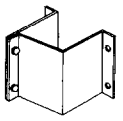
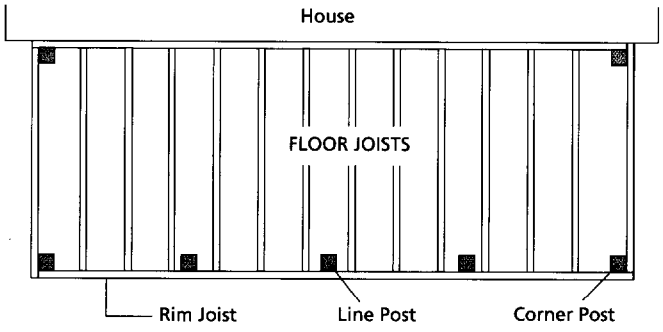
Post Installation

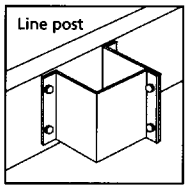


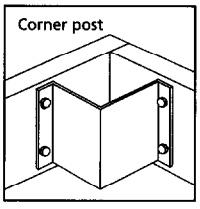
INSTRUCTIONS (Rim Joist Mount)

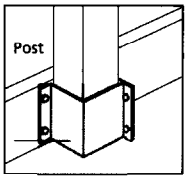
Post brackets attach to the inside of the rim joists before porch flooring or decking is attached. For remodeling existing flooring, cut hole in flooring next to joist for post. The post bracket can be used for line or corner posts and bolts directly to the rim joist. Measure the distance between each corner post and divide so all rail sections are the same length.



1. Position and bolt post brackets to rim joist using 3/8"x3" carriage bolts. Bracket should be flush with top of rim joist. Pre-drill using a 7/16" drill bit.
2. Insert post into bracket, plumb and tighten with 3/8"x 3" carriage bolts.
3. When attaching a corner post, remove side plate from bracket and square up to the corner.
4. Once posts are in place, decking can be applied.



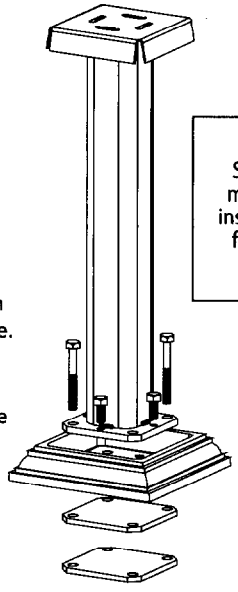




INSTRUCTIONS (Concrete Surface Mount)

Post mount brackets attach to the concrete surface of your porch.

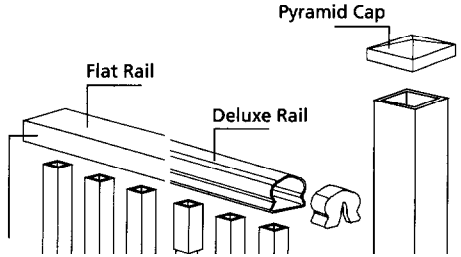
1. Using the post base trim as a guide, mark and drill 4 holes into concrete surface using a 7/32" drill bit.
2. Align the holes in the post base trim over the drilled holes in the concrete.
3. Set the bottom of the post mount into the base trim and fasten to the concrete surface with (4) 1/4" wedge bolts (included).
4. Slide post over the secured post mount.



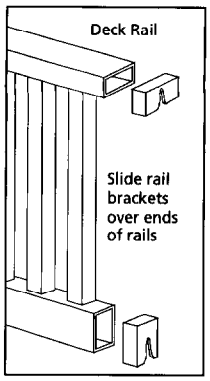
Note: See post mount kit instructions for more details.

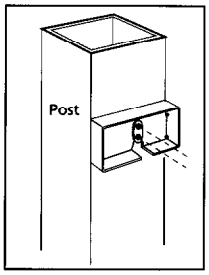
Components

POST CAPS

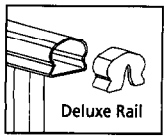


Rail Installation

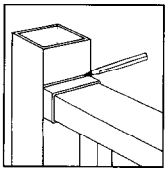




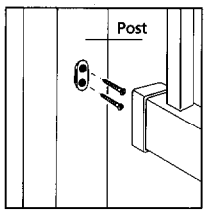
INSTRUCTIONS



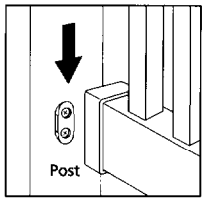
1. Cut rail sections 3/4" less than distance between posts.
2. Slide the Rail Bracket over all the ends of rails of the rail section to be attached to posts.



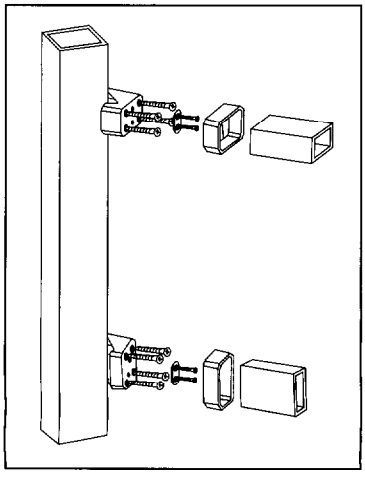
3. Position and level the rail section on crush block (Included). Glue and place crush block underneath bottom rail centered between posts..
4. Mark with a pencil where the Rail Brackets meet the posts.



