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INTRODUCTION

READ INSTRUCTIONS COMPLETELY BEFORE STARTING INSTALLATION

General Guidelines

It is the responsibility of the installer to meet all code and safety requirements, and to obtain all required building permits. The deck and railing installer should determine and implement appropriate installation techniques for each installation situation. Fortress Building Products and its distributors shall not be held liable for improper or unsafe installations.

Note

Not following the below steps could result in oxidation at cut points and will void the warranty. When cutting Fortress Railing Products, complete the following at cut points:

- Cut material to length and remove all metal shavings from the cut area
- File any sharp edges left by cutting. Thoroughly wipe and remove any filings, grime or dirt from the panel.
- Apply two coats of Fortress touch-up paint to the cut area.
- Be sure to remove any metal shavings from the work surface to prevent oxidation on the surface.

Required Tools



Goggles



Safety
Gloves



Speed
Square



Level
Tool



Touch-Up
Paint



Pencil



Spring Punch



Drill Bits: 3/16" [5mm]



T-25
Driver Bit



Tape
Measure



Drill



File



Epoxy



Brush



Rags

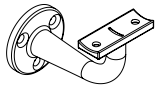


Metal Cutting
Miter Saw or Portable
Band Saw

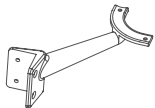


Painters/Masking Tape
(use for mock-up of rail bracket)

Components



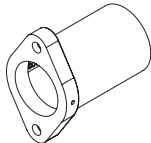
Round Handrail
Bracket



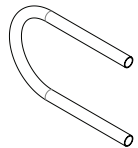
Inside Corner
Bracket



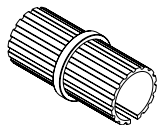
90° Termination
Bracket



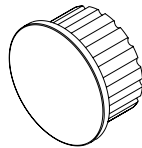
Straight Termination
Bracket



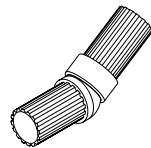
Round Handrail
180° Loop



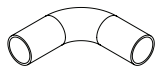
Round Handrail
Splice



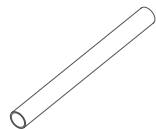
Round Handrail
Cap Plug



Round Handrail
Angle Adjuster



Round Handrail
Return



Round Handrail

Building Code Notes

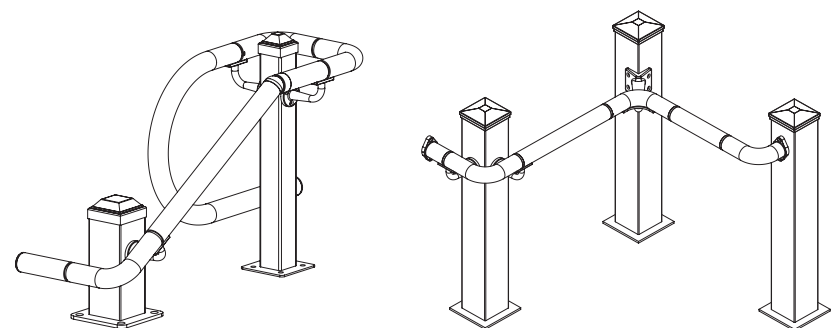
Please refer to Stair Builders and Manufacturers Association building code section R311.7 for more info: www.stairways.org

- If handrails are not continuous, they shall extend at least 12in (305mm) beyond the top and bottom of the ramp segment and shall be parallel with the floor or ground surface.
- The clear space between the handrail and the wall shall be 1-1/2"(38mm).
- Top of handrail gripping surfaces shall be mounted between 34" and 38" (865mm and 965mm) above ramp surfaces.
- End of handrails shall be either rounded or returned smoothly to floor, wall, or post.
- Handrail shall not rotate within their fittings
- Max stair angle cannot be more than 38°.

