



DECK INSTALLATION GUIDELINES

Please note that Bear Board Deck Boards claims no responsibility for the improper installation of our product. All installations are unique and it is the sole responsibility of the installer to determine specific requirements in regard to each application. We recommend that a licensed architect, engineer or local building official review all designs before installation.

Knowing how to work with Bear Board Deck Boards is the key to success and to the elimination of call backs. As with most synthetic deck boards, Bear Board Deck Boards will expand in the heat and contract in the cold. It's important to note that the acclimation of the board to the current ambient temperature prior to final cuts and fastening of the board is critical.

We recommend not using end to end butt joints and keeping boards to a minimum length. Best practice includes applying deck boards across the shortest length of the deck whenever possible.

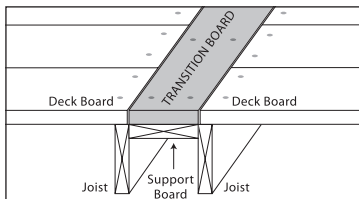
In these guidelines, you will find procedures to eliminate problems associated with unsightly gaps that could occur if these procedures are not followed. By taking the time to do the installation correctly, you will be providing a beautiful deck or dock that will look great for a lifetime with very little maintenance required.

Handling & Storage

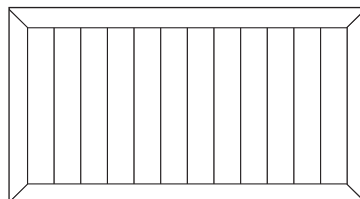
- Always keep Bear Board Deck Boards clean prior to installation.
- Note that all Bear Board Deck Boards are manufactured longer to allow for the ends to be trimmed prior to or after installation should any damage occur during handling or storage.
- Store Bear Board Deck Boards out of the sun and avoid laying boards directly on hot surfaces to avoid a difference in board temperature when installing.
- Lay boards flat. If stored off the ground, support boards every 18" and if boards are stacked higher than one bundle, supports should line up vertically.
- Be sure to lift each board individually versus sliding across bottom boards. This will prevent hidden debris from damaging the boards.
- In order to allow for assimilation of Bear Board Deck Boards to current temperatures, lay out individual boards in advance of final cuts and fastening of the boards to the deck or dock frames. You will have better success the longer that you allow the board to assimilate to current temperatures. Laying the individual boards out overnight is optimal.

Deck Design and Layout

In order to eliminate noticeable gapping, we encourage the use of a transition board or a "picture frame" design instead of utilizing butt joints whereby two boards are installed end to end. In the utilization of transition board, a board is placed perpendicular to and in between two boards where the design layout is longer than one board. Joints should not be staggered, but rather uniform and broken up with a transition board.



Transition Board



Picture Frame Design

As a rule of thumb, shorter boards (16 feet or less) experience less movement than longer lengths and should be incorporated into the deck design and layout whenever possible.

The best practice at installation is always to run the joists in the long direction which will provide for the use of shorter length deck boards. When converting a deck frame from short run joists to long run joists, a 2x4 sleeper lying flat could be utilized on 16 inch centers across 2x joists. The sleepers can be fastened to each of the 2x joists.

Tools and Working with Bear Board Deck Boards

Bear Board Deck Boards can be cut and shaped with ordinary wood working tools. Pre-drilling is not necessary and carbide saw blades are not needed. One of the true benefits of Bear Board Deck Boards is the unique ability to router the ends to a beautiful finish. Bear Board Deck Boards can be bent, curved and shaped using approved heating blankets and ovens.



Routered Board

Should the need to rip a board arise, it is imperative to rip both sides of the board to avoid possible curvatures. When cutting notches into Bear Board Deck Boards to go around posts, it is imperative that you oversize the cut by a 1/2 inch to allow for movement around the post and to prevent cracking of the board which will occur if this is not planned for accordingly.

When fastening, place screws no closer than 3/4 inch from the end of the board.

Framing and Joist Span

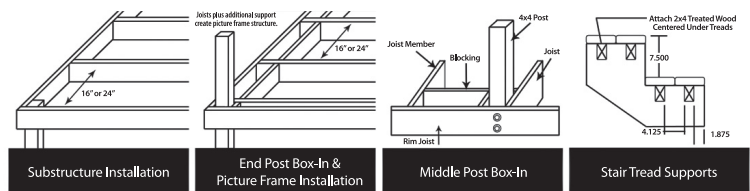
The frame of a deck is its primary support structure, consisting of posts, beams and joists. Follow these deck framing guidelines before installing Bear Board Deck Boards. All joists must be level and structurally sound for new and existing deck frames.

Use the chart below to determine the appropriate joist span for your residential or commercial project. Bear Board Deck Boards can be placed perpendicular to the joist or placed diagonally on the joist. Remember to install Bear Board Deck Boards with the wood grain pattern facing up to enhance the look and improve the slip resistance of the board.

