

Composite Railing systems are designed to work with a number of different decking materials and surfaces. Before initiating any project, obtain a copy of your local building codes and understand them thoroughly. Local building code requirements will always supersede any and all suggested procedures and measurements in the following installation guidelines.

## Post Installation

Determine where the railing posts will be positioned by using a scaled drawing of your project. For proper aesthetics, divide the perimeter dimensions evenly so that posts are spaced equally. To optimize post placement, additional joists or alternative locations may be required. Posts may be installed by using one of four methods. Choose the method or methods that best suit your particular project.

Composite guardrail systems should only be secured to code compliant posts. Securing a guardrail to another structure (i.e. building) is not recommended (Figure 1).

*Note: The inside measurement between posts cannot exceed 96" for 8' (2.4 m) sections and 72" for 6' (1.8 m) sections. This measurement does not include posts.*

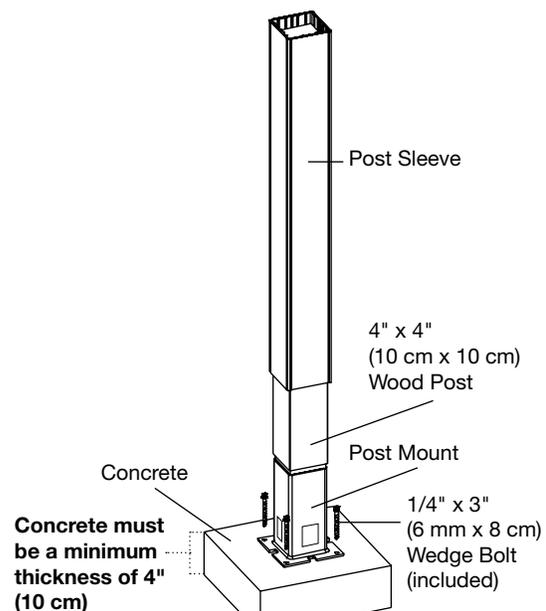
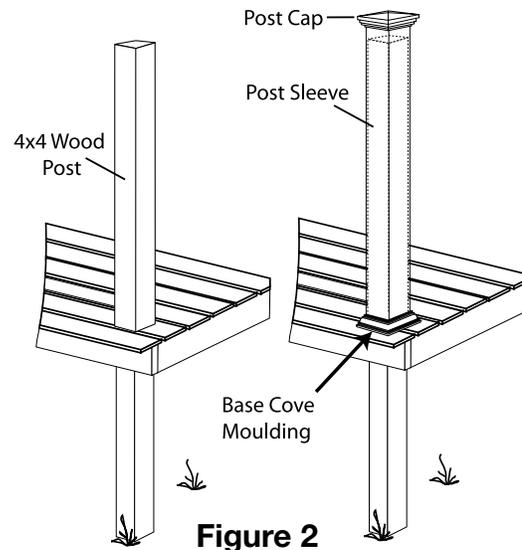
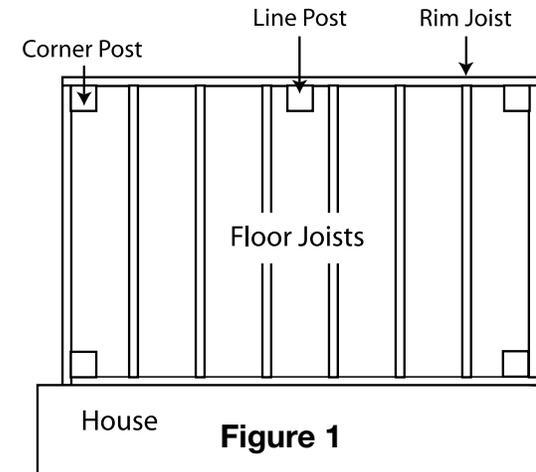
## Post Sleeve Over Wood Post

Use the post sleeve method to install railing directly to a wooden 4" x 4" (10 cm x 10 cm) deck post. This is ideal for new deck construction methods that attach the rim joist directly to the deck support posts, where wood 4" x 4" (10 cm x 10 cm) deck support posts extend through the deck serving as rail posts (Figure 2), or in those code compliant applications where the use of existing 4" x 4" (10 cm x 10 cm) wooden posts are desired.

