expansion. This can later be concealed by siding or cove molding. Allow 3/16" space between deck board and newel-post.
- When using a Traditional board, set the nails a minimum 3/4" from both outside edges of board's profile and into the joist substructure below.
- End caps should be used to provide a finished look to board ends. Slide end cap onto board. Ensure that weep holes are pointed down. End caps can be secured with a polyurethane adhesive and/or brad nailed. Tongue & Groove ends caps are available in a left or right hand configuration. Be aware of the direction of the end cap desired and use the correct hand.

# Fastening

## Nails

- Tongue & Groove: Use a minimum 8d 2 1/2" stainless steel or acceptable coated ring shank nail. Nail through the tongue at a 55-60° angle. Use of a coil drum ring siding/fencing nailer is recommended to speed the installation process.
- Traditional Board: Use a minimum 8d 2 1/2" stainless steel or acceptable coated ring shank nail. Apply a minimum of two nails on every joist and three nails at the ends of each board. Avoid nailing within 3/4" from end of boards to prevent cracking. If hand nailing, an 8d 2 1/2" small head stainless steel or acceptable coated ring shank nail provides superior holding with minimal fastener exposure. Use of a coil drum ring siding/fencing nailer is recommended to speed the installation process.
- Heavy-Duty Commercial: Use a minimum 10d 3" stainless steel or acceptable coated ring shank nail. Apply a minimum of three nails on every joist. Avoid nailing within 3/4" from end of boards to prevent cracking.
- Fascia Board: Use a minimum of three fasteners every 12". The fasteners used for fastening the deck may be used for the fascia. Corner molding is recommended when two fascia boards meet at any angle. The corner molding can be fashioned utilizing GeoDeck baluster material.

## Screws

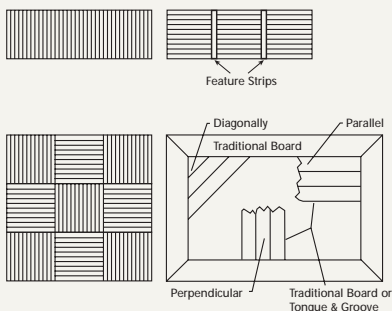
- Tongue & Groove: Use #8 or #9 2 1/2" stainless steel or acceptable coated trim head screws. Screw through the tongue at a 55-60° angle. This angle is VERY important for ensuring a proper fit. When using screws as fasteners a credit card thickness gap (.030") must be maintained to ensure the boards are not placed together too tightly.
- Traditional Board: Use #8 or #9 2 1/2" stainless steel or acceptable coated trim head screws. Apply a minimum of two screws on every joist and three screws at the ends of each board. Avoid placing screws within 3/4" from end and edge of boards to prevent cracking.
- Heavy-Duty Commercial: Use #9 3" stainless steel or acceptable coated trim head screws. Apply a minimum of three screws on every joist. Avoid placing screws within 3/4" from end and edge of boards, to prevent cracking.
- Fascia Board: Use a minimum of three fasteners every 12". The fasteners used for fastening the deck may be used for the fascia. Corner molding is recommended when two fascia boards meet at any angle. The corner molding can be fashioned utilizing GeoDeck baluster material.

## Applies To All Three Board Types

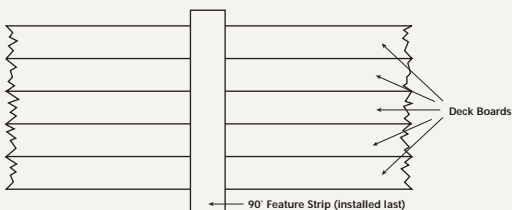
- A premium grade polyurethane adhesive may also be used in conjunction with fasteners.
- For an attractive appearance, commercially available concealed fastening systems can be used. In addition, several splitless ring shank siding nails are available in colors to match GeoDeck boards.
- If using a pneumatic nail gun, a coil drum ring siding/fencing nailer is recommended. Adjust pressure to ensure consistent pressure for proper nail penetration. Testing of nail gun pressure on scrap board with desired fastener prior to installation is recommended.

## Suggested Designs & Recommended Applications

### Recommended Layouts (Top View)



### Installing Feature Strips (Top View)



- When butt joints are designed into the deck, a 90° Feature Strip is recommended. This board should be the last one installed.
- Install deck boards first, securing to frame, allowing ends that will butt Feature Strip to overlap opening where Feature Strip will be installed.
- Cut deck boards (after securing to joists) back to allow Feature Strip to be dropped into place at a 90° angle. Secure Feature Strip to framing.