5 Once Rail Bracket flanges are in place, replace Rail Brackets on ends of rail, slide rail section onto Rail Bracket flanges and drive the section straight down onto the flanges.
6. The self-locking flange will hold rail in place. Glue and place crush block underneath bottom rail centered between posts.



fiberon® *Railing can be cut easily with any cross cut handsaw or circular saw using a 32 tooth carbide blade.*



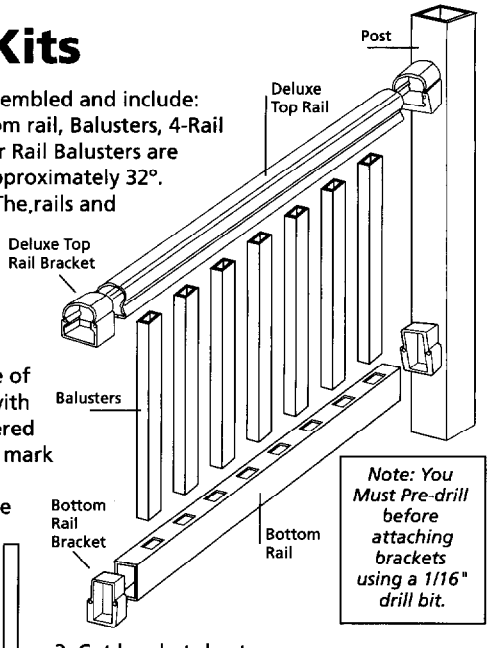
Angle Rail Installation

For angled railing installation use the Universal Angle Adapter for Flat Railing or the Stair Railing Brackets for Deluxe Rails.

Angle adapters connect to brackets for angle designs.

Stair Rail Kits

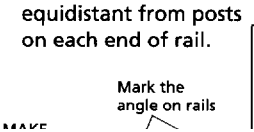
Stair Rail Kits come unassembled and include: 1-Deluxe top rail, 1-Bottom rail, Balusters, 4-Rail Brackets and Screws. Stair Rail Balusters are precut to fit a slope of approximately 32°. (An 11" run by 7" rise.) The rails and brackets must be cut to fit between the posts.



Note: You Must Pre-drill before attaching brackets using a 1/16" drill bit.

STAIR RAIL INSTALLATION

1. To determine the angle of your stair rail, lay rail with brackets on stairs centered between the posts and mark the angle on the rail. Baluster holes should be equidistant from posts on each end of rail.



Boardwalk® Composite Lumber

5/4x6, 2x4 and 2x6 Decking Installation Instructions

Joist Spacing & Support Structure

Boardwalk Composite Decking planks do not require any special substructure, but always consult local building codes for deck substructure requirements. Boardwalk must not be used as primary structural members. For best performance and visual effect make certain that the joists are level and secure prior to installing Boardwalk.

The following charts, tables and notes provide joist spacing and decking sizes for Boardwalk Composite Decking planks and stair treads for specified loading requirements, and Allowable Design Values for decking applications outside of the span charts. Always consult your local building codes.

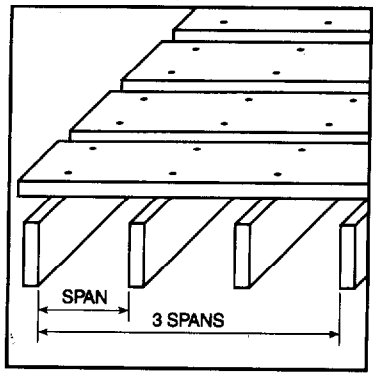
Boardwalk Composite Lumber

Decking Span Chart

	100	125	200
5/4x6	20	16	12
2x4	24	24	24
2x6	24	24	24

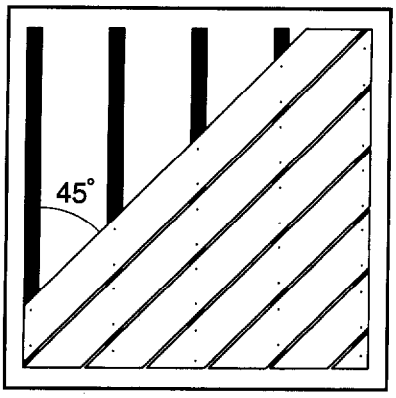
Span Chart Notes:

1. The spans and decking sizes indicated in this chart are to be used in lieu of application-specific calculations. When Boardwalk Composite Lumber is used in applications or loading conditions outside the scope of this chart, structural design calculations and details for specific applications performed by a qualified engineering professional shall be furnished to the code official verifying compliance with the applicable codes.
2. Values indicated in this chart are recommended maximum center-to-center joist spacing for Boardwalk. Values are based on a fully loaded three (3) span continuous condition engaging four (4) joists. Decking shall be securely fastened to each joist.
3. Recommended spans and member size are based on a maximum deflection of L/360.
4. All decking members shall be installed flatwise.

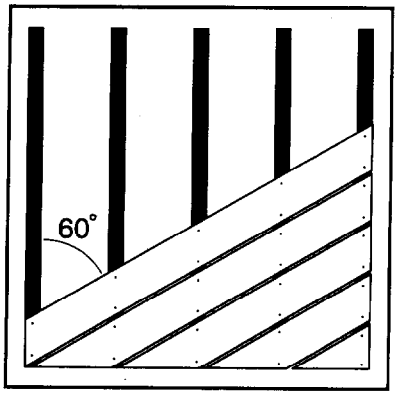


Angled Deck Plank Installation

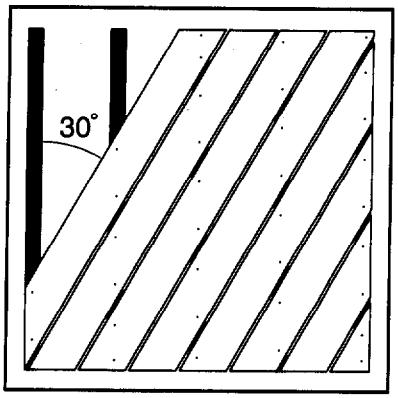
In order to achieve the recommended Boardwalk Composite Decking spans, support spacing for angled decking layouts must be adjusted.



- For 45 degree angle decking: Multiply Maximum Member Span Between Supports by 0.70



- For 60 degree angle decking: Multiply Maximum Member Span Between Supports by 0.86



- For 30 degree angle decking: Multiply Maximum Member Span Between Supports by 0.50.

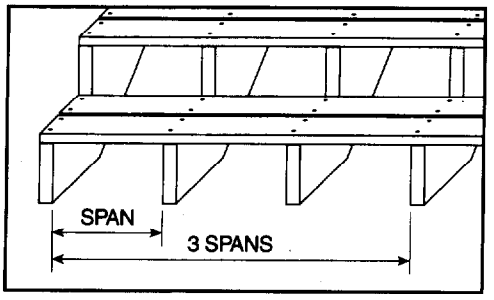
Decking Installation Instructions (cont'd.)

