

Illustrated Installation Instructions



Notes

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General Introduction

GeoDeck® is a state-of-the-art deck and railing system that will give you years of ageless beauty and carefree enjoyment.

GeoDeck boards come in:

•Three colors: Cedar, Driftwood, and Mahogany •Three profiles: Traditional, Tongue & Groove, and Heavy-Duty Commercial •Three lengths: 12', 16', and 20'

The complete GeoDeck system includes boards, post sleeves, railings, balusters, end caps, post caps, post base trim, and handrail collars — everything needed to create a great-looking deck.

Since GeoDeck is manufactured from recycled cellulose fiber, plastics, and minerals, its properties differ from those of wood products. So naturally, it has different handling and installation requirements, which need to be taken into consideration during the planning of your deck before you start installation. The following illustrated instructions have been provided to help you understand and take advantage of these differences with appropriate installation techniques. Following these instructions along with good building practices will deliver the highest quality installation. Failure to follow these instructions also risks voiding the GeoDeck warranty.

Local Building Codes

Follow all local codes and good construction practices when designing and installing the deck sub-structure. Most municipal building codes have specific deck construction requirements. Failure to follow local building codes, including filing plans and scheduling inspections with the municipal building inspector, may result in costly post-construction modifications. There are many excellent deck construction books on the market, many of which are available at your local lumberyard. In addition to local codes, be sure to follow the instructions in this manual that specifically pertain to the GeoDeck products. Failure to do so may void your GeoDeck warranty.

Scheduling Your Project

Unloading, Storage, and Handling of GeoDeck

GeoDeck boards should be stored on a dry, flat surface and supported every 24 inches. Do not stack GeoDeck more than four skids high. Cutting and drilling of GeoDeck does not produce respirable dust, but it is a good practice to always wear protective equipment such as safety glasses and hearing protection when operating power equipment.





Expansion and Contraction

Every material expands and contracts with temperature changes, and composite decking is no exception. Avoid potential problems by budgeting time for proper acclimation of GeoDeck to local temperatures.

It is best to mark, cut, and install boards when they are all at roughly the same temperature. Boards that have spent several hours in the sun will have expanded more than those kept in the shade, and consequently will contract more when they cool down.

If possible, schedule construction to take place during the time of the average daytime temperature. On extremely hot days (90°F+), 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.

Allow for gapping when joining GeoDeck decking from end to end.

NOTE: If the outside temperature is greater than 60°F, butt boards together tightly. For temperatures less than 60°F, leave 1/16" gap between boards. The longer the board, the more it may contract.

Sub-Structure Framing

Installing Feature and Perimeter Strips

Layout your deck using standard framing techniques. The cutaway detail below shows the joist, 2x4 spacer, and blocking border. This framing allows the GeoDeck boards and the Perimeter Strips a solid foundation to rest on.



The following two illustrations show how to complete a corner with and without a post using the same framing techniques.



The intermediate joist is the framing necessary for Feature Strips.



Center blocking ties the joist together to complete the framing.

Joist Spacing

Joists should be spaced no more than 24" on center. In applications of prolonged direct sunlight or in southern climates, use 16" on center joist spacing to reduce deflection between joists. If applying deck boards diagonally across joists, the joist spacing should be reduced by 4". Heavy-Duty Commercial boards may be used diagonally on joists spaced 24" on center. Be certain that the joist system is properly squared and secured with center blocking.





Sub-Structure Framing

Under-Deck Ventilation

Make sure there is proper cross ventilation under the deck.

Installations **24" or less** from grade or rooftop: use the Traditional deck board and provide a 3/16" space (width of a 16-penny nail) between boards.

Installations **24" or more** from grade or rooftop: use either the Traditional deck board with 1/8" space between boards or the Tongue & Groove board. If using Tongue & Groove, leave at least two sides of the under-deck space open for cross ventilation.



Deck Drainage

Slope the deck slightly (1/16" per foot) away from the house for water runoff, particularly for Tongue & Groove boards.

Proper flashing is essential when installing a deck over a living space. Be certain that water drains from the deck and does not leave standing pools.

When it is not possible to build the proper pitch and crown, such as when remodeling an existing deck, drill holes at lowest point in each cavity on the underside of the boards to ensure water drainage.



(Drain holes shown from below deck.)

General Guidelines

Tools Needed

Typical woodworking tools are required.

Board Layout

In order to minimize the aesthetic impact of expansion and contraction, do not use butt joints.

Lay out the joist substructure to take advantage of full board lengths.

Lay out the boards perpendicular to house or at a 45° angle.



GeoDeck Board Spacing

Whenever a deck board meets the wall of a dwelling, leave a 1/8" space for air circulation and to prevent water accumulation. Siding or moulding can later conceal this gap.

