Aluminum Railing Installation Guide

Product specifications
Installation Manual

Glass Railing
Spindle Railings
Intimacy Railings and Panels

McMEL®

L'AVENIR EST FAIT D'ALUMINIUM.

This information in this manual will help you to…

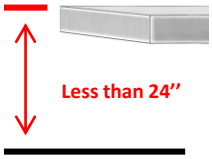
- **Better understand our product line.**
- **Give you guidelines for an easier planning process.**
- **Help make the installation easier..**

Know the regulations before planning your project…

In regards to the height requirements it's best to call your municipal town hall and your insurance company to find out what is required in different situations.

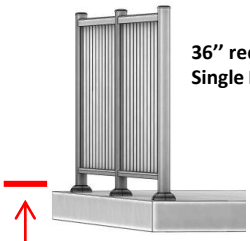
Examples as a general guideline…

No railing required



Less than 24''

36'' required
Single Family



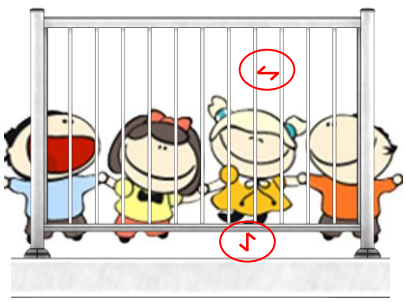
Less than 71''

42'' required
All multi unit or
Commercial
buildings

More than 60''

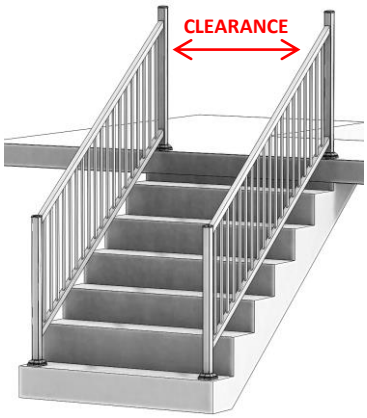
42'' to 48'' required
depending on
municipal regulation

Along side a
swimming pool



Railings for Kindergarten or playground require the spacing of spindles (3'') and the spacing between floor (3'')

This will be a custom order.



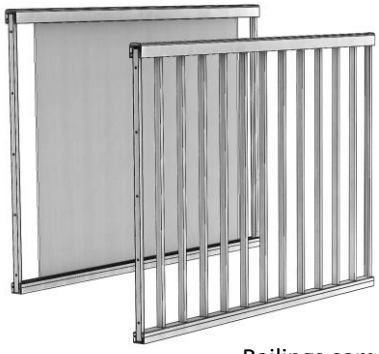
Passage way clearance for stair railings.

Main entrance Min 36''

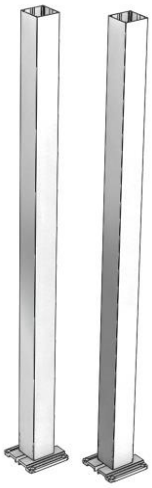
Service entrance Min 30''

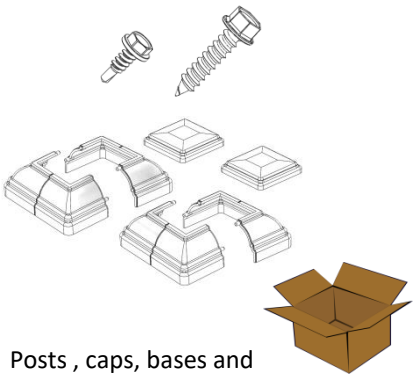
General information for our Railing products and options…

All our railing are cut to length and pre-assembled as per your specifications including all the screws and accessories to ready for installation.



Railings come pre-assembled wrapped in Styrofoam and cellophane.

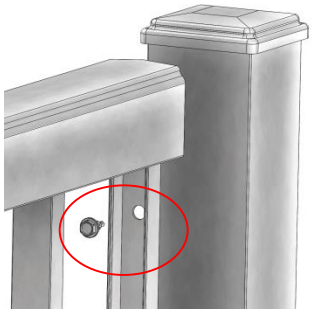




Posts , caps, bases and screws are packed in a box.

