

Assembly Instructions



STEP-BY-STEP HANDRAIL INSTALLATION

for 1-1/2" vinyl handrail component system

| | | Run in Inches | | | | | | | | | | | | | | |
|----------------|-----|-----------------------------|-----|----|-----|----|------|----|------|----|------|----|------|----|------|----|
| | | 8 | 8.5 | 9 | 9.5 | 10 | 10.5 | 11 | 11.5 | 12 | 12.5 | 13 | 13.5 | 14 | 14.5 | 15 |
| Rise in Inches | 8.5 | 47 | 45 | 43 | 42 | 40 | 39 | 38 | 36 | 35 | 34 | 33 | 32 | 31 | 30 | 30 |
| | 8 | 45 | 43 | 42 | 40 | 39 | 37 | 36 | 35 | 34 | 33 | 32 | 31 | 30 | 29 | 28 |
| | 7.5 | 43 | 41 | 40 | 38 | 37 | 36 | 34 | 33 | 32 | 31 | 30 | 29 | 28 | 27 | 27 |
| | 7 | 41 | 39 | 38 | 36 | 35 | 34 | 32 | 31 | 30 | 29 | 28 | 27 | 27 | 26 | 25 |
| | 6.5 | 39 | 37 | 36 | 34 | 33 | 32 | 31 | 29 | 28 | 27 | 27 | 26 | 25 | 24 | 23 |
| | 6 | 37 | 35 | 34 | 32 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 22 |
| | | Calculated Angle in Degrees | | | | | | | | | | | | | | |

BEFORE YOU BEGIN

HELPFUL HINTS

Read these instructions thoroughly before beginning the assembly.

- Do not lay vinyl components on abrasive surfaces.
- Do not use excessive force while assembling components.
- If any components are missing or defective, please call us at **800-380-5323**.

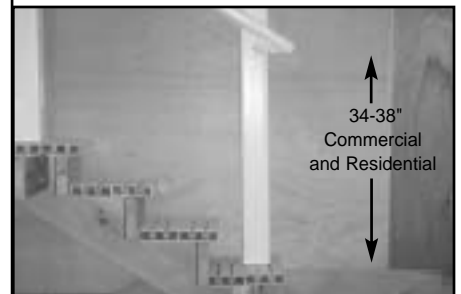
TOOLS REQUIRED

Hacksaw or Chop/Mitre Saw—
with Carbide Tipped Cutting Blade
Drill
Phillips Head Screwdriver or Bit
3/8" Masonry Drill Bit
(for concrete installation)
3/4" Drill Bit
Tape Measure
Angle Finder
Quick-Clamps
Pencil
Vinyl Adhesive

HANDRAIL APPLICATIONS

Stringer lay-out for Handrail Transition Bends

Determine layout of handrail and the requirements at termination points, transitional bends and/or returns to walls or posts. Spacing of brackets should be a maximum of 5" on center.



Determine desired handrail height. Finished handrail height should be 34" to 38" for commercial and residential applications measured from the leading edge of the stair tread or landing to the top of the handrail.

NOTE: The following instructions will position the handrail at approximately 35" above the landing or stair tread. You may need to make adjustments for your specific application or to meet local building codes. Refer to the "Suggested Layouts" inside for helpful information to get organized.

CertainTeed 

IMPORTANT:

**ALWAYS WEAR SAFETY
GLASSES WHEN CUTTING
OR DRILLING
VINYL PRODUCTS.**

STANDARD INSTALLATION

ATTACHMENT TO CERTAINTEED VINYL POST SUPPORT SYSTEM

For ramp applications, we recommend using CertainTeed FLAT post support kits and FLAT routed posts.

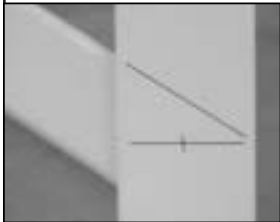


Once post supports are in place, replace one of the standard EZSet brackets from the upper location with a special Handrail

EZSet bracket and attach at approximate height position. Install as a minimum the posts and top rail(s) guardrail system.

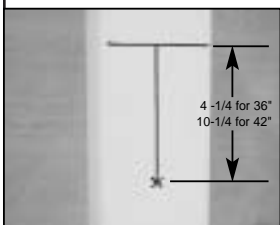


For each post draw a horizontal pencil line across the post at the point on the downward side where the (lower) rail meets the post.



For the bottom end post at the base of the stairs or ramp, you'll need to transfer the angle of the guardrail diagonally across the post and then

connect with a horizontal line.



Mark bracket attachment point in center of each post downward from line. Location of handrail bracket when used with

36" guardrailing is 4-1/4" below line and for 42" guardrailing it is 10-1/4" below line.