## Using Finish Elements

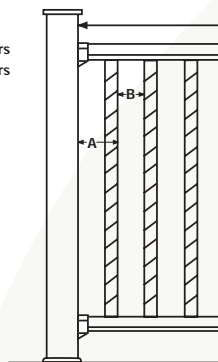
- End caps and fascia board should be used to provide a finished look to your deck.
- Slide end cap onto board. Ensure that weep holes are pointed down. Secure with a polyurethane adhesive and/or brad nail.
- Cover exposed pressure-treated lumber used for framing with GeoDeck Fascia Board. Secure with the same fasteners that were used for securing the deck.
- When using Tongue & Groove boards, you can use the GeoDeck Finish Strip to cover the tongue side of any outside facing board to give the deck a clean finished look. Secure with a polyurethane adhesive and/or brad nail.

### GeoDeck Railing System

6' Rail: L = 72 3/8"    A = 3 25/64"    B = 3 1/2"    13 Balusters

8' Rail: L = 96 5/16"    A = 3 3/64"    B = 3 3/8"    18 Balusters

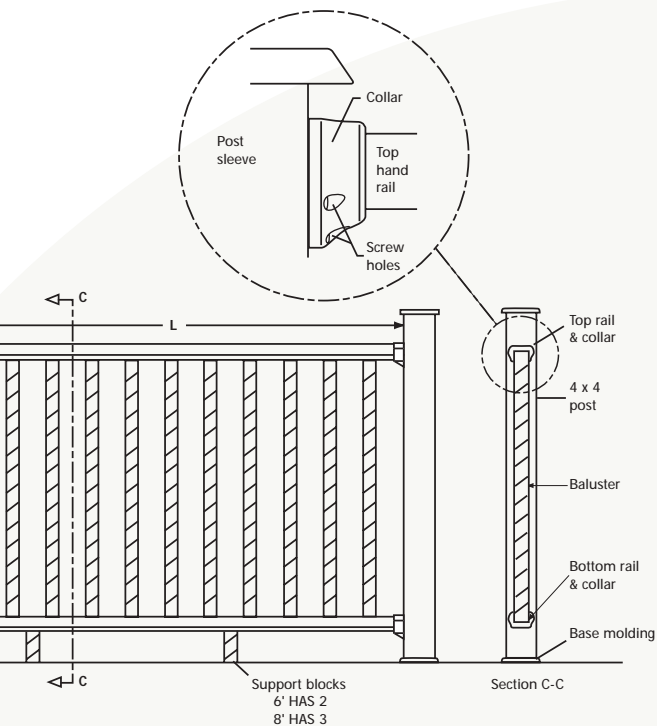
C = Rail Heights of 36" and/or 42"



### GeoDeck Railing System

- Slide the GeoDeck 4 x 4 or 6 x 6 Post Sleeve over dry, pressure-treated or other wood newel-posts that have been securely fastened to the deck's substructure. Make sure there is at least 3/16" gap between each wood newel-post and the adjacent deck boards. The post sleeve and post base trim will cover the gap between the deck boards and newel-posts.
- Slide the GeoDeck Post Base Trim over the GeoDeck 4 x 4 Post Sleeve until it rests on the deck. No fastening is required for the post base trim.
- Measure the distance between the GeoDeck Post Sleeves. Cut the GeoDeck Rails 3/16" to 1/4" shorter than the post-to-post distance.
- Assemble the top rail, bottom rail and balusters and place between 4 x 4 or 6 x 6 posts. Set the bottom rail on a 2 x 4 set on edge (3 1/2") and secure temporarily. Cut support blocks to ensure space between the top of the deck and the bottom of the rail does not exceed 4" or applicable building code. The height of the top rail cannot be less than 36" for first floor/residential and

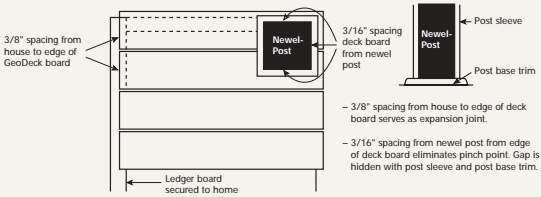




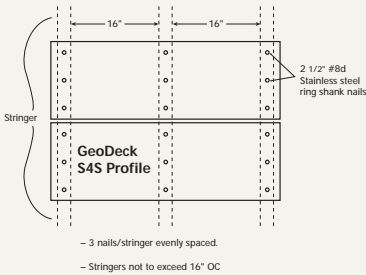
42" for second floor or commercial applications. Place the support blocks in the premortised holes making sure there is solid contact to support the weight of the rail system.