Which screws for what application

Railing section assembly



5/16 Hex driver required

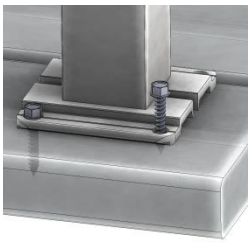
No# 10-16 X 5/8“ Self drilling screw

Railing Adapter for wood columns

Philips driver required

2 ½ in wood screw (Included)

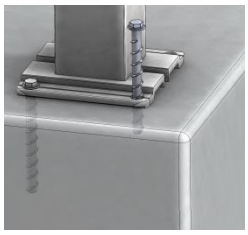
Post in wood or Resin floor

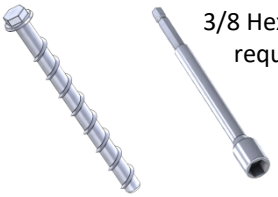


3/8 Hex driver required

No# 14 -1 1/4’’ screw

Post in cement floor





3/8 Hex driver required

Titen ¼’’ x 2 ¾’’ screw

Post in fiberglass floor

3/8 Hex driver required

No# 14 -1 1/4’’ screw

Post in aluminum floor

3/8 Hex driver required

No# 14 x 1’’ Self drilling screw

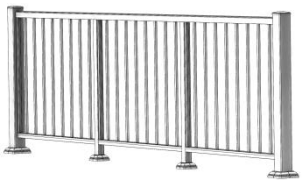
Planning your project…

Railing option configurations.

Standard Configuration

Spindles or Glass

Each section is divide by a post.



Continual Handrail Configuration

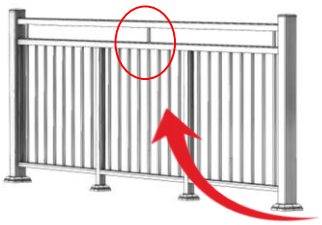
Spindles or Glass

Intermediate posts are installed under the hand rail.

Standard Double Handrail Configuration

Spindles or Glass

Each section has an added handrail on top.

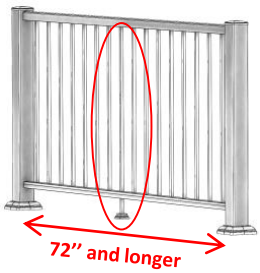


Continual Double Handrail Configuration

Spindles or Glass

Another handrail is added.

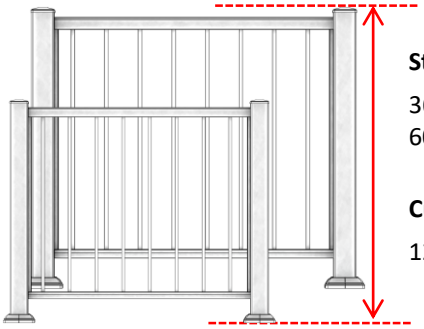
Sections longer than 72'' inches require 1 extended spindle.



Extended spindle support

Sections longer than 72'' inches require 1 extended spindle.

Sections longer than 120'' inches require 2 extended spindles.

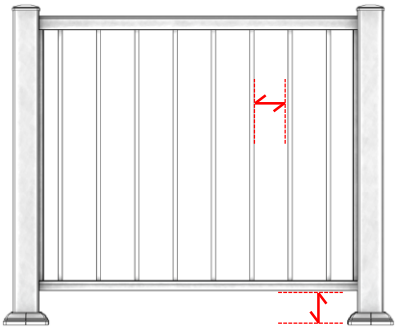


Standard Heights

36'', 42'', 48''
60''inches

Custom Heights

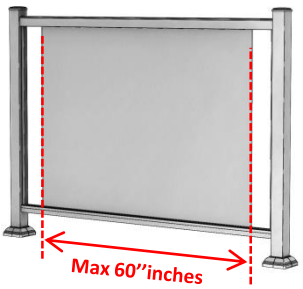
12'' to 84''inches



Spacing

Spindles are spaced at 3 15/16''

Space between the floor and bottom rail should be 3 15/16''



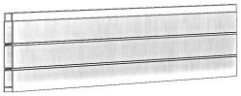
Glass Railing length

Maximum length for glass panel is **60''inches**

Glass thickness 6mm Tempered

Aluminum Panel Railings

All Railings configuration option can be made with aluminum intimacy panels.