NOTE: Vinyl posts alone do not provide adequate fastener retention. If not using a special EZ Set bracket, you must provide a wood or composite block inside post at bracket locations for proper fastening retention.

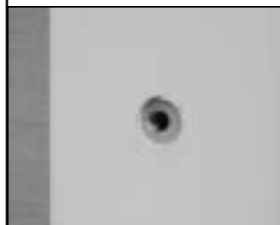


Remove post from assembly. Drill 3/4" hole through side of vinyl post at mark.



Place vinyl post next to steel pipe to transfer this height and position upper EZSet bracket.

Repeat the above process for all remaining posts.



Replace post and guardrail section. (Ensure that 3/4" hole aligns with hole in center of Handrail EZSet bracket for each post).



Attach handrail brackets with 3/8"-16 x 1-1/2" bolts. Do not tighten completely at this time to allow for adjustment.

ATTACHMENT TO CERTAINTEED VINYL SLEEVE-OVER SYSTEM



Using a level and a tape measure, lightly mark the location of the top of the handrail onto the wall or post, at the mounting position and snap a chalk line from top to bottom.



Note: For most applications, the top of the handrail would be 34"-38" above the nose of the stair tread or standing surface.



Mark the mounting locations for the brackets on the post at the appropriate height using a scrap sample of handrail

as a guide. Make the top of the handrail consistent at all locations marked above.

Install the mounting bracket to the post with fasteners best suited for your application.

ATTACHING HANDRAIL TO BRACKETS

ATTACHMENT TO CONCRETE WALL



Mark a point 31-1/4" upward vertically from the leading edge of top and bottom stair tread.



Snap a chalk line between marks.

Mark locations for brackets along line (6' maximum

spacing and 1' maximum overhang beyond last bracket).



Using a 3/8" masonry drill bit, drill holes 2-3/4" deep at each location.



Insert concrete wall anchors and attach handrail brackets (Do not tighten completely at this time to allow for adjustment).

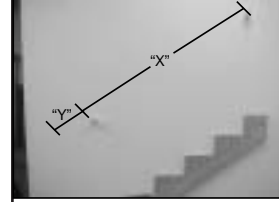
ATTACHMENT TO WOOD WALL

Ensure that wall is structurally sound.

Follow instructions for concrete wall except bracket attachment point(s) must be on a stud where the string line crosses. Mark bracket attachment locations. (6' maximum spacing).

Substitute 3/8" x 2-1/2" long lag screw (not included) in place of the concrete anchor to attach handrail brackets.

ATTACHING HANDRAIL TO BRACKETS



Measure the distance from center of top bracket to center of bottom bracket along angle. (Distance "X").

Add any needed additional length to this measurement for handrail extension beyond brackets or posts at both the top and bottom of the section. (1 ft. maximum overhang per end). (Distance "Y").

Note: All splices of handrail must occur within 6" of brackets (no splices beyond the last bracket in a run).



Remove all aluminum inserts from handrail. Cut and fit the 1-1/2" vinyl to follow your layout. Starting

at the top of the handrail installation and working towards the bottom, "dry" assemble the various vinyl handrail components according to your diagram. Components can be temporarily clamped in place to the mounting brackets installed to the post or wall, until all final adjustments are made. Mark and trim all vinyl handrail components to proper length and test for tight fit.

ATTACHING HANDRAIL TO BRACKETS (CONTINUED)



Label all vinyl handrail components and carefully remove. Cut all aluminum inserts to match appropriate lengths of vinyl, minus the joiner lengths and re-insert.



NOTE: For joining two straight sections of handrail, use one side of internal joiner assembly, making sure the joiner is centered within



the joint. For all mitered connections, assembly of the internal joiner will be necessary.



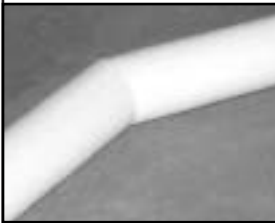
All mitered joints will require an adjustable internal joiner and must be secured as follows: Adjust

joiner to match desired angle of application and tighten screw firmly.

NOTE: If the joiner is too tight for assembly, the joiner size can be adjusted by removing the raised ridges or by sanding the joiner.



Apply vinyl adhesive to the inside of both ends of the 1-1/2" vinyl pieces and lightly apply to both ends of the joiner piece



to be inserted into the handrail, then press components together

NOTE: Allow sufficient time

for the glued joint to set prior to applying any pressure to joined area. Continue assembling all labeled components, while working your way down to the bottom of your handrail location.