1. Wooden posts actual size should be 3.5" x 3.5" (9 cm x 9 cm). Trim posts as needed.
2. Ensure 4" x 4" (10 cm x 10 cm) wooden posts are code compliant and, where possible, spaced equally for the best looking application.
3. Determine the desired height of post sleeve. Typically, the height is no less than 2" (5 cm) above the top of the finished railing system. This ensures the proper placement of the post caps that fit over the top of the post sleeve.
4. Cut the post sleeve to the desired height.
5. The wood post should be approximately 1" (3 cm) shorter than the height of the post sleeve. Cut wood posts as necessary.
6. After decking is installed, slide post sleeve over the wood 4" x 4" (10 cm x 10 cm) post (Figure 2).

## Post Sleeve Surface Mount (Kits Sold Separately)

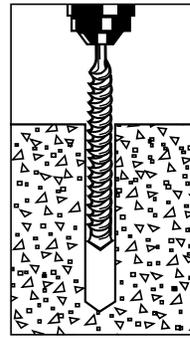
Use the Post Sleeve Mount to install post sleeves directly onto the deck or porch surface. Post Sleeve Mounts are available for concrete or wood/composite surfaces. When installing a Post Sleeve Mount on a concrete surface, the support system is anchored into the concrete. When installed on a wood or composite deck, the support system is installed before the deck surface has been attached. Follow these guidelines to complete the post installation:



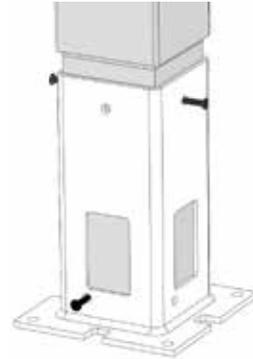
**Figure 3**

## For Concrete: Concrete Must Be a Minimum of 4" (10 cm) Thick (Figure 3).

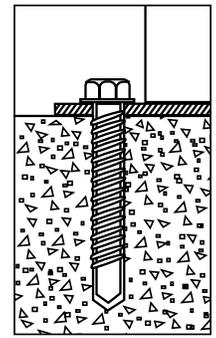
1. Determine the desired location(s) and finished height of the post sleeve from the deck surface.
2. Trim the post sleeve to the desired length.
3. Trim the length of the 4" x 4" (10 cm x 10 cm) wood post. The wood post length is typically 1" - 2" (3 cm - 5 cm) shorter than the post sleeve length.
4. Use the base of the mount as a template and mark the four corner holes for the concrete Wedge-Bolt® anchors
5. Drill the marked holes using a 1/4" (6 mm) masonry drill bit. Drill the holes into the concrete base to a depth of at least 1/2" (1 cm) deeper than the length of the 1/4" x 3" (6 mm x 8 cm) Wedge-Bolt anchors. Blow the hole clean of dust and debris (Figure 4).
6. Locate the mount by aligning the mount corner holes over the drilled holes.
7. Insert the four concrete Wedge-Bolt anchors into the corner holes of the mount. Begin tightening the Wedge-Bolt anchor by rotating clockwise and applying pressure in toward the base. This will engage the first few threads as the Wedge-Bolt anchor begins to advance. Continue to tighten until the head of the Wedge-Bolt anchor is firmly seated against the post mount (Figure 6). Repeat for the remaining Wedge-Bolt anchors.
8. If necessary, place a shim under the mount to make the post plumb and true. To secure wood insert to surface mount bracket, use three #8 x 1" (3 cm) flat head screws (Figure 5).
9. Insert the trimmed end of the 4" x 4" (10 cm x 10 cm) wood post into the mount. Ensure that the post is plumb and true.
10. Slide the post sleeve over the 4" x 4" (10 cm x 10 cm) treated wood post until it contacts the base of the mount.