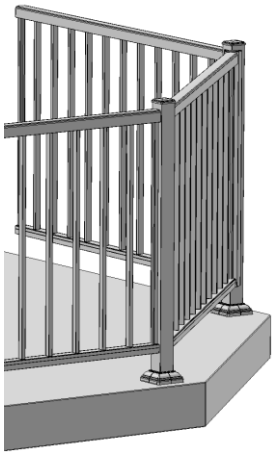
Intimacy Panel

Standard size 72'' x 60''

Custom Sizes also Available

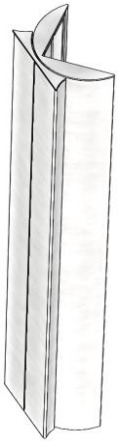
Planning your project…

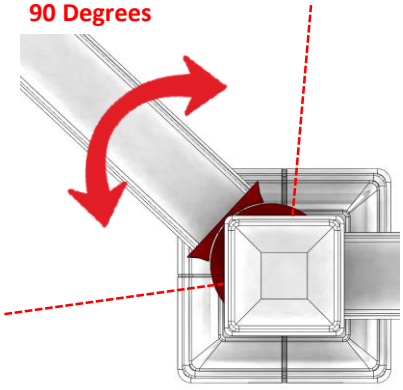
Railing option configurations.

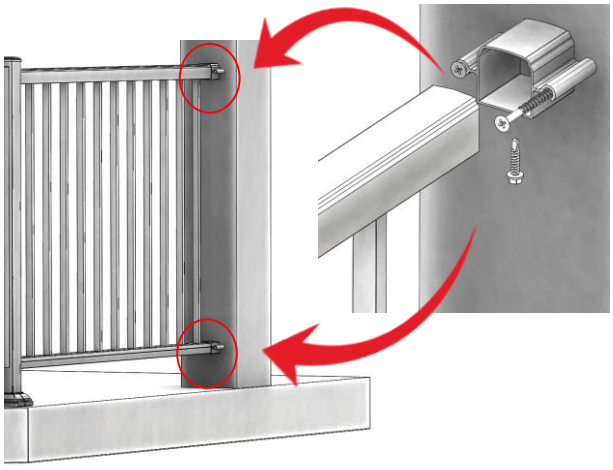


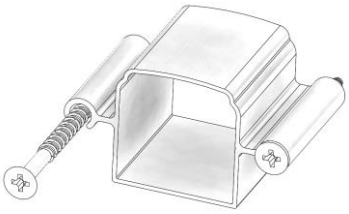
Adapting to angles

For adapting to angles we offer an angle adapter called the half moon allowing 90 degrees of movement left or right.



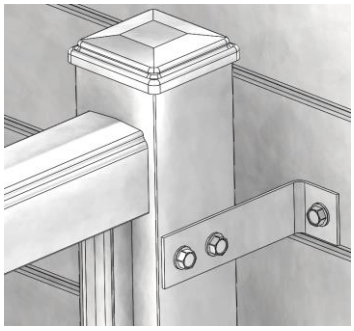






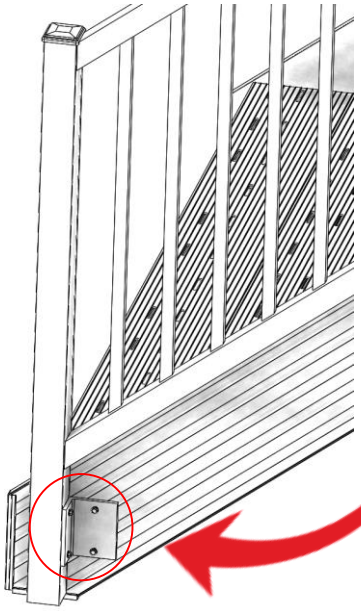
Wall adapter

In situations where it's not always possible to use the attachment bar, we offer a profiled attachment adapter.



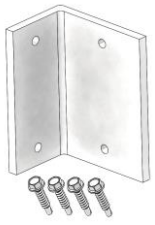
OPTIONAL: Wall angle

42'' high railings require an additional wall angle bracket to secure the post in place as an added safety measure.



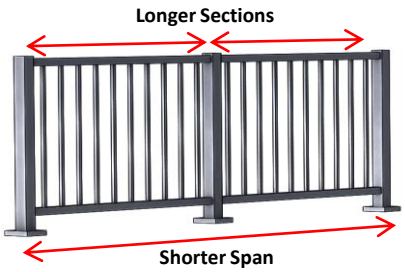
S-500 Steps

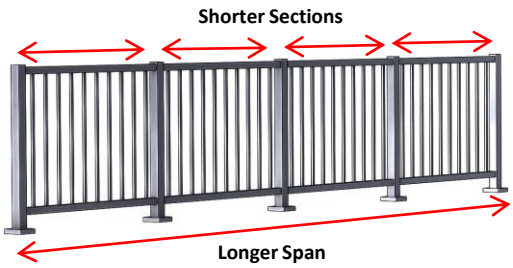
The post is attached to the exterior of the S-500 stringer using a 2''x3''x4'' aluminum angle bracket.