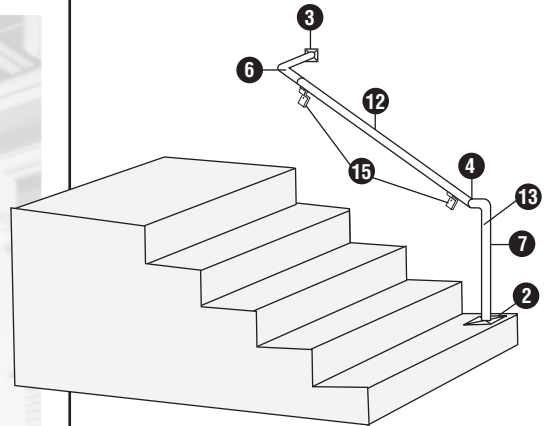
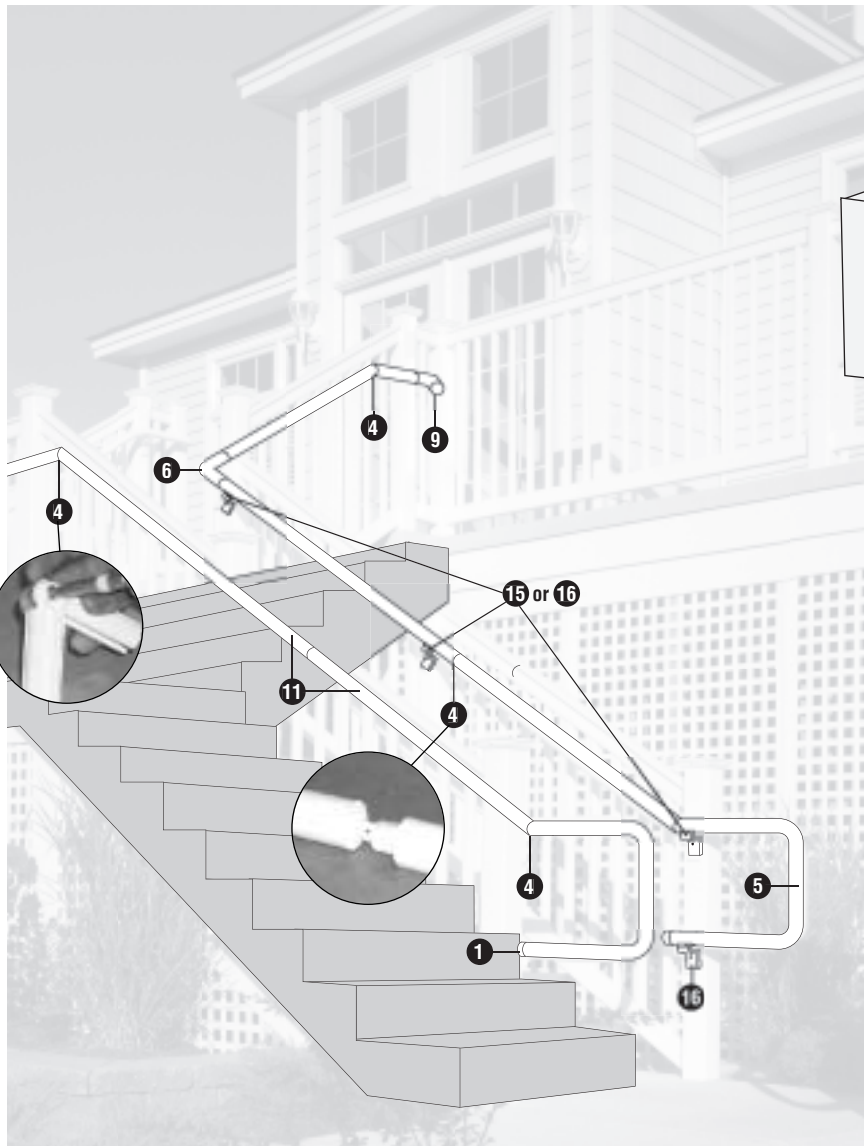
Once all components are glued and temporarily clamped to brackets secure your finished handrail assembly to the brackets by using two #10-16 x 1" screws provided. Pre-drill and insert screws from below. Repeat at all bracket locations.



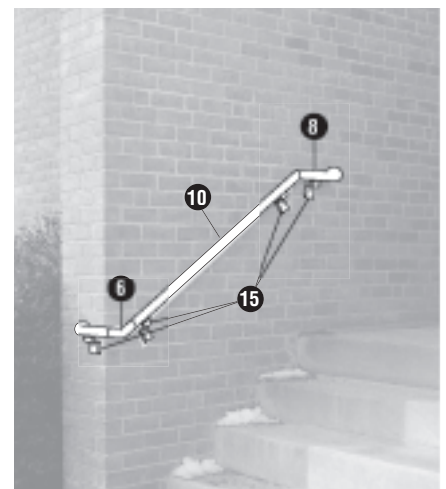
Check handrail for overall strength, adding additional aluminum brackets, as needed, to achieve desired strength.