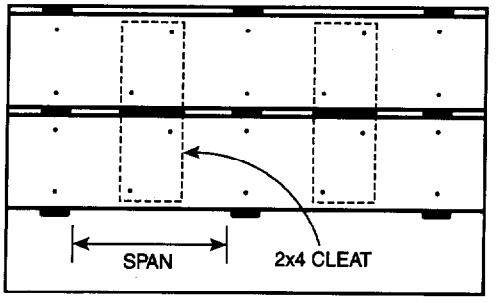
Boardwalk Composite Lumber Stair Tread Span Chart

	300 lb. Concentrated Load	
	Single Member, 3 Span	Multiple Members, 3 Span[3]
Decking Size	Maximum Allowable Span Between Supports (inches)	
5/4 x 6	n/a	8
2 x 4	8	16
2 x 6	12	20

Stair Tread Span Chart Notes:

1. Values indicated in this chart are recommended maximum center-to-center stringer spacing for Boardwalk Composite Decking treads. Values are based on a fully loaded, three (3) span continuous condition engaging four (4) stringers. Treads shall be securely fastened to each stringer. Refer to drawing below.
2. Recommended span and member size is based on a maximum deflection of L/360.
3. Multiple member treads shall be cleated together at center span to distribute the concentrated load. 5/4x6 and 2x6 requires two members minimum to be cleated. 2x4 requires three members minimum to be cleated. Refer to drawing below.
4. A cleat shall consist of a 2x4 member or equivalent fastened to the underside of all members of the tread at each mid-span location. The cleat shall be fastened to each member of the tread with a minimum of two (2) screws. The purpose of the cleat is to make all members of the tread function as a unit when subject to a concentrated load.





Boardwalk Composite Lumber Allowable Design Values (2x4, 2x6 and 5/4x6)

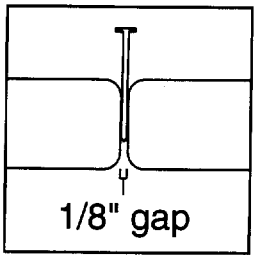
Property	Design Value (psi)
Bending Stress	425
Tension	260
Modulus of Elasticity	1.80×10^5
Compression Parallel to Length	850
Compression Perpendicular to Length	965
Shear Stress	280

Decking Allowable Design Value Table Notes:

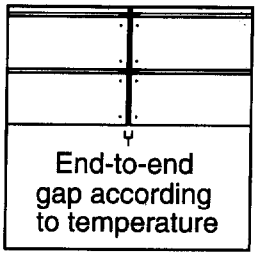
1. The Allowable Design Values listed in the table are for use by qualified engineering professionals for the design of decking applications outside of the Decking and Stair Tread Span Charts.
2. Boardwalk Composite Lumber and its published design values are for decking applications only. Boardwalk must not be used for primary structural members.

Gapping

Width-to-Width: As with any decking material, width-to-width board gapping is essential for proper drainage and to take into account changes in dimension due to temperature. A gap of 1/8 inch (approximately the width of a 8 penny nail) will satisfy most installation conditions. Using a Boardwalk deck square ensures a consistent gap. Ask your Boardwalk Composite Lumber supplier for a Boardwalk deck square.



End-to-End: When joining Boardwalk Composite Decking planks end-to-end, gapping is also required. The size of the gap will depend on the length of the boards, the temperature at the time of installation, and the highest anticipated temperature in the local area. As a rule of thumb, for a 16 ft. plank, allow 1/16 inch end gap for every 20 degrees Fahrenheit difference between installation temperature and the highest temperature expected during the year.



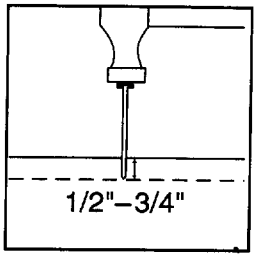
Fasteners

Virtually any high quality deck fasteners, nails or screws work well with Boardwalk. As with wood, spiral shank nails provide better holding power in Boardwalk Composite Decking than do common nails. Galvanized or stainless steel screws are highly recommended to take full advantage of Boardwalk's durability. High quality fasteners are strongly recommended as their added strength reduces twist-offs, bending and breaking.

Hidden/Concealed Fastening Systems. To optimize the consistent surface of your Boardwalk deck, Boardwalk Composite Decking planks may be installed with hidden fastening systems that are compatible for use with polymer-based lumber. Refer to the fastening system manufacturer for system compatibility and consult local building officials for compliance with specific code requirements.

Laying & Fastening the Deck

- More force is required to drive a nail or screw into Boardwalk Composite Lumber than into wood. When using nail guns, pre-test for the proper air pressure settings. The nail head must be flush with the plank surface.
- When hand driving nails into Boardwalk, make sure the nail is held and set 1/2 to 3/4 inch into the plank before driving with full force.



- Locate all fasteners no closer than 1/2 inch from the sides and end cuts. For best visual results, install fasteners in a straight line. Snap a chalk line for accuracy.
- Self-tapping or deck screws generally do not require pre-drilling. However, during cold weather, the plastics content of Boardwalk may cause it to be stiffer than usual. In these cases, pre-drilling before fastening is recommended.
- For installation with hidden fastening systems, refer to the fastening system manufacturer for specific installation instructions regarding polymer-based decking. Refer to Boardwalk gapping requirements which are essential for proper drainage and to take into account changes in dimension due to temperature.
- A minimum length of 2-1/2″ screws is recommended for 5/4x6 decking planks, and a minimum of 3″ screws is recommended for 2x6 and 2x4 decking planks (minimum 1-1/2″ embedment).

Boardwalk® Composite Lumber

2x2, 2x4 and 4x4 Railing Installation Instructions

Boardwalk Composite Railing Assemblies are designed to complement the use of Boardwalk Composite Decking planks. Together these products provide the complete low maintenance decking system.