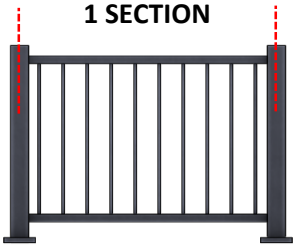
Measuring your project…

The longer the overall span length is, the shorter the sections have to be. Please refer to the guidelines below.



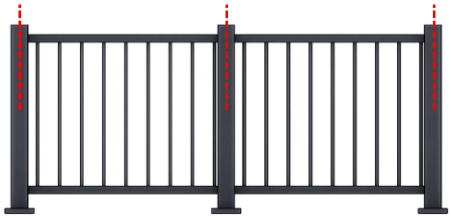


1 SECTION



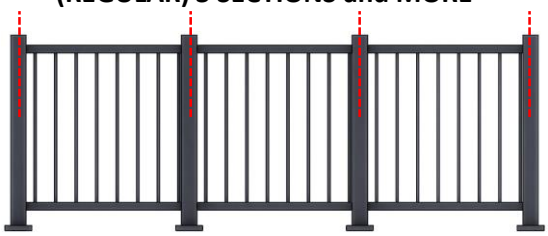
Post Size	H36''/ Max length	H42''/ Max length
2''	72''	60''
2 1/2''	96''	84''
3''	115''	96''

(REGULAR) 2 SECTIONS



Post Size	H36''/ Max length	Max Span	H42''/ Max length	Max Span
2''	66''	136''	54''	112''
2 1/2''	84''	173''	72''	149''
3''	84''	174''	72''	150''

(REGULAR) 3 SECTIONS and MORE

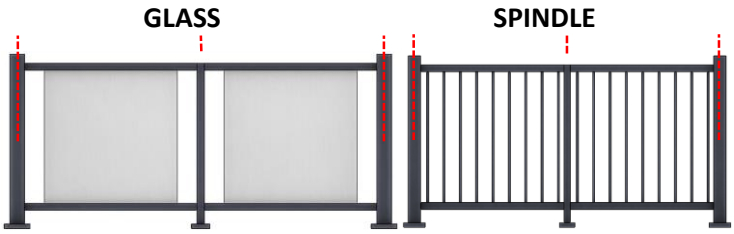


Post Size	H36''/ Max length	Total Span	H42''/ Max length	Total Span
2''	54''	166''	48''	148''
2 1/2''	80''	244''	66''	202''
3''	80''	246''	66''	204''

Measuring your project…

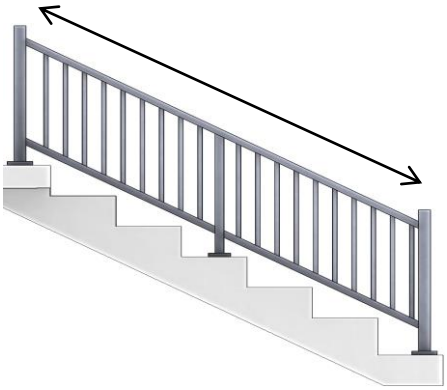
The longer the overall span length is, the shorter the sections have to be. Please refer to the guidelines below.

CONTINOUS HANDRAIL



***Maximum 2 sections with intermediate post 1 1/2**

Post Size	H36'' Max length	Total Span	H42''/ Max length	Total Span
2''	72''	149''	60''	126''
2 1/2''	72''	150''	60''	127''
3''	72''	151''	60''	127''



Maximum 3 sections

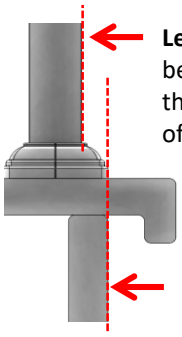
Post Size	Section length
2''	72''
2 1/2''	72''
3''	72''

***Maximum 3 sections with 2 intermediate posts 1 1/2**

All about the offset spacing …

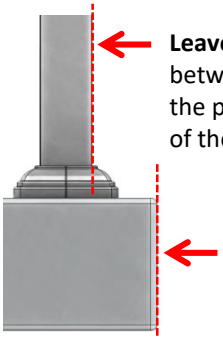
Positioning you **Posts and or Columns**

Wood, Aluminum or Steel Structure



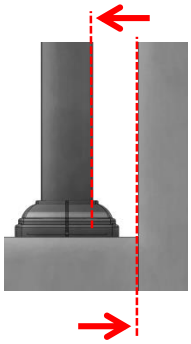
Leave 1-5/8'' between the face of the post and the side of the structure.