- Slip the GeoDeck Hand Rail Collars over the ends of the handrails and fasten them directly to the 4 x 4 or 6 x 6 posts with provided 2" #8 screws. A GeoDeck Stair Rail Collar is also available for stairways and angle applications. This collar can be cut to match the required angle. (All necessary hardware is provided.) When cutting, ensure that the collar is cut no shorter than 1 1/4" long.

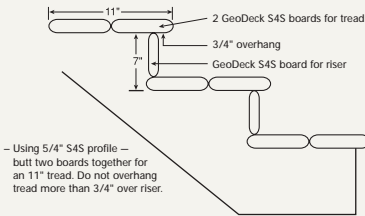
## Spacing Around Newel Post Expansion Joint (Top View)



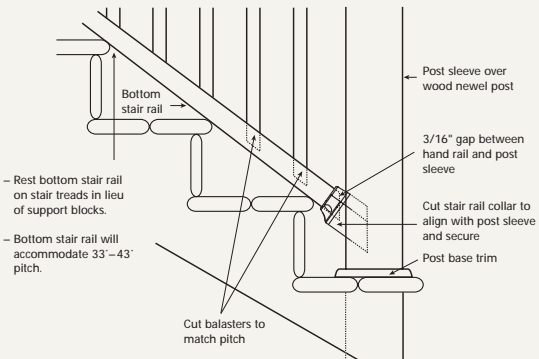
## Securing Stair Treads (Top View)



## Stair Treads (Side View)



## Securing Railing System to Stair Treads (Side View)



# Product Profile

## Material

GeoDeck is manufactured from recycled plastic, recycled cellulose fiber and minerals. It's a safe, environmentally responsible product that conserves energy and resources.

## Board Profiles

GeoDeck boards are manufactured in three colors, three profiles and three lengths: Cedar, Mahogany, and Driftwood; Traditional, Tongue & Groove, and Heavy-Duty Commercial; and 12', 16', and 20' lengths, respectively.

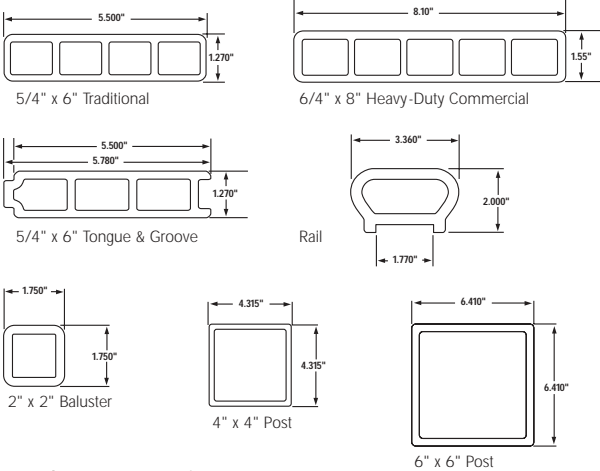
## System Components

The complete GeoDeck system includes deck boards, fascia boards, post covers, railings, balusters, end caps, post caps, post base trim, and hand rail collars – everything needed to create a great-looking deck.

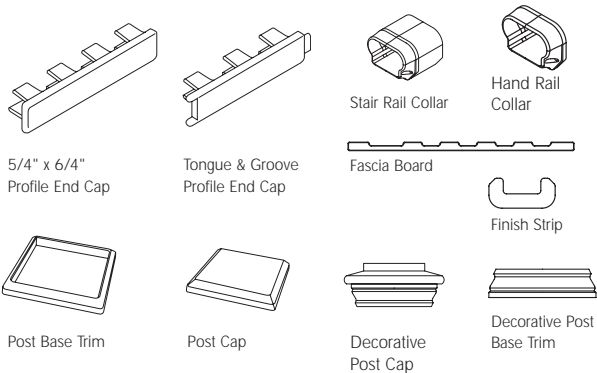
## Warranty

GeoDeck comes with a 20-year limited warranty that provides comprehensive coverage against splintering, splitting, rot, decay, and termite damage.

## Deck Components



## Deck Accessories





# Geodeck™

## **Product Features**

Fade Resistant

Outstanding Weatherability &  
Appearance

Superior Strength & Durability

Low Maintenance

Quick & Easy to Install

Safe & Environmentally Responsible

20-Year Limited Warranty

For more information, call toll-free:

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