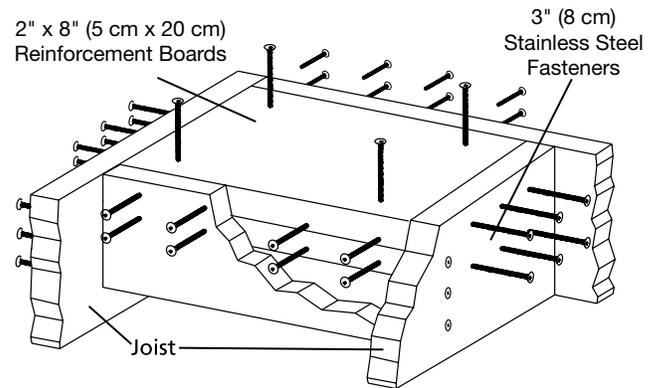
**Figure 4**



**Figure 5**



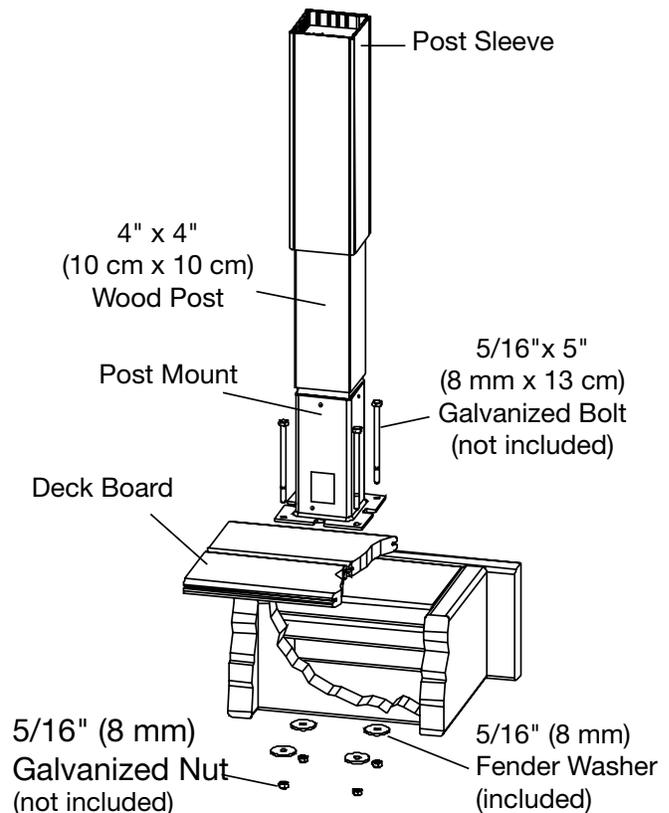
**Figure 6**



**Figure 7**

## For Wood:

1. Determine the desired location(s) and finished height of the post sleeve from the deck surface.
2. The thickness of the wood/composite deck and reinforcement boards underneath the deck should be a minimum of 4" (10 cm). (Two treated and structurally sound 2" x 8" (5 cm x 20 cm) lumber under the deck board, (Figure 9). Fasten the reinforcement boards with 3" (8 cm) stainless steel fasteners as shown (Figure 7).
3. Trim the post sleeve to the desired length.
4. Trim the length of the 4" x 4" (10 cm x 10 cm) wood post. The wood post length is typically 1" - 2" (3 cm - 5 cm) shorter than the post sleeve length.
5. Use the base of the mount as a template and mark the four corner holes on the deck surface. Mark inside square of bracket on deck surface.
6. Drill four 3/8" (10 mm) holes at the marked locations, drilling through the deck board and the reinforcement boards. Drill 3/8" (10 mm) drainage hole in square through deck board and reinforcement boards for drainage.
7. Locate the mount by aligning the mount corner holes over the drilled holes.
8. Insert the 5/16" x 5" (8 mm x 13 cm) galvanized hex bolts into the mount holes and the drilled holes. **(galvanized bolts & nuts are not included)**
9. Fasten the four bolts underneath the reinforcement boards with the 5/16" (8 mm) fender washer (included in kit) and 5/16" (8 mm) galvanized hex nuts (not included) (Figure 9).