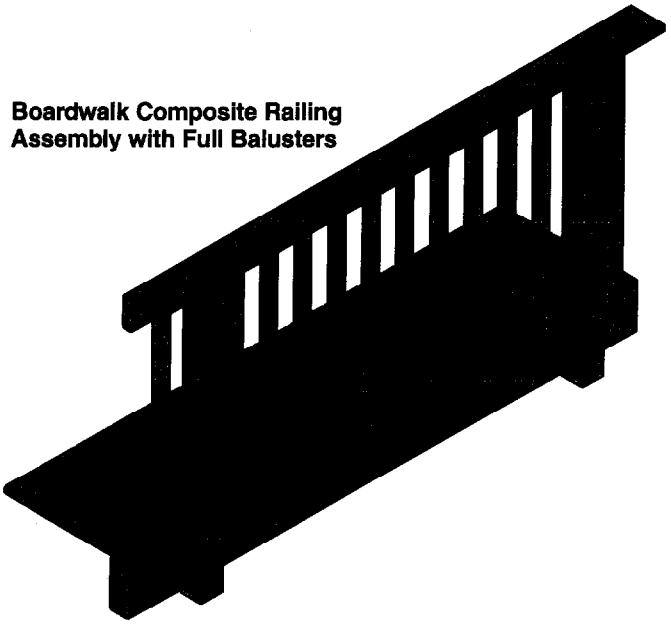
Boardwalk Composite Railing Accessories include:

- Boardwalk 2x2 Balusters
- Boardwalk 2x4 Rails
- Boardwalk 4x4 Posts

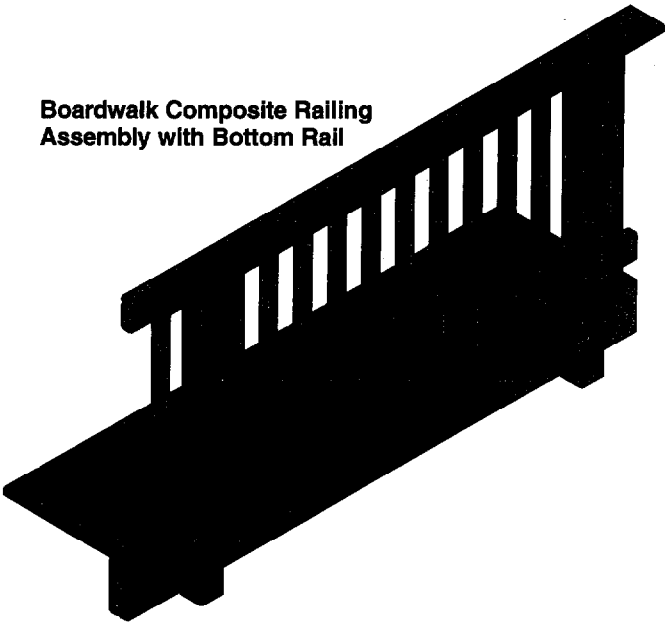
Boardwalk Composite Railing Systems have been designed and tested to meet building code requirements including BOCA, SBC/SBCCI, UBC/ICBO, and IBC. When designed and built in accordance with the following instructions, Boardwalk Composite Railing Assemblies meet the lateral load requirements of the codes listed including the applicable required safety factors. Check with your local building code official for actual railing requirements.

Boardwalk Composite Railing Assemblies

Boardwalk Composite Railing Assembly with Full Balusters



Boardwalk Composite Railing Assembly with Bottom Rail



Boardwalk Composite Railing Components

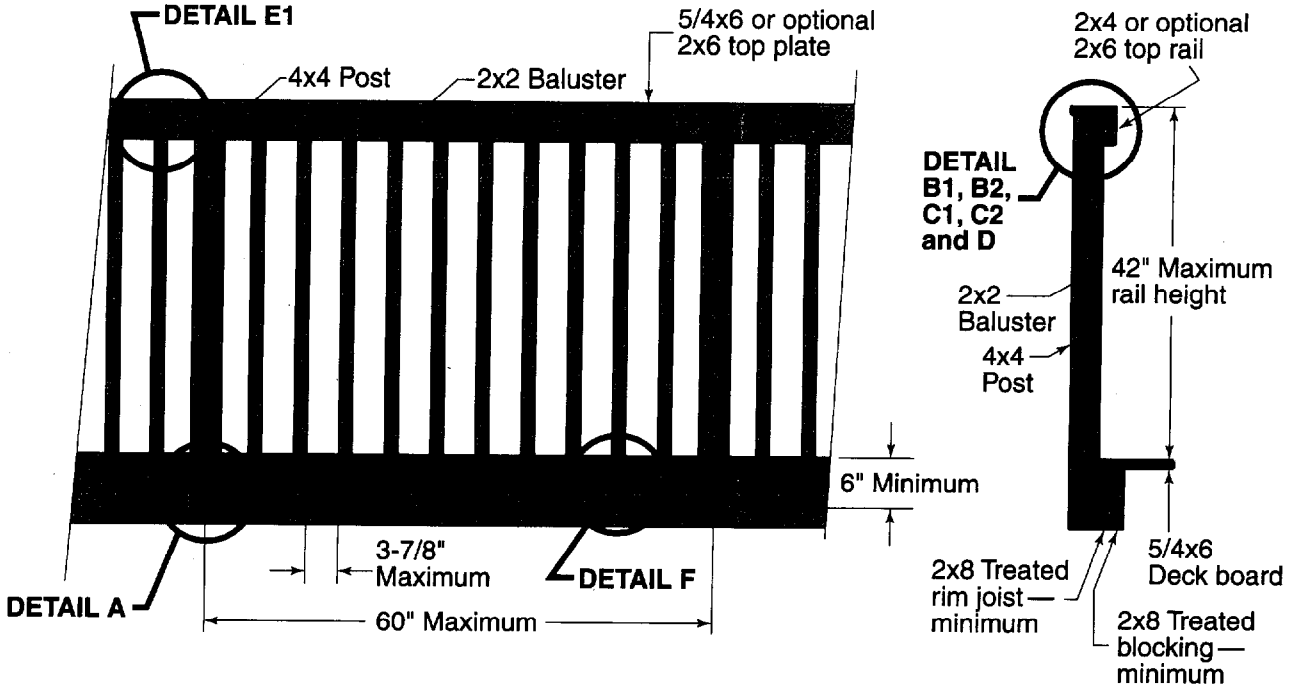
Whether you are building the Boardwalk Composite Railing Assembly with full balusters or optional bottom rail, consult the table below for the component descriptions and installation requirements. Note that the railing components listed include the Boardwalk 5/4x6 and 2x6 Composite Decking planks. They are included as part of the assemblies and offer you aesthetic and cost options in the design and construction of your Boardwalk Composite Railing Assembly.