Cement structure

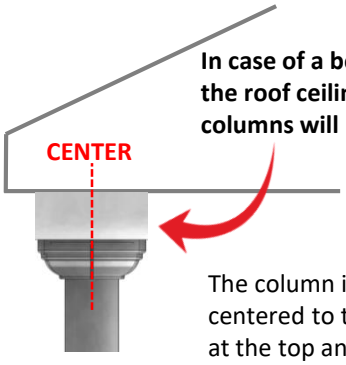


Leave 2-5/8'' to 3'' between the face of the post and the side of the structure.

Wall or Column

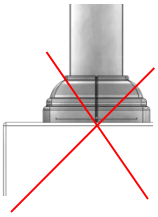


Leave 1-5/8'' between the face of the post and the wall.



In case of a beam under the roof ceiling where columns will be used…

The column is to be centered to the beam at the top and this will determine the rest of the post positions.



In case of existing columns

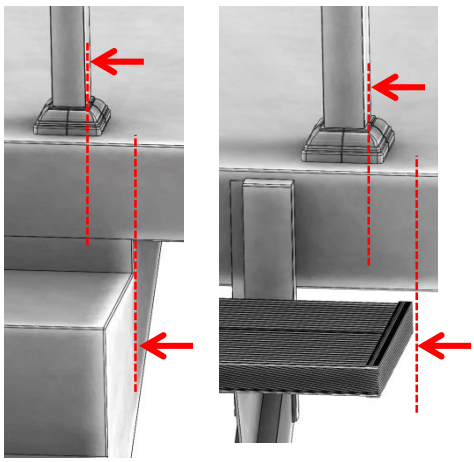
CENTER to column

OFFSET to outside

Existing columns will determine the position of the posts.

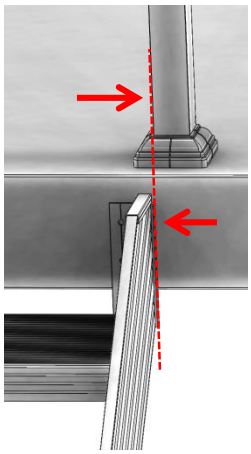
Normally the post and railing would be centered to columns but to gain more floor space the railings can be optionally moved offset to the outside.

Cement Steps, S-100 or Wood Steps



Leave 2-5/8'' to 3'' between the face of the post and the side of the steps.