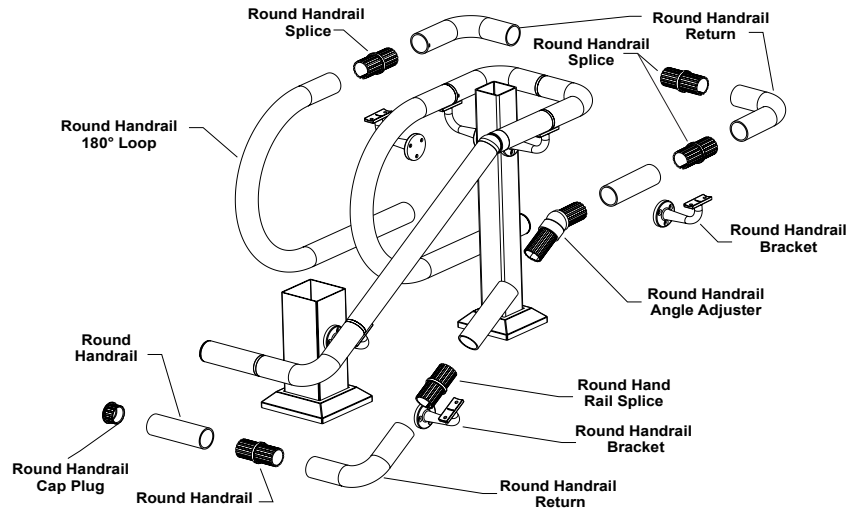
Torx Safety Tips

- Always use the lowest speed setting on drill.
- To reduce chance of bit breakage, start tightening with drill on low torque setting and work up until screw is secured.
- Pre-drill holes with 3/16" drill bit.

Fortress Round ADA Handrail Overview

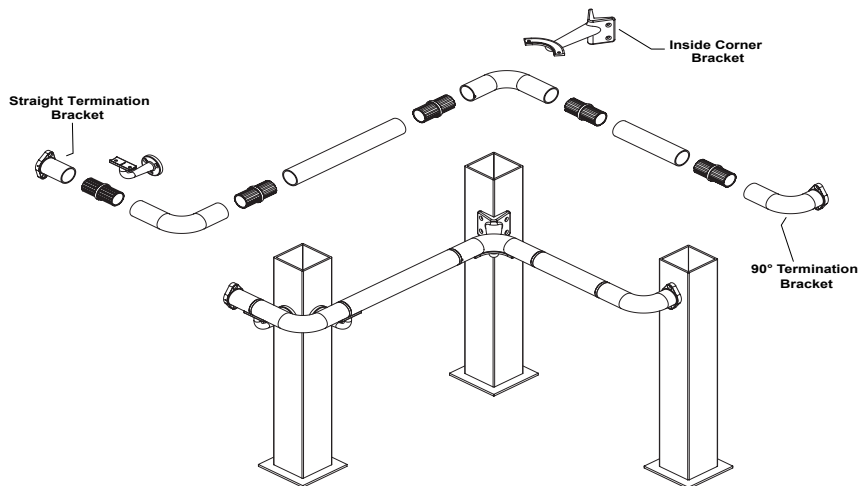


EXAMPLE 1



NOTE: Image is an example of Round ADA Handrail in an angled configuration. Round ADA Handrail can be installed in multiple configurations.

EXAMPLE 2



NOTE: Image is an example of how to use Termination Brackets and Inside Corner Bracket. Round ADA Handrail can be installed in multiple configurations.

INSTALLATION

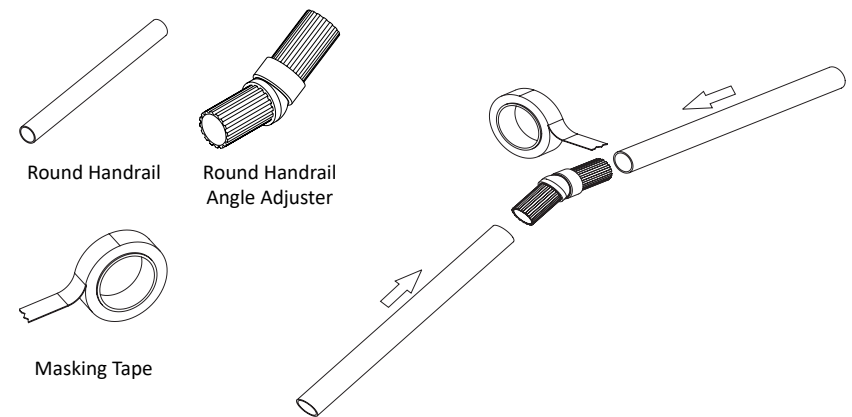
Step 1: Mockup Middle Handrail Section

- Assemble handrail to angle adjuster, splices and/or termination bracket (if you are not using round handrail mounting bracket to post).