COMPONENT		INSTALLATION REQUIREMENTS
Posts		**Boardwalk 4x4.** Maximum post spacing shall be 5 feet (60") on center. **Posts shall not be notched.**
Railings	Top Plate	**Boardwalk 5/4x6 or 2x6.**
	Top Rail	**Boardwalk 2x4 or 2x6.**
	Bottom Rail	**Boardwalk 2x4 or 2x6.** Bottom rails shall be supported and attached to the deck structure at a maximum of 26-7/8″ on center. Supports must be equally spaced over the railing span. Bottom rail is not required when full-length balusters are attached directly to the deck structure.
Balusters		**Boardwalk 2x2.** Balusters shall be spaced at a maximum of 5-3/8″ on center. (3-7/8″ maximum space between balusters). Balusters fabricated from modified 2x2 or any other Boardwalk Composite Lumber profiles are not permitted.

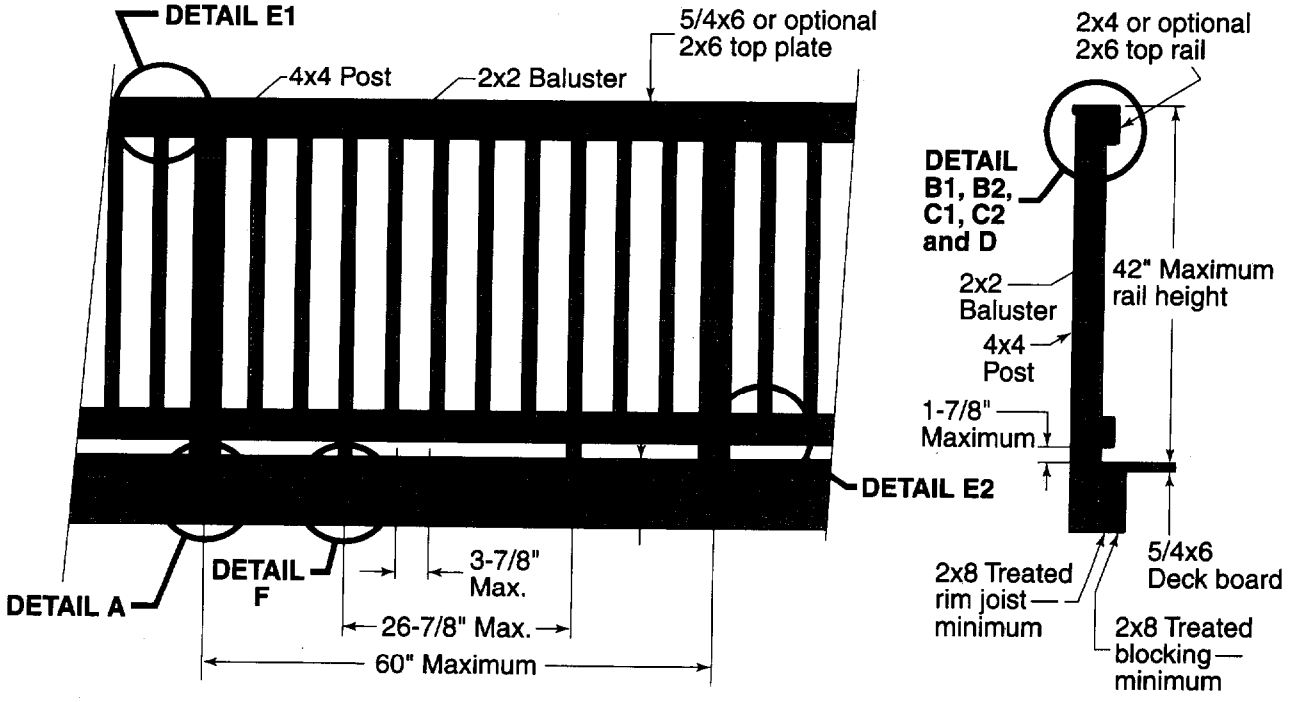
Boardwalk Composite Railing Assembly Illustrations

The following illustrations provide the basic layouts for the Boardwalk Composite Railing Assemblies. The illustrations also highlight specific construction details to be followed during construction. Minimum and maximum values are listed that must be followed to meet specific dimensional codes and structural requirements.

Boardwalk Composite Railing Assembly with Full Balusters



Boardwalk Composite Railing Assembly with Bottom Rail



Boardwalk Composite Railing Construction Details

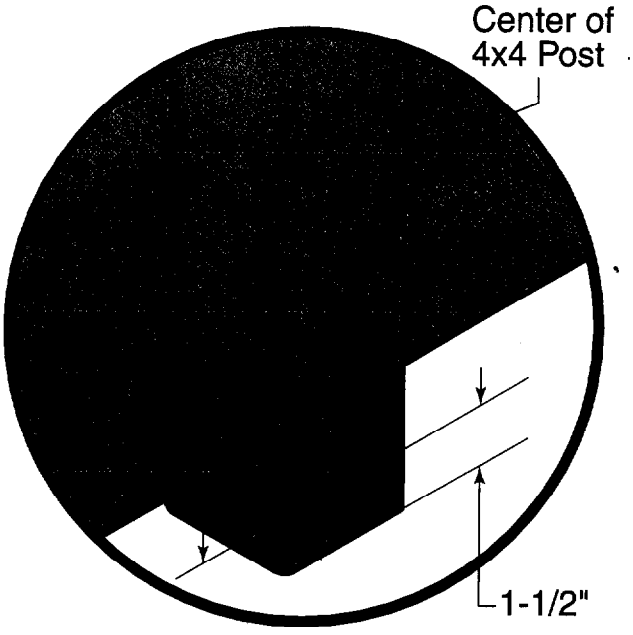
Use the following details for construction and fastener spacing. See the Boardwalk Composite Railing Fastener Schedule for complete fastener types and quantities.