S-500 steps

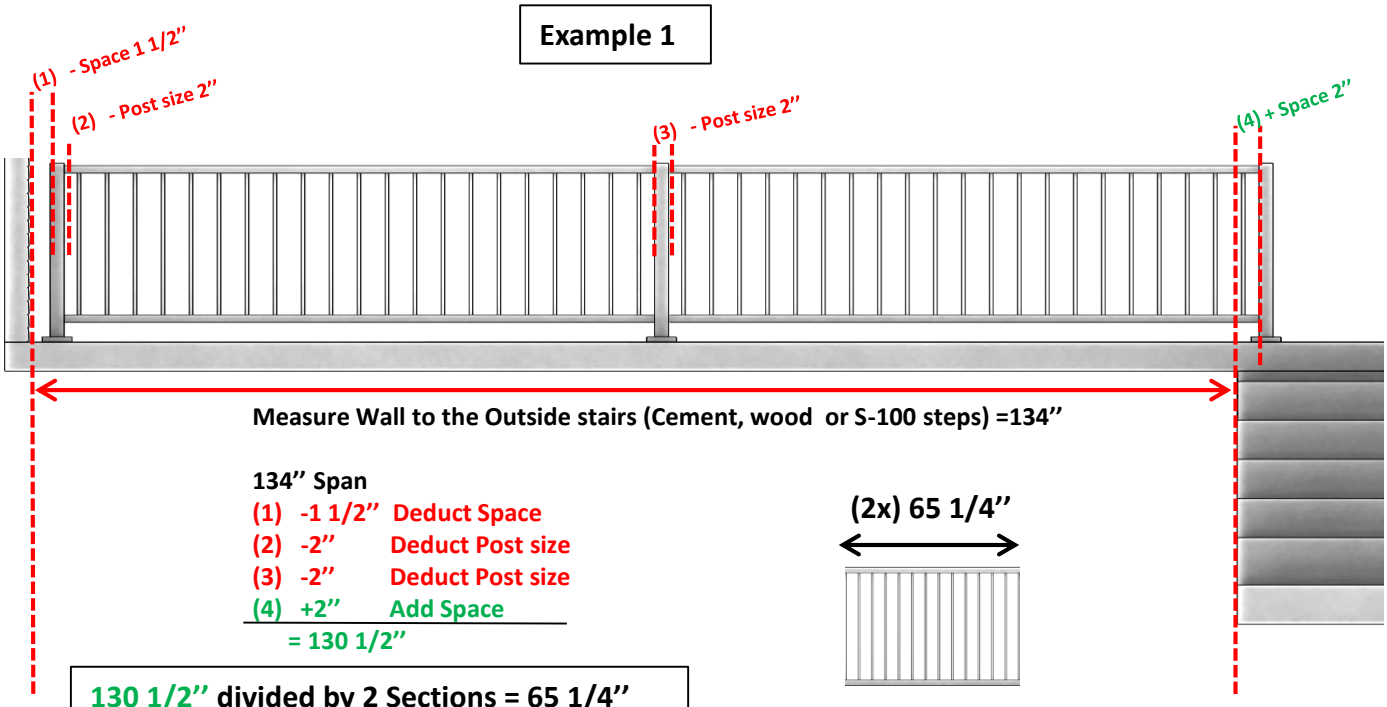


Leave 0'' between the face of the post and the side of the steps.

Calculating your project…

Figuring the section lengths you will need.