10. Insert the trimmed end of the 4" x 4" (10 cm x 10 cm) wood post into the mount. Ensure that the post is plumb and true.
11. If necessary, place a shim under the mount to make the post plumb and true. To secure wood insert to surface mount bracket, use three #8 x 1" (3 cm) flat head screws (not included) (Figure 5).
12. Slide the post sleeve over the 4" x 4" (10 cm x 10 cm) treated wood post until it contacts the base of the mount.

## Joist Mount Brackets for 54" (137 cm) White Structural Post Only (Sold Separately)

Use Joist Mount Brackets on projects where framing is fully exposed (Figure 1). In new construction, Joist Mount Brackets are attached to the inside of the framing before the porch flooring or decking is installed. Joist Mount Brackets may be used to install railing on existing decks provided the framing underneath is exposed to permit proper installation. Joist Mount Brackets can be used in a corner or line application and bolts directly to the framing with four galvanized carriage bolts. Follow these guidelines to complete the post installation:

*Note: When installing 8' (2.4 m) sections in regions requiring 1999 Standard Code compliance, the standard Joist Mount Bracket may not be used. Use either the Pro Joist Mount Bracket, the Surface Mount Bracket or the vinyl sleeve option. When in doubt, check with your local Building Inspections Department.*

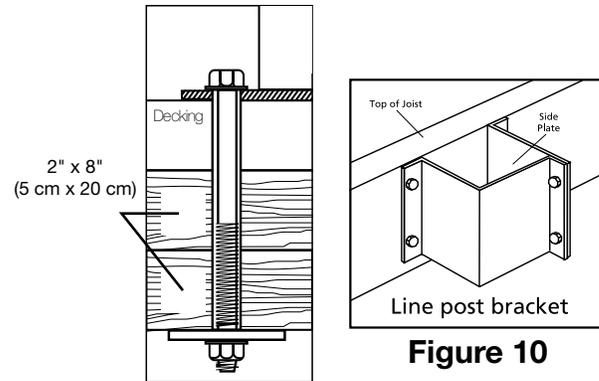
1. Determine position of the posts on the framing (Figure 1).
2. Position Joist Mount Bracket flush with top of framing at each post location (Figure 10).
3. Use the Joist Mount Bracket as a template for hole location. With a pencil, mark hole positions on the framing.
4. For corner posts, remove the side plate from the bracket (Figure 10). Mark hole positions on framing (Figure 11).
5. Drill holes at desired locations using a 7/16" (11 mm) drill bit.
6. Attach brackets to rim joists using four 3/8" x 3" (10 mm x 8 cm) galvanized carriage bolts (not included), washers and nuts. (At this point, do not fully tighten).
7. Insert post into bracket until bottom of post contacts stop tab on bottom of bracket (Figure 12).
8. Fully tighten carriage bolts and nuts to secure post in place. Ensure that post remains plumb.

## Surface Mount Brackets for 54" (137 cm) White Structural Post Only (Kits Sold Separately)

Use the Surface Mount Brackets to install posts directly onto the deck or porch surface. Surface Mount Brackets are available for concrete or wood/composite surfaces. When installing a post on a concrete surface, the support system is anchored into the concrete. When installed on a wood or composite deck, the support system is installed after the deck surface has been attached. Holes have been provided in the bracket to aid guardrail installation. Care should be taken to orient holes as line, end, or corner. Follow these guidelines to complete the post installation:

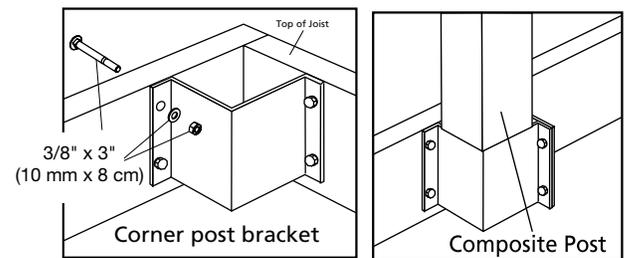
### For Concrete: (Figure 15) Concrete Must Be a Minimum of 4" (10 cm) Thick

1. Lay out the locations for the posts.
2. Use the base plate as a template and mark the four corner holes for the concrete Wedge-Bolt anchors.
3. Drill the marked holes using a 1/4" (6 mm) masonry drill bit. Drill the hole into the concrete base to a depth of at least 1/2" (1 cm) deeper than the length of the 1/4" x 3" (6 mm x 8 cm) Wedge-Bolt anchors. Blow the hole clean of dust and debris (Figure 13).
4. Align the base plate over the drilled holes.



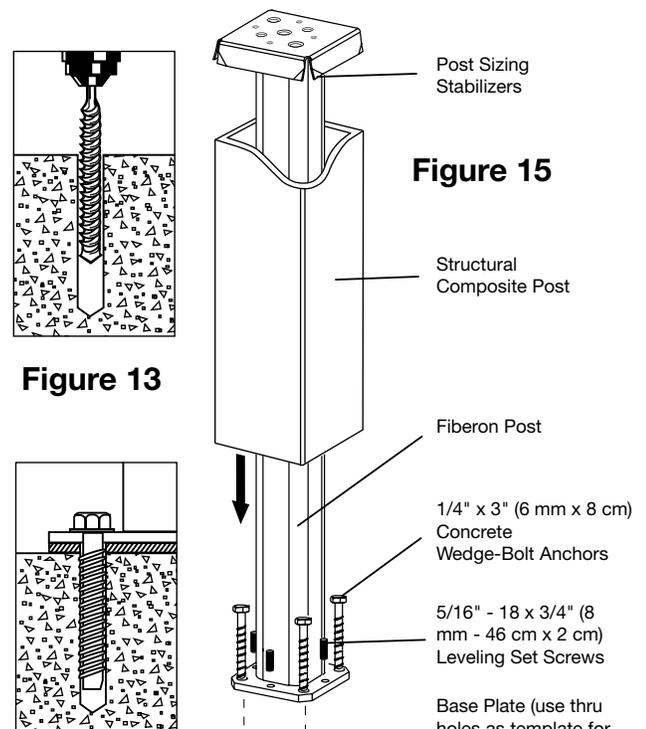
**Figure 9**

**Figure 10**



**Figure 11**

**Figure 12**



**Figure 13**

**Figure 15**

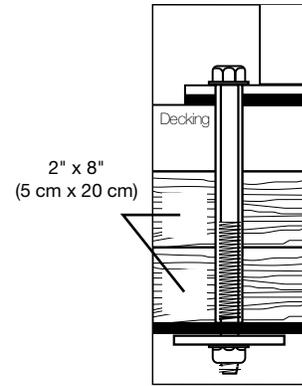
**Figure 14**

Concrete must be a minimum thickness of 4" (10 cm)