Allow a 3/16" spacing gap between the deck board and the wood newel post. The GeoDeck post sleeve and post base trim, when placed over the wood newel post, will cover the gap.



General Guidelines

Traditional or Commercial Gapping

Keep the deck boards square as you proceed. Check for squareness every few boards and adjust the board-to-board gap as necessary to compensate. Maintain a minimum board-to-board gap to assure proper drainage of rain and snow melt.



Tongue & Groove Gapping

The installation of Tongue & Groove boards is similar to that of Traditional and Commercial boards with a few exceptions. Do not force Tongue & Groove boards together. Hand fit only, using a credit card or an item of similar thickness ($\sim 1/32''$) as a spacing guide. An installation that is too tight will restrict water runoff and may cause buckling.



Gapping of Mitered Joints

Mitered joints at the corners are required. However, sometimes butt joints may be necessary when the Perimeter Strip isn't long enough. In this case, place the butt joint next to a vertical rail post. To create the butt joint, use a router bit or hand drywall shaper to chamfer the edge. Make sure to leave 3/16" between the butted Perimeter Strips.



Fasteners

Traditional: Use 8d 2 1/2" stainless or acceptably coated ring shank nails. A coil drum ring siding/fencing pneumatic nailer speeds the installation dramatically. If using screws, use a #9, 2 1/2" stainless (or coated) trim head screw. Apply a minimum of two fasteners on every joist, and three at the ends of each board. Avoid fastening within 3/4" from the ends of boards to prevent cracking. If hand nailing, a 2 1/2" 8d small head stainless steel ring shank nail provides superior holding with minimal fastener exposure. If using a Feature Strip, allow the ends that will butt the Feature Strip to overlap the opening where the Feature Strip will be installed. These ends will be trimmed to length later.

Heavy-Duty Commercial: Use minimum 10d 3" stainless steel or acceptably coated ring shank nails. If using screws, use a #9, 3" stainless steel (or coated) trim head screw. Apply a minimum of three fasteners on every joist. Avoid fastening within 3/4" from the ends of boards to prevent cracking.



General Guidelines

Tongue & Groove: Use 8d 2 1/2" stainless or acceptably coated ring shank nails, driven through the tongue at a 55° to 60° angle to the horizontal, through the tongue-to-shoulder junction, and into the joist below. (See the Recommended Fasteners chart below.) A coil drum siding nailer speeds the installation significantly. If using screws, use a #9, 2 1/2" stainless (or coated) trim head screw. Be careful to avoid forcing Tongue & Groove boards together, particularly when using screws. Hand fit the boards only, using a credit card or an item of similar thickness (~1/32") as a spacing guide. An installation that is too tight will restrict water run off and may cause buckling.





Fascia: Use a minimum of three fasteners every 12". The same fasteners used on the deck may be used on the fascia. Use corner moulding when two fascia boards meet at an angle. Corner moulding can be fashioned from GeoDeck baluster stock.

Use an overlapping miter cut (similar to cedar siding) to join two or more pieces of the fascia board. Butt the boards with a 1/8" to 3/16" gap and cover the gap with a 1" to 2" piece of trim nailed vertically. This allows the board to slide behind and conceal any contraction and expansion.

Applies to All Board Types: If visible fasteners are unwelcome, consider using concealed fasteners or colored, splitless ring shank siding nails that match GeoDeck colors. Both are available commercially.

A pneumatic nail gun, a coil drum ring siding/fencing nailer, greatly speeds installation. Adjust the air pressure (between 90 and 110 psi) to ensure consistent pressure for proper nail penetration. Check for correct pressure by testing the nail gun with the chosen fastener on a scrap board.

Board		Hidden I	Fasteners	Na	Screws		
	Shadoe® Track	Tebo™	DECKMASTER®	Tiger Claw®	Nails/Power	Nails/Hand	Power
Traditional	Х	Х	Х	Х	Х	Х	Х
T&G	Х		Х		Х	Х	Х
Commercial	Х	Х	Х	Х	Х	Х	Х

Recommended Fasteners

Shadoe®Track is a registered trademark of TY-LAN Enterprises Inc. Tebo™ is a trademark of Spotnails Inc. DECKMASTER® is a registered trademark of John Wagner Assoc., Inc. Tiger Claw® is a registered trademark of Tiger Claw, Inc.

Parallel or Perpendicular Decking Installation



Start decking. Leave 1/8" between house; cover later with siding or moulding.



Mark and cut boards next to posts or house to actual length before attaching. The skill saw will not cut up to these areas.



Pop a chalk line to indicate final cut length.



Install Feature and Perimeter Strips when all decking is complete. (See Feature and Perimeter Strips p.11)



Install boards with extra to be trimmed later. (See Fasteners Chart p.8)



Boards should overlap joist (allowing 3/16" for expansion/contraction) where Perimeter Strips and Feature Strips will be added.



Cut off excess.