DETAIL A

Fastening Boardwalk 4x4 Posts to Rim Joists

Begin the assembly with the Boardwalk 4x4 posts. Posts must be thru-bolted to the deck rim joist using two (2) 1/2 inch carriage bolts. Clearance holes are required through the centerline of the post at the dimensions shown—9/16 inch diameter holes, maximum. To provide proper load bearing, the posts must be bolted to a minimum 2x8 rim joist with minimum 2x8 blocking at the backside of the rim joist. Post spans must not exceed the maximum spans shown on the assembly Illustrations.

*The 4-1/4 inch minimum dimension shown is from the fastener center to centerline and is based on the minimum 2x8 joist framing. This dimension shall be adjusted for 2x10 (6-1/4 inch) and 2x12 (8-1/4 inch) joist framing. NOTCHING OF BOARDWALK 4X4 POSTS IS NOT PERMITTED.

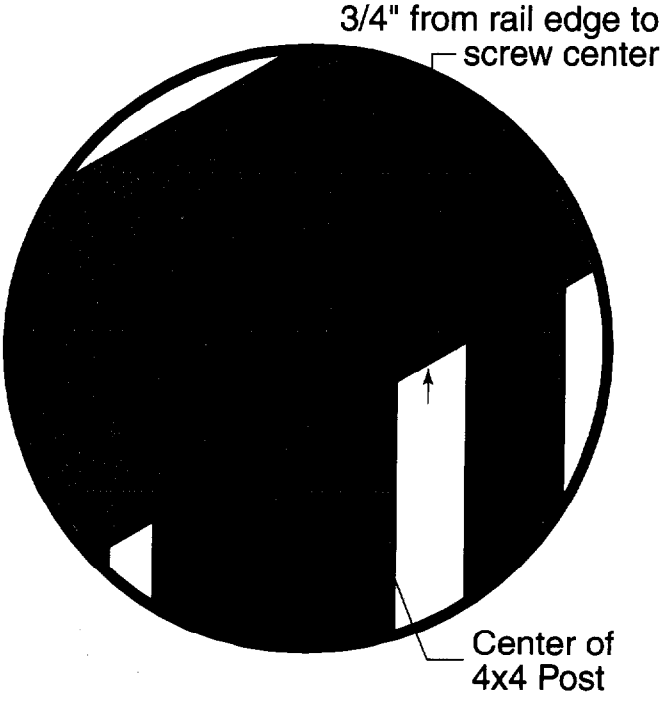


DETAIL B1

Fastening Boardwalk Top or Bottom Rail to 4x4 Post *(Viewed from interior)*

After the 4x4 posts have been mounted in place, the Boardwalk top and bottom rails are fastened to the interior face of the 4x4 posts. Use the specified deck screws at the locations shown to mount the top rail flush with the top surface of the 4x4 posts. Bottom rails are mounted in the same manner. The vertical location of the bottom rails must be in accordance with minimum dimension highlighted in the Railing Assembly Illustrations.

*The 2 inch minimum dimension shown is from the fastener center to the centerline. It is based on the minimum 2x4 top/bottom rail and this dimension is adjusted to 4 inches for the 2x6 top/bottom rail.



DETAIL B2

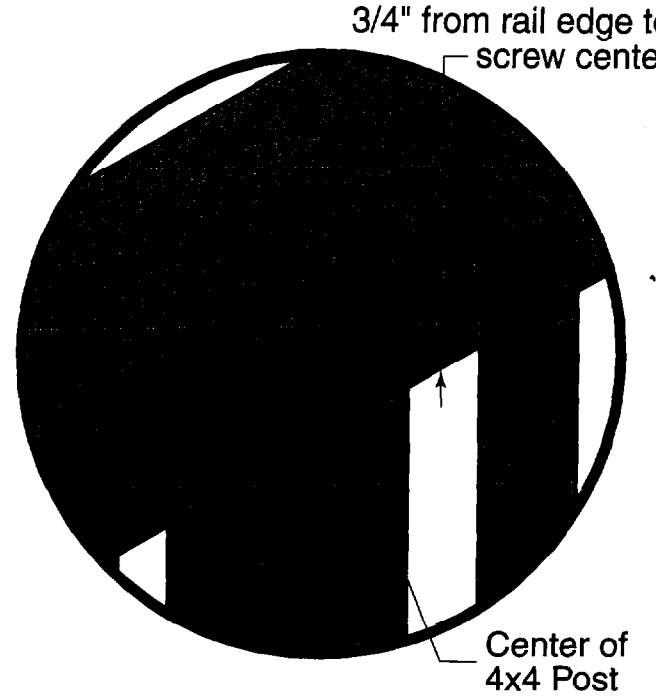
Fastening Boardwalk Top or Bottom Rail at Splice Joints *(Viewed from interior)*

If splice joints are required in the Boardwalk top rail, the joints are to be located at the centerline of the 4x4 post as shown. Use the specified deck screws to fasten each side of the splice joint in the locations shown. Bottom rails are spliced in the same manner.

*The 2 inch minimum dimension shown is from the fastener center to centerline. It is based on the minimum 2x4 top/bottom rail and this dimension is adjusted to 4 inches for the 2x6 top/bottom rail.

Splice joints at the top/bottom rails and the top plate shown in DETAIL C2 must not occur at the same 4x4 post location.

A nominal 1/8 inch gap is recommended at splice joints to allow for thermal expansion.

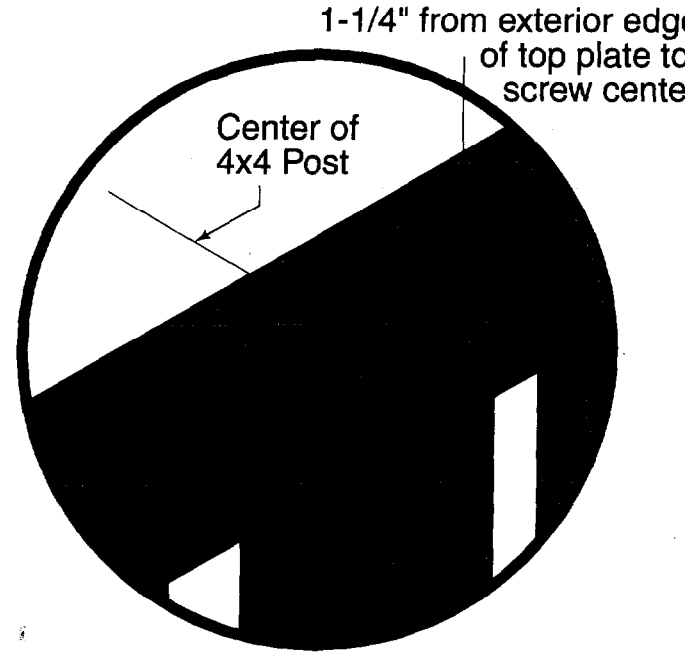


DETAIL C1

Fastening Boardwalk Top Plate to 4x4 Post

With the 4x4 posts and top/bottom rails in place, the Boardwalk top plate is fastened to the top of the 4x4 posts. Use the specified deck screws at the locations shown to mount the top plate flush with the interior surface of the top rail.