NOTE: THIS IS A DRY FIT AND WILL NEED TO COME APART.

We recommend using masking tape to hold components together.

Parts Needed:

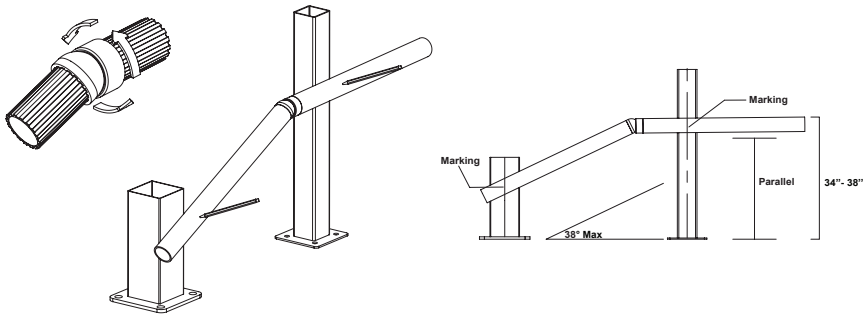


Step 2: Determine Handrail Angle

- Hold rail assembly against mounting surface (wall or post).
- Rotate the angle adjuster so that one side is parallel to ground and the opposite side has your desired hand rail angle.
- Twist and lock angle adjuster to hold your desired angle in place.
- Mark the location of mounting bracket on the rail.
- Brackets should be mounted in the center of the post.

NOTE:

- Top of handrail gripping surfaces shall be mounted between 34" and 38" (865mm and 965mm) above ramp surfaces
- Max stair angle cannot be more than 38°.

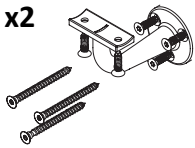


Step 3: Mounting Handrail Bracket

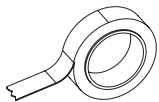
- Using your two guide lines (made in step 2), tape Round Handrail Bracket onto handrail.
- Position assembly on mounting surface and mark drill holes for bracket.
- Adjust Round Handrail bracket so that mounting surface is centered on post.
- Use spring punch to make hole location and pre-drill holes with 3/16" drill bit.
- Use 1/4-20 x .75" T-25 self tapping flush mount screw or #12 x 2.5" wood flush mount screw T-25 drive (if mounting to wall or wood).

Parts Needed:

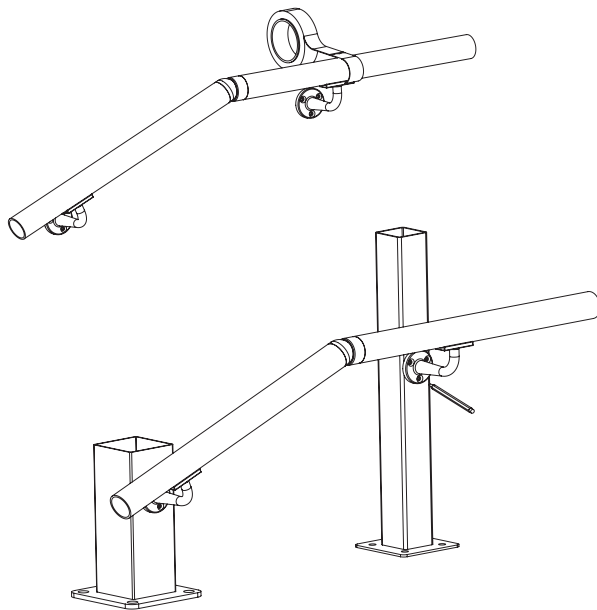
x2



Round Handrail Bracket

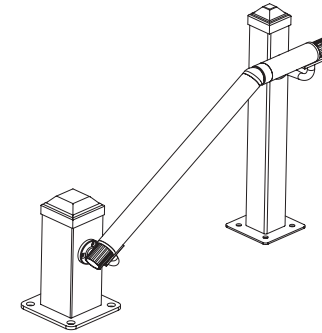


Masking Tape



Step 4: Cut Handrail

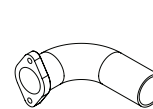
- Once handrail brackets are mounted, place handrail on brackets and mark your cut lines (if applicable, cut rails down so that splice segments are in the middle of the mounting bracket).
- File and apply two coats of Fortress touch-up paint to the cut areas.