Maximum Joist Framing Span

BOARD PROFILE	RESIDENTIAL		COMMERCIAL	
	90° Perpendicular	45° Diagonal	90° Perpendicular	45° Diagonal
5/4 x 6 Boards	16"	12"	12"	12"
2 x 6 Boards	24"	16"	16"	16"

Joist framing span applies to Standard, Groove & Groove and Tongue & Groove profiles.



Gapping and Thermal Expansion

Bear Board Deck Boards are gapped end to house, end to trim or end to feature board based on their location within your project. Proper gapping is necessary to accommodate for inherent thermal expansion properties. As discussed elsewhere in these guidelines, we do not recommend that you incorporate end to end boards in your design but rather incorporate a "picture frame" design whereby you utilize a feature board in areas where more than one board length is required. Bear Board Deck Boards do not need to be gapped side-by-side. The amount of expansion and contraction that will occur depends on the length of the board and temperature of the board at time of installation.

Refer to the thermal expansion gap chart below to determine the necessary gap at time of installation. You can expect that a 12-foot board installed at 60 degrees F will expand 1/4" upon reaching a maximum temperature of 120 degrees F and will contract 1/4" when reaching a minimum temperature of 0 degrees F. In order to account for movement on both ends of the board, the recommended gap to leave on each end of the board would be 1/8". It is necessary to allow the boards to acclimate to current installation temperatures as outlined earlier in these guidelines.

Estimated End to House, End to Trim or End to Feature Board Gap Recommendation

		Installed Temperature					
		0	20	40	60	80	100
Board Length	Feet	End Gap to leave for expansion in inches					
	6	0.17	0.14	0.10	0.07	0.03	0.00
	8	0.23	0.18	0.14	0.09	0.05	0.00
	12	0.34	0.27	0.2	0.14	0.07	0.00
	16	0.45	0.36	0.27	0.18	0.09	0.00

Decimal Conversion	
1/8	0.13
3/16	0.19
1/4	0.25
5/16	0.31
3/8	0.38
7/16	0.44
9/16	0.56
11/16	0.69

FASTENING OPTIONS

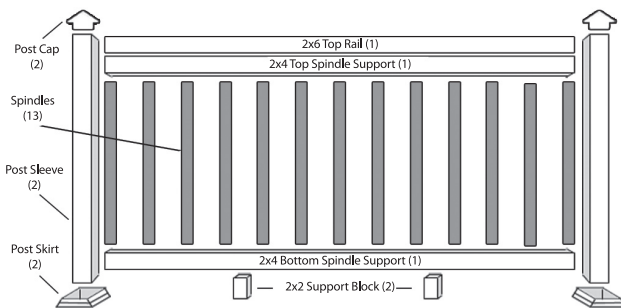
Bear Board Deck Boards can be installed using a face fastening system or a hidden fastening system. No pre-drilling is necessary to install Bear Board Deck Boards and color-match screws are available. Two screws are needed per joist board. For joist spans of 16" centers, 4.5 screws per square foot will be needed. For joist spans of 24" centers, 3 screws per square foot are needed. This figure does not include trim or railing screws.

Screws that are face fastened are screwed directly down from the deck or dock surface into the wood framing underneath. We recommend 2 1/2" or 3", #8 or #10 stainless steel, flat head deck screws or Headcote stainless steel composite deck screws. (Visit www.bearboardlumber.com for Headcote color match options). Smaller size deck screws are not recommended. Face fastening is the best option to mitigate thermal expansion properties and to protect against potential wind and/or water uplift which could occur with a hidden fastening option.

A hidden fastener system attaches the board to the frame without leaving any marks on the surface of the deck or dock board. Hidden fasteners biscuits are recommended for boards over 16-feet in length in climates where extreme temperature changes will occur. This fastening system will allow the board to expand and contract with annual temperature changes. Groove and groove profiles are available and work with a number of available hidden fastening options sold nationally. (Visit www.bearboardlumber.com for approved hidden fastener options).

RAILING INSTALLATION GUIDELINES

Name	Item	Quantity	Name	Item	Quantity
Top Spindle Support	2x4	1	Support Blocks	2x2	2
Bottom Spindle Support	2x4	1	Post Sleeve	4x4 Hollow	2
Top Rail	2x6	1	Post Cap	Post Cap	2
Spindles	2x2	13	Post Skirt	Post Skirt	2



Step 1 – Cut Materials for a 6 foot section

Measure the exact distance between each set of Post Sleeves and cut the 2x4 Top Spindle Support, the 2x4 Bottom Spindle Support and the 2x6 Top Rail accordingly. Use 13 – 2x2s as the Railing Spindles and space them evenly between the Post Sleeves. Cut the remaining 2x2s into two 3 1/2" Support Blocks.

Step 2 – Assemble Spindles

Screw the middle Spindle to the center point of the 2x4 Top and Bottom Rails. Attach the remaining Spindles, working your way out from the center point. Leave a maximum 3.9" gap between each Spindle. Center the 2x2 Spindles on the 3 1/2" side of the 2x4s. Screw all Spindles to the 2x4 Top and Bottom Rails.

Step 3 – Attach the Support Blocks

Center and attach the two (2) Support Blocks under the 2x4 Bottom Spindle Support as shown on the diagram.