Diagonal Decking Installation



Cut corner piece and attach for guide. Always fasten 3/16'' from edge of board.



Boards should overlap joist (allowing 3/16" for expansion/contraction) where Perimeter Strips and Feature Strips will be added.



Cut off excess.



Cut and attach boards as you go. (See Fasteners Chart p.8) Note: Trim excess after all boards are attached.



Pop a chalk line on all edges to indicate final cut length.



Install Feature and Perimeter Strips when all decking is complete. (See Feature and Perimeter Strips p.11)

Feature and Perimeter Strip Installation



Feature Strips are placed between decking joints. Up to 12' long boards may used on either side of a Feature Strip.



File or rout edges when butt joints are unavoidable.



Perimeter Strips are placed around outer edge of decking. (Allow for a maximum overhang of 1".)



Complete.

Railing System Installation



Measure post height. NOTE: Check local building codes for height requirements.



Cut post sleeve 1" longer than post height.

Railing System Installation



Slide post sleeve onto wood post.



Apply polyurethane adhesive to post sleeve edge. Place cap and nail to newel with brads.



Center bottom rail on post and mark.



Assemble top and bottom rails and balusters.



Slide base trim onto post sleeve.



Center top rail on post and mark.



Cut rails 3/16'' to 1/4'' shorter than post-to-post distance. A carbide tipped blade will cut the aluminum in the top rail.



Attach ratchet strap to hold system together. Nail balusters with brads to top and bottom back side of rails.

Railing System Installation



Cut support blocks (no more than 5.5" long).



Add collars to rails (flat edges face posts).



Insert support blocks into bottom of rail. Nail with brads to back side of rails.



Stand railing system up.



Attach with screws provided. Remove ratchet strap.



Complete.

Stair Treads and Risers Installation





Place stair carriages no more than 16" on center.



Nail brads into end caps.



Place two 5/4" S4S boards per step for treads. Use two widehead screws each time boards cross stair carriages.



Cut treads and risers to length and add polyurethane adhesive to interior lip of board. Tap end caps into position.



Position weep holes down (as shown in top view).



Place one 5/4" S4S for risers and attach with fasteners.

Stair Railing Installation



Measure post and cut sleeve 1" longer than post.



Slide post base trim over post.



Hold rails on stair treads and mark as shown. Cut upper and lower rails to length. Spaces between newel post and baluster should not exceed 4" on center.



Place collars on their side and cut on the marked angle. NOTE: All collars are not cut the same. Top collars are cut at opposite angles than bottom collars.



Slide post sleeve over post.



Apply polyurethane adhesive to post. Place cap and nail to newel with brads.



Slide collars onto rails. Check for correct orientation and mark angle to be $\operatorname{cut}\nolimits$



Assemble parts.

Stair Railing Installation



Shift assembly as shown.



Complete.



Place assembly between posts and attach with screws provided.



If hand or stair rails are angled, collar may be notched.

Fascia Boards Installation



Measure areas to be covered with fascia. Cut and attach every $12^{\prime\prime}$ using same fasteners used for decking.



Baluster material can be used to cover corners. Attach with brads on one side only to allow for expansion and contraction.

Cleaning

Through regular use and atmospheric conditions, GeoDeck may become dirty and require light cleaning to keep it looking fresh as well as to allow Tongue & Groove boards to drain properly. GeoDeck is easy to clean. Most stains can be removed with a general-purpose household cleaner and/or degreaser. Remember that fresh stains are usually easier to remove than ones that are allowed to set.

Removing Dirt, Dust, and Scratches

Simply use a wire brush to remove dirt, dust or scratches. A few strokes along the grain will most likely refresh the GeoDeck board. Also, fine-grit sandpaper can be used to touch up any remaining remnants on the surface.

Removing Oily Stains

For oily stains such as gasoline, butter, mayonnaise, etc., use a degreaser along with a scrubbing sponge. You can also apply rubbing alcohol with a scouring pad. After you've applied the cleaning treatment, there might be a whitish area where you applied the rubbing alcohol and scouring pad. To fully restore the board, apply a few strokes along the grain with a wire brush and the dust produced from the scouring pad should be removed.

Removing Microbial Stains

Microbial stains, such as algae and black mold, do not damage GeoDeck boards. For the most part, algae and black mold sit on the surface and consume pollen without degrading the board.

Caring for Tongue & Groove Boards

Power washing GeoDeck's Tongue & Groove boards will improve cleaning results. Spray should be consistent with the grain of the product. Be careful not to damage the boards and take proper safety precautions when operating a power washer.

Warranty

LDI Composites, Co. (hereinafter "Manufacturer") WARRANTS that its GeoDeck[®] products are manufactured from recovered cellulose and plastic, and will not rot, split or suffer structural damage from termites or fungal decay for a period of 20 years from the time of shipment to customer.