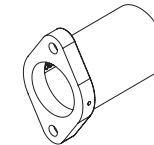
Step 5: Continuation of Handrail

- Using the mock up assembly complete round handrail segments with the desired fittings.
- End of handrails shall be either rounded or returned smoothly to floor, wall, or post.

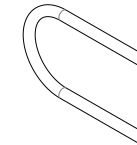
Parts Needed:



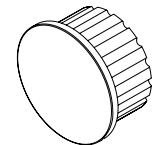
90° Termination Bracket
Allows handrail to smoothly transition into wall or post.



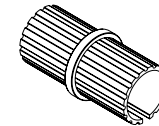
Straight Termination Bracket
Allows handrail to smoothly transition into wall or post.



180° Return Loop
Used to smoothly terminate handrails.



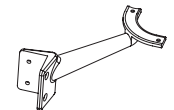
Round Handrail Cap Plug
Used to cap open ends of the Round Handrail system.



Round Handrail Splice
Used to join mating parts of the Round Handrail system that do not already have ribbed insert sections.

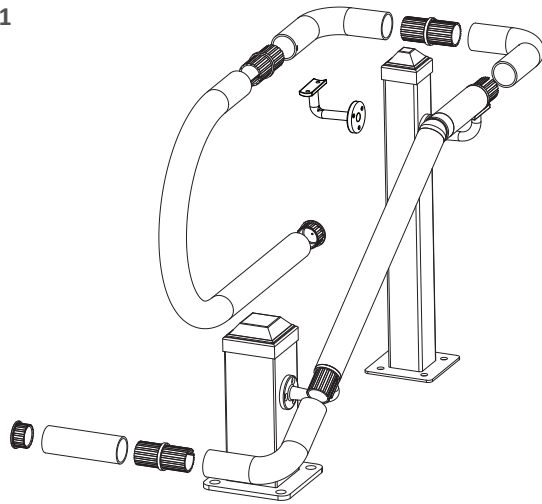


Round Handrail Return
Used to create corners and continuous rails around posts. Has two different straight lengths: 4-5/8" for 2" post (marked with a notch) and 5-5/32" for 3" post.



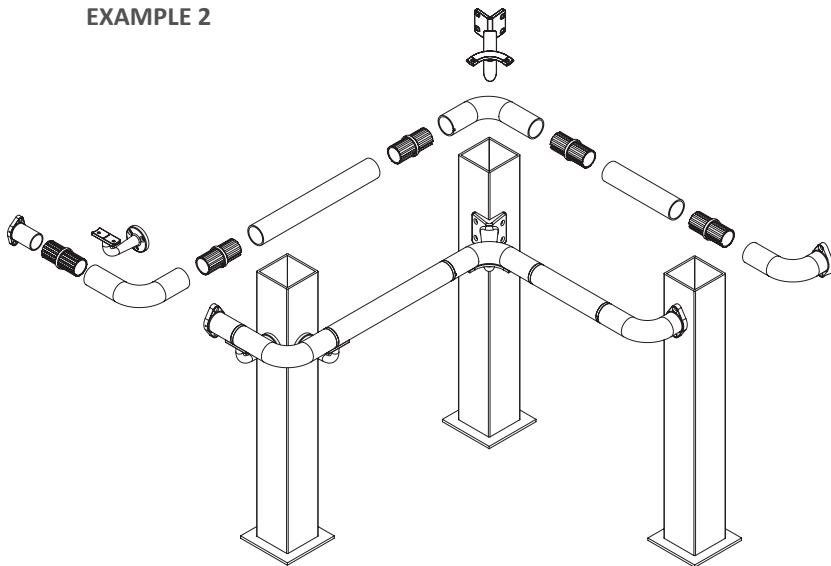
Inside Corner Bracket
Used to attach Round Handrail components to the corner wall surfaces.