Step 4 – Attach 2x6 Top Rail

Center the Top Rail to the Top Spindle Support Board and attach.

Step 5 – Attach Post Sleeve and Skirt

Post sleeves are designed to fit over pressure treated wood posts with a maximum dimension of 3-1/2" x 3-1/2" and should be measured and trimmed to that size before installing post sleeves. Slide each Post Sleeve over the 4x4 wood post. Slide the Post Skirt

over the Post Sleeve.

Step 6 – Attach Railing Assembly to Posts

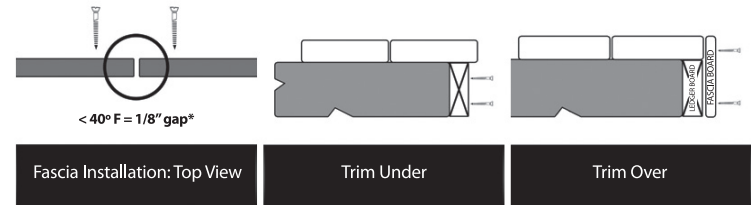
Measure the exact distance between posts. Trim rail ends to length if needed to fit in between the posts. Attach the Rail assembly to the posts.

Step 7 – Attach Post Cap

Complete your railing section with a standard or decorative Post Cap on top of each post sleeve.

TRIM BOARD INSTALLATION GUIDELINES

Install Bear Board 1x10 trim boards using two screws every 16" or less. We recommend 1 3/4" SplitStop Fascia Screws, or #8 or #10 stainless steel, flat head deck screws or Headcote stainless steel composite deck screws. We suggest pre-drilling a hole larger than the diameter of the screw to account for lateral movement. **Important! Do not over tighten screws.**



PILING STRIP INSTALLATION GUIDELINE

We recommend the spacing for screw application of every 16" vertically and predrilling with a hole size slightly smaller than the screw diameter. Fasten using #7 stainless trim screws.



Bear Board warrants that Bear Board materials will not rot, split, crack, splinter or be adversely affected by insects. Slight color variation is normal with any plastic composite decking, is not warranted, a visual inspection of your decking before final installation is recommended to be sure any variation is considered acceptable by the end user. This limited warranty shall apply to all such materials with respect to which a claim is made to Bear Board (including return of the claimed defective material if required by Bear Board as hereinafter provided) accompanied by an original receipt and a written statement describing each defect claimed and which Bear Board's inspection shows to be defective, provided that this limited warranty shall not apply to any materials which have been subject to accident, or improper handling, installation, maintenance, repair or alteration, or used in anyway contrary to good standard of practice within the building industry. Bear Board's obligation under this limited warranty, and purchaser's exclusive remedy for the breach thereof, shall be limited to Bear Board's correction of any defect in material or workmanship by, at Bear Board's option and expense (excluding shipping, installation and any other charges): (i) repair of the defective materials; (ii) replacement of the defective materials; or (iii) refund of the original purchase price of the defective materials. Bear Board reserves the right to require, as a condition to recognizing any claim under this limited warranty, purchaser's return of any material, transportation charges prepaid by purchaser, to Bear Board's manufacturing plant for inspection and/or repair by Bear Board.

BACKED BY OUR

LIMITED LIFETIME WARRANTY

THIS LIMITED WARRANTY IS EXPRESSLY MADE IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. REFUND OF PURCHASE PRICE OR REPAIR OR REPLACEMENT OF DEFECTIVE GOODS AS PROVIDED ABOVE SHALL BE THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY FOR THE CONTRACT, WARRANTY, NEGLIGENCE, TORT OR STRICT LIABILITY CLAIMS. IN NO EVENT SHALL BEAR BOARD BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, ECONOMIC OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER (INCLUDING BUT NOT LIMITED TO LOSS OF USE, LOST PROFITS, LOSS OF BUSINESS, BUSINESS INTERRUPTION, OR ATTORNEY'S FEES) CAUSED OR ALLEGED TO BE CAUSED IN WHOLE OR IN PART BY THE NEGLIGENCE, TORT, STRICT LIABILITY, BREACH OF CONTRACT, BREACH OF WARRANTY OR OTHER BREACH OF DUTY OF OR BY BEAR BOARD.

THIS WARRANTY DOES NOT COVER DAMAGE OF ANY SORT RESULTING FROM FAULTY INSTALLATION, MISUSE, FIRE NEGLIGENCE, OR ACTS OF GOD, AND DOES NOT COVER COSMETIC ITEMS SUCH AS SCRATCHES, DENTS, STAINS, SOILING, OR DISCOLORATION OCCURRING IN THE NORMAL COURSE OF USAGE. PETROLEUM PRODUCTS SHOULD NOT BE USED ON BEAR BOARD MATERIALS AND USING ANY PRODUCT WITH PETROLEUM DERIVATIVES WILL VOID THIS WARRANTY.

Register your warranty online at www.bearboardlumber.com.



Bear Board
www.bearboardlumber.com
 800-480-2327

885 Church Road, Elgin, IL 60123
info@bearboardlumber.com



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