MANUFACTURER'S LIABILITY UNDER THIS WARRANTY IS LIMITED SOLELY TO REPLACEMENT OF DEFECTIVE GEODECK PRODUCTS OR REFUND, WITH THE FIRST 10 YEARS NON-PRORATED AND THE SECOND 10 YEARS ON A STRAIGHT-LINE DEPRECIATING BASIS, AT MANUFACTURER'S OPTION. Purchaser's sole and exclusive remedy for any claim whatsoever, whether in contract, warranty, tort or strict liability, arising out of the use, storage or possession of GeoDeck product, including without limitation any claim that GeoDeck products failed to perform as warranted, shall be replaced with substitute GeoDeck products or completely refunded within the first 10 years with the second 10 years based on a straight line depreciating basis, at Manufacturer's option. To obtain replacement or refund, the original owner must submit its claim together with this warranty certificate, the original purchase invoice indicating the date of purchase, pictures of the defective GeoDeck products, and a detailed written description to GeoDeck, 1518 South Broadway, Green Bay, WI 54304.

THE WARRANTY SHALL NOT APPLY TO GEODECK PRODUCTS THAT HAVE NOT BEEN INSTALLED IN ACCORDANCE WITH MANUFACTURER'S AND ICC GUIDELINES (Report No. ESR-1369, dated June 1, 2005 and Legacy Report No. 21-71, dated December 3, 2005). This warranty shall not cover defects due to (i) natural disasters, including fire, smoke, water, earthquakes, lightning or static electricity; (ii) causes external to the GeoDeck product such as, but not limited to, weather; (iii) the neglect, abuse, misuse (including faulty installation, repair or maintenance by other than Manufacturer), improper storage of the GeoDeck product or other failure to comply with the instructions set forth in the documentation and/or manual accompanying the GeoDeck product, (iv) a modification of the GeoDeck product not provided by the Manufacturer; (v) a malfunction of any product not provided by Manufacturer with which the GeoDeck product is used or combined; (vi) use, modification or other treatment of the GeoDeck product in a manner for which it was not designed or intended; (vii) defects in articles purchased by Manufacturer and resold by it without alteration and defects in materials purchased by manufacturer which cannot be discovered by warranty factory inspection; (viii) placement under or subjection to abnormal use conditions; or (ix) normal wear and tear. This warranty does not cover product defects on installed decks that were apparent at or prior to installation.

MANUFACTURER'S WARRANTY SHALL APPLY ONLY TO GEODECK PRODUCTS. IN NO EVENT SHALL MANUFACTURER BE LIABLE FOR LABOR OR OTHER EXPENSES INCURRED BY THE PURCHASER, OR SPECIAL, INCIDENTAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES OF ANY KIND WHATSOEVER. MANUFACTURER'S LIABILITY ARISING OUT OF THE MANUFACTURE, SALE OR SUPPLY OF THE GEODECK PRODUCTS OR THEIR USE, WHETHER BASED UPON WARRANTY, CONTRACT, TORT, OR OTHERWISE, SHALL NOT EXCEED THE ACTUAL PURCHASE PRICE PAID BY THE PURCHASER FOR THE GEODECK PRODUCTS.

Purchaser acknowledges that the GeoDeck products are not structural lumber and therefore may not be used as such. PURCHASER IS SOLELY RESPONSIBLE FOR DETERMINING THE SUITABILITY FOR USE OR APPLICATION OF ANY GEODECK PRODUCT, OR WHETHER GEODECK PRODUCTS MEET REQUIREMENTS OF APPLICABLE BUILDING CODES OR SAFETY CODES FOR SPECIFIC APPLICATIONS.

No person or entity is authorized by Manufacturer to make and Manufacturer shall not be bound by any statement or representation as to the performance of GeoDeck products other than what is contained in this warranty. This warranty shall not be amended or altered except in written instrument signed by Manufacturer and Purchaser.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES WITH RESPECT TO GEODECK PRODUCTS, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTY OR MERCHANTABILITY, FITNESS FOR A PARTICULAR PURCHASE OR NON-INFRINGEMENT. Laws from time to time in force in certain jurisdictions may imply warranties that cannot be excluded or can only be excluded to limited extent. This warranty shall be read and construed subject to any such statutory provisions. This warranty gives you specific legal rights. You may have other rights, which vary from state to state. To activate the warranty, please fill out and return the warranty card within 30 days of purchase.

GeoDeck

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ICC-ES Report No. ESR-1369 Legacy Report No. 21-71

Deck Components



Post Cap

Base Trim

Product Features

Fade Resistant Tongue & Groove and Traditional Boards Fast and Easy Installation Low Maintenance Superior Strength and Durability Safe and Environmentally Responsible 20-Year Limited Warranty

For more information, call toll free: (877) 804-0137

www.geodeck.com

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