The 5/4x6 decking plank is shown; the 2x6 plank is an optional top plate. See the Boardwalk Composite Railing Component table.



DETAIL C2

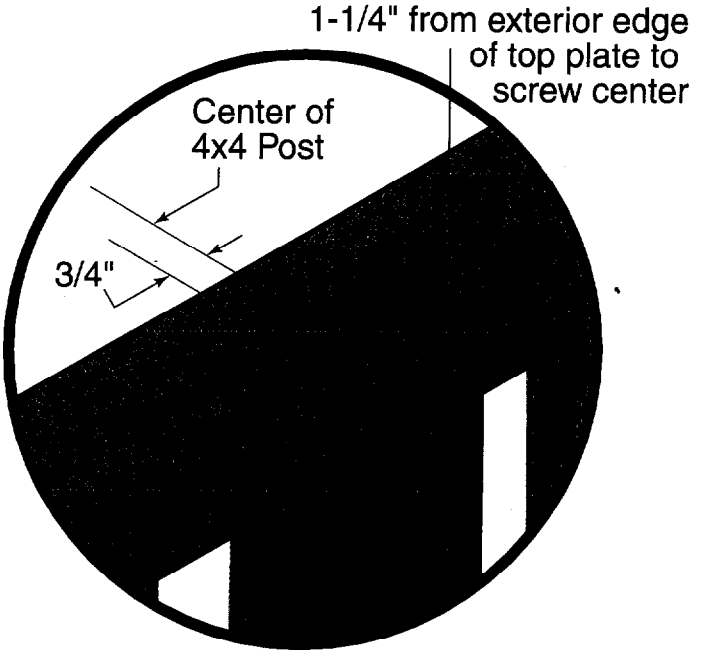
Fastening Boardwalk Top Plate at Splice Joints

If splice joints are required in the Boardwalk top plate, the joints are to be located at the centerline of the 4x4 post as shown. Use the specified deck screws to fasten each side of the splice joint in the locations shown.

The 5/4x6 decking plank is shown; the 2x6 plank is an optional top plate. See the Boardwalk Composite Railing Component table.

Splice joints at the top plate and the top/bottom rails shown in DETAIL B2 must not occur at the same 4x4 post location.

A nominal 1/8 inch gap is recommended at splice joints to allow for thermal expansion.



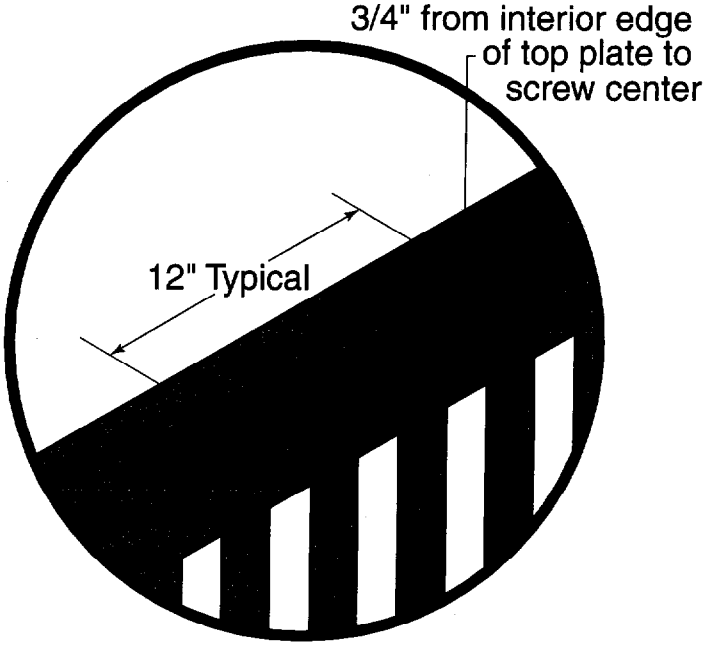
DETAIL D

Fastening Boardwalk Top Plate to Top Rail

(Viewed from interior)

After the Boardwalk top plate is fastened to the 4x4 posts, use the specified deck screws at the locations shown to fasten the top plate continuously to the top rail. The interior surface of the top plate should be flush with the interior surface of the top rail.

The 5/4x6 decking plank is shown; the 2x6 plank is an optional top plate. See the Boardwalk Composite Railing Component table.



DETAIL E1

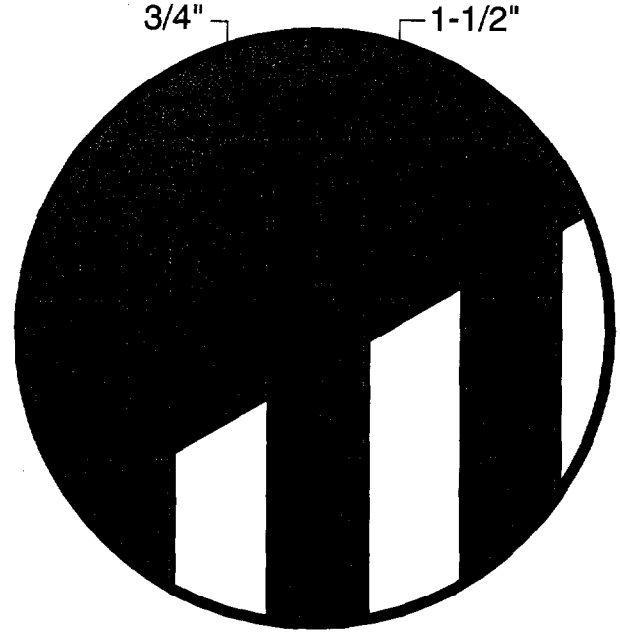
Fastening Boardwalk Balusters to Top Rail

(Viewed from underside)

The Boardwalk balusters are the last components installed in the deck railing assembly.