EXAMPLE 1



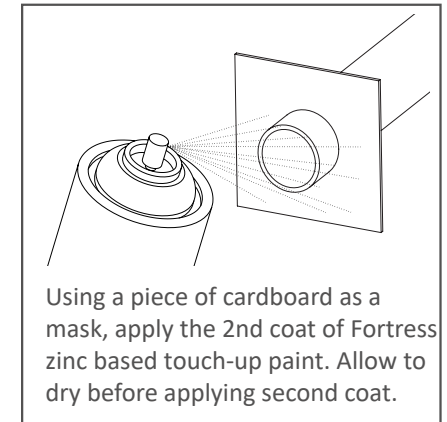
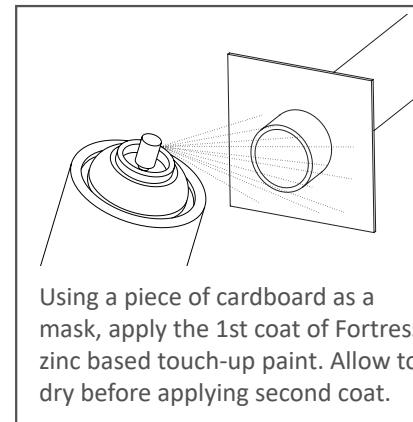
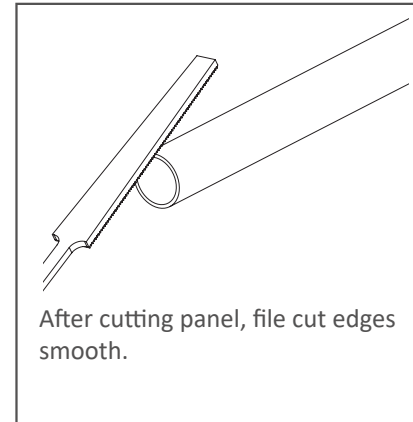
NOTE: THIS IS A DRY FIT AND WILL NEED TO COME APART.
We recommend using masking tape to hold components together

EXAMPLE 2



NOTE: THIS IS A DRY FIT AND WILL NEED TO COME APART.
We recommend using masking tape to hold components together

Step 6: Final Assembly Prep



- Remove masking tape and use Epoxy to join segments and splices together.
- Place assembly on to mounting brackets and screw into place.
- Use 1/4 -20 X .75" T-25 self tapping flush mount screw to mount handrail to mounting brackets.

CARE & MAINTENANCE

Care And Maintenance Of Fortress Building Products

Powder-Coated Products And Surfaces:

- After installation of your Fortress Building Product, clean powder-coated products and surfaces with a solution of warm water and non-abrasive, pH neutral detergent solution. Surfaces should be thoroughly rinsed after cleaning to remove all residues. All surfaces should be cleaned using a soft cloth or sponge. Examples of acceptable cleaners are Simple Green® All-Purpose Cleaner, dish soap and warm water.
- Ensure construction materials such as concrete, plaster, and paint splashes are removed immediately before they have a chance to dry. Failure to remove these materials may cause damage to the powder-coated surfaces.
- The frequency of cleaning depends in part on the standard of appearance and also the requirements to remove deposits that may cause damage to the powder coating after prolonged exposure. Fortress recommends cleaning in three to four monthly intervals all products and powder-coated surfaces. In areas where higher traffic, increased atmospheric substances, or other effects may occur, the time period between cleanings should be increased to monthly intervals.
- **WARNING: DO NOT use strong solvents such as thinners, or solutions containing chlorinated hydrocarbons, esters, or ketones. Abrasive cleaners or cutting compounds should not be used.**

WARRANTY

To obtain and review a copy of the warranty, please go to:

<https://Fortressbp.com/warranties>. You can also call:

(844) 909-1999 or write to: Fortress Building Products Warranty, 1720 N 1st St, Garland, TX 75040 to obtain a copy of the warranty.



JOIN THE REVOLUTION.

FortressBP.com | 866.323.4766

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05/2023