Example 1

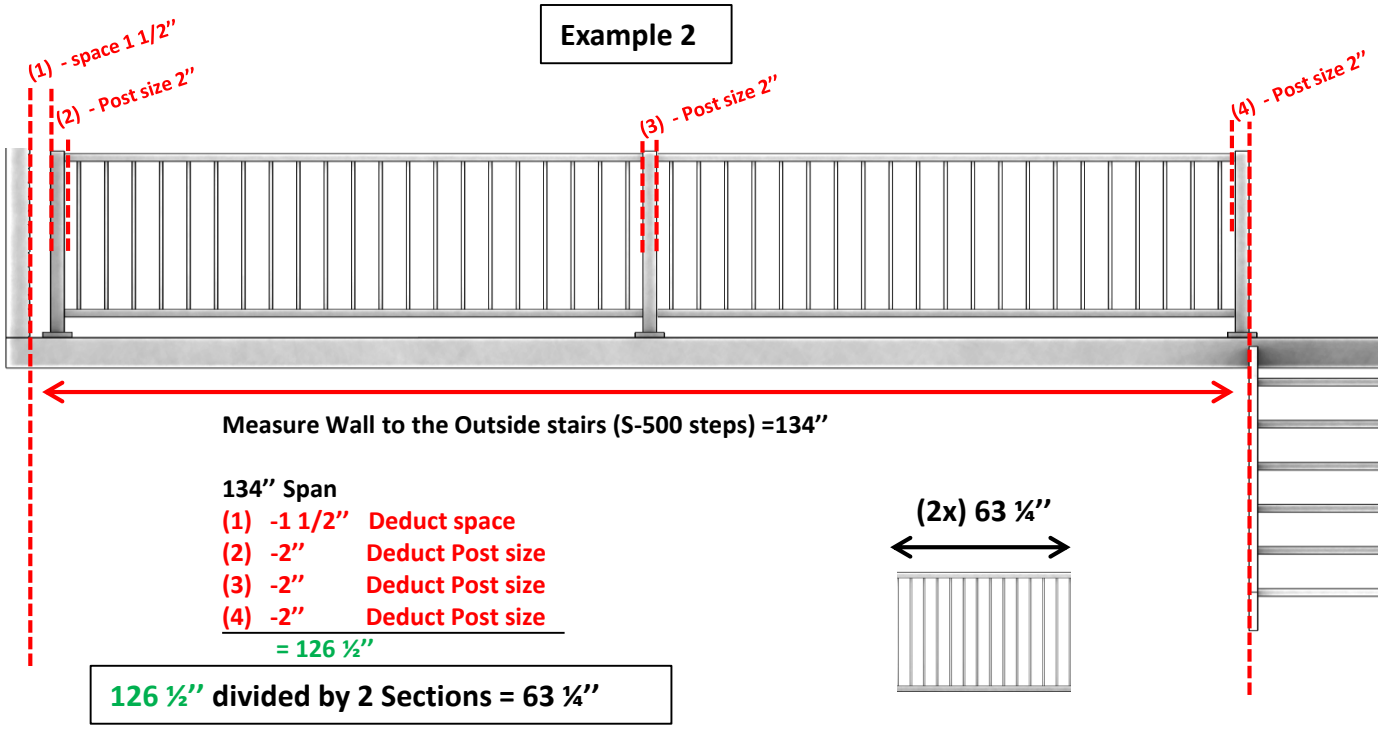


Measure Wall to the Outside stairs (Cement, wood or S-100 steps) =134''

134'' Span
(1) -1 1/2'' Deduct Space
(2) -2'' Deduct Post size
(3) -2'' Deduct Post size
(4) +2'' Add Space
= 130 1/2''

130 1/2'' divided by 2 Sections = 65 1/4''

Example 2



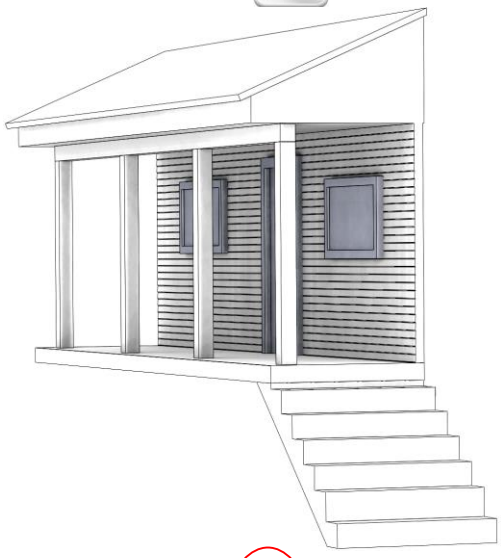
Measure Wall to the Outside stairs (S-500 steps) =134''

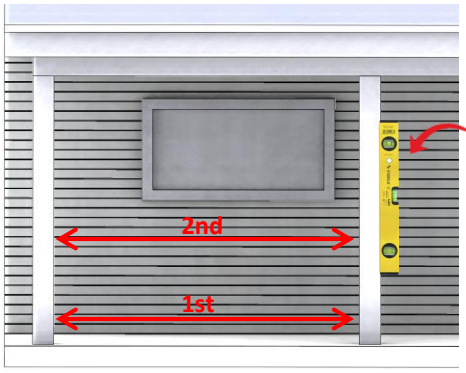
134'' Span
(1) -1 1/2'' Deduct space
(2) -2'' Deduct Post size
(3) -2'' Deduct Post size
(4) -2'' Deduct Post size
= 126 ½''

126 ½'' divided by 2 Sections = 63 ¼''

Calculating your project…

Example 4 Roof with a ceiling beam & columns



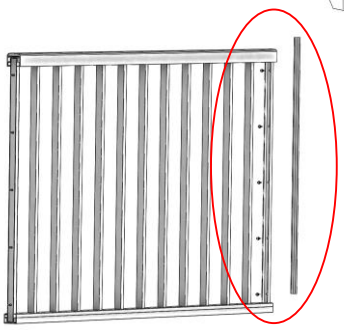


Measuring between 2 fixed columns.

Validate that the columns are straight using a level

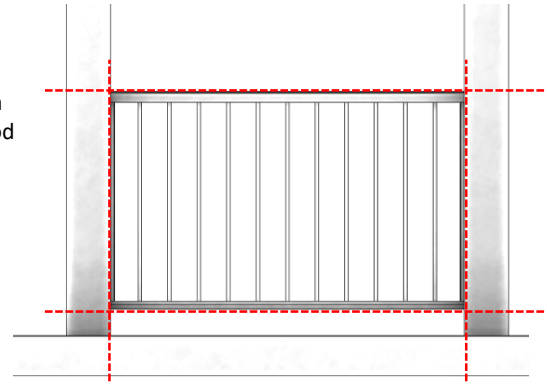
Take 1st 4'' off the floor

Take 2nd height of the railing 36'' or 42''off the floor. Use the shortest length measured.