Using the maximum 3-7/8 inch spacing shown in the Assembly Illustrations, center the appropriate number of balusters between the 4x4 post spans. Make sure that the spacing from the last baluster to the 4x4 post on each end also meets the maximum 3-7/8 inch requirement. Hint: A block of wood cut to the desired spacing works well to locate each baluster while fastening.

Use the specified deck screws at the locations shown to fasten the balusters to the top rail. The top surface of the baluster should be tight to the underside of the top plate.



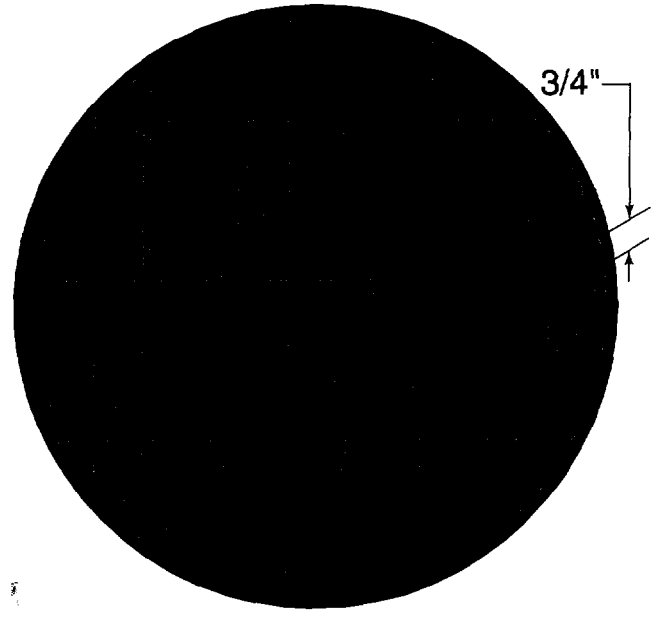
DETAIL E2

Fastening Boardwalk Balusters to Bottom Rail

If your assembly includes a bottom rail, fasten the bottom of the Boardwalk balusters to the bottom rail.

With the same maximum 3-7/8 inch spacing and layout used for the top rail connection, fasten the balusters to the bottom rail using the specified deck screws at the locations shown. The bottom surface of the baluster should be flush with the underside of the bottom rail.

Note: To provide the necessary vertical support, at least two balusters in this assembly must be cut long enough to be anchored to the bottom rail and the rim joist. See the Railing Assembly Illustrations for location and maximum spacing. See DETAIL F for additional fastening instructions.



DETAIL F

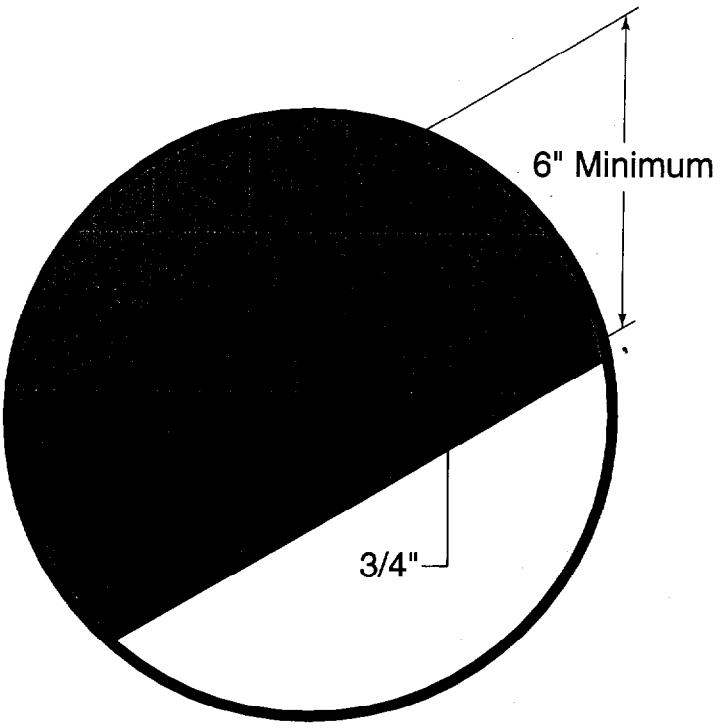
Fastening Boardwalk Balusters to Rim Joist

If your assembly does not include a bottom rail, all of the balusters must be fastened to the rim joist.

With the same maximum 3-7/8 inch spacing and layout used for the top rail connection, fasten the balusters to the rim joist using the specified deck screws at the locations shown.

Note: The length of each baluster must overlap the rim joist a minimum of 6 inches as shown. This dimension is measured from the top of the deck plank to the bottom of the baluster.

As noted in DETAIL E2: If your assembly includes a bottom rail, a minimum of two Boardwalk balusters must be fastened to the rim joist for vertical support. Use the same procedure noted above for baluster length, fastener type and location.



Boardwalk Composite Railing Fastener Schedule

Use the fasteners specified in the table below to construct the Boardwalk Composite Railing Assemblies. See the referenced details for complete fastener location and spacing.

4x4 Post to Rim Joist	2	1/2" Carriage Bolt, Flat Washer and Nut	1-1/2" from bottom, 4-1/4" on center vertically	A
2x4 or 2x6 Top/Bottom Rail to 4x4 Post	2	#8x3" Deck Screw	2" on center vertically	B1, B2
5/4x6 or 2x6 Top Plate to 4x4 Post	2	#8x3" Deck Screw	2" on center	C1, C2
5/4x6 or 2x6 Top Plate to Top Rail	1	#8x2-1/2" Deck Screw	Every 12" on center	D
2x2 Baluster to Top/Bottom Rail	2	#8x2-1/2" Deck Screw	1-1/2" on center vertically	E1, E2
2x2 Baluster to Rim Joist	2	#8x2-1/2" Deck Screw	3" on center vertically	F