SUGGESTED LAYOUT

| No | Cat# | Description |
|-----|--------|--|
| 1. | E74050 | 1-1/2" DIAMETER VINYL END CAP |
| 2. | E74051 | FLANGE COVER 3-1/2"X3-1/2" |
| 3. | E74052 | 2-1/2" MINI WALL MOUNT FLANGE - ALUMINUM |
| 4. | E74057 | ADJUSTABLE INTERNAL JOINER |
| 5. | E74042 | 1-1/2" OD ADA END LOOP 18"X12"X18" |
| 6. | E74043 | 1-1/2" OD - 90° CORNER - 12"X12" |
| 7. | E74044 | 1-1/2" OD - 90° CORNER/END POST - 12"X36" |
| 8. | E74045 | 1-1/2" OD - 90° WALL RETURN - 12"X2-3/4" |
| 9. | E74046 | 1-1/2" OD - 90° POST RETURN- 16.5"X6" |
| 10. | E74047 | 1-1/2" OD X 6' VINYL HANDRAIL W/ALUMINUM INSERT |
| 11. | E74048 | 1-1/2" OD X 8' VINYL HANDRAIL W/ALUMINUM INSERT |
| 12. | E74049 | 1-1/2" OD X 10' VINYL HANDRAIL W/ALUMINUM INSERT |
| 13. | E74053 | 30" FLANGE POST INTERIOR - GALVANIZED |
| 14. | E74054 | 34" CORE POST INTERIOR - GALVANIZED |
| 15. | E74028 | HANDRAIL BRACKET ASSEMBLY |
| 16. | E74029 | HANDRAIL EZ POST ATTACH KIT |



Note: Handrail depicted is not free standing and must be anchored to walls or guardrail using handrail bracket assembly (E74028/E74029). Space a maximum of 5' on center and as close as possible to both sides of any joint.



CARE AND MAINTENANCE

CARE & MAINTENANCE

Exterior vinyl building materials require very little maintenance. Nevertheless, common sense dictates that builders and suppliers of vinyl products store, handle, and install vinyl materials in a manner that avoids damage to the product or structure.

CertainTeed deck and railing is not difficult to work with, but there are a few precautions that you should know about before you begin to unload and install the product. Always place planks, posts, rails, and accessories on a non-abrasive surface, such as a drop cloth or cardboard, to avoid scratches. Protect all components during transport. Finally, when assembling the deck and railing, avoid over-tightening the screws.



**ATTENTION
CONTRACTORS
GET A FREE HAT!**

If you have a tip, hint, or solution to a difficult installation problem, please send it to us along with your name and address and we'll send you a free hat. We value your experience and appreciate your input!

Send your tip to:

**CertainTeed Corporation
attn: Installation Services
2525 Walden Avenue
Buffalo, NY 14225**

CLEANING

CertainTeed vinyl deck and railing resists most common household stains, including oil and grease. But, like any other product, it will get dirty when it is exposed to the atmosphere. Chalk may also accumulate on the surface. This is a normal condition for all pigmented materials that are constantly exposed to sunlight and the elements. Soil, grime, and chalk can be removed with a garden hose and a bucket of soapy water.

In some areas, mildew may be a problem. Mildew appears as black spots on surface dirt and is usually first detected in areas not subjected to rainfall, such as eaves and porch enclosures. You can remove mildew from vinyl deck and railing with the solution below. **CAUTION: CLEANING SOLUTION MIXED AT GREATER CONCENTRATIONS MAY HARM THE VINYL.**

Mix together:

- 1/3 cup detergent (Tide, for example)
- 2/3 cup trisodium phosphate (Soilex, for example)
- 1 qt. 5% sodium hypochlorite (Clorox, for example)
- 3 qt. water

If the above solution does not readily remove the mildew spots, purchase a mildew cleaner from your local hardware store. Before you use any commercial cleaner, test it on an inconspicuous area.

The chemical agents mentioned above may be hazardous to the user or to the environment. Be sure to follow all precautions and warnings on the product label, particularly those that may be necessary to prevent personal injury. Please DISCARD these chemical agents in the manner prescribed by the manufacturer. If you are unsure how to use or dispose of these chemical agents, contact the manufacturer.

IMPORTANT FIRE INFORMATION

Rigid vinyl deck and railing are made from organic materials that will not burn on their own but melt or burn when exposed to a significant source of flame or heat. Consequently, owners and installers should take a few simple steps to protect vinyl building materials from fire. Building owners, occupants, and outside maintenance personnel should always take normal precautions to keep sources of fire, such as barbecues, and combustible materials, like dry leaves, mulch and trash, away from vinyl deck and railing.

CertainTeed

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