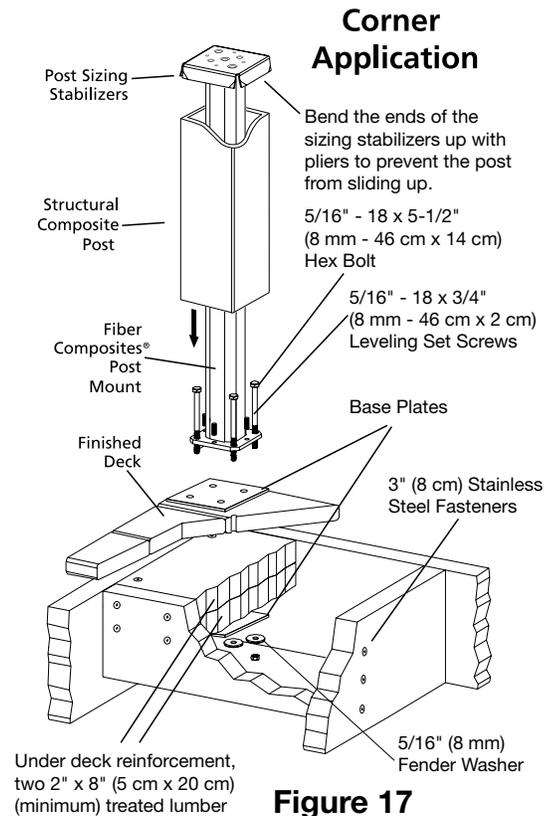
5. Position the post mount over the top of the base plate.
6. Screw the 5/16" (8 mm) leveling set screws into the four tapped holes. If needed, adjust the set screws to straighten the post.
7. Insert the four concrete Wedge-Bolt anchors into holes located on the corners of the bottom plate. Begin tightening the Wedge-Bolt anchors by rotating clockwise and applying pressure in toward the base. This will engage the first few threads as the Wedge-Bolt anchors begin to advance. Continue to tighten until the head of the Wedge-Bolt anchor is firmly seated against the post mount (Figure 14).
8. Slide the composite structural post over the post mount until it contacts the concrete. The post sizing stabilizers will secure the composite post in proper position.

## For Wood: (Figure 16 - Corner, Figure 18 - Line)

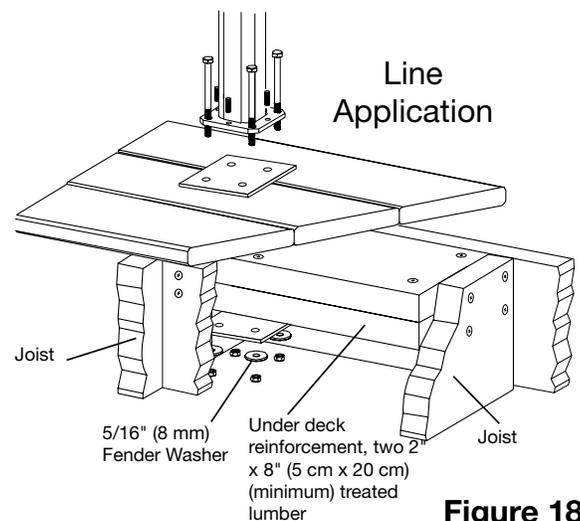
1. Lay out the locations for the posts.
2. Thickness of wood/composite deck and reinforcement boards underneath deck should be a minimum of 4" (10 cm). (Two treated 2" x 8" (5 cm x 20 cm) lumber under the deck board). Fasten reinforcement boards with 3" (8 cm) stainless steel fasteners as shown (Figure 7).
3. Use post mount as a template and mark the four corner holes for the 5/16" x 5 1/2" (8 mm x 14 cm) bolts.
4. Drill four 3/8" (10 mm) holes at the marked locations, drilling through the deck board and the reinforcement boards.
5. Align the base plate over the drilled holes as shown at left.
6. Screw the 5/16" (8 mm) leveling set screws into the four tapped holes. If needed, adjust the set screws to straighten the post.
7. Insert the four 5/16" x 5 1/2" (8 mm x 14 cm) bolts into the drilled 3/8" (10 mm) holes.
8. Fasten the four bolts underneath the second base plate with the 5/16" (8 mm) fender washer and hex nut.
9. Slide composite structural post over the post mount until it contacts the base plate. The post sizing stabilizers will secure the post in proper position.



**Figure 16**



**Figure 17**



**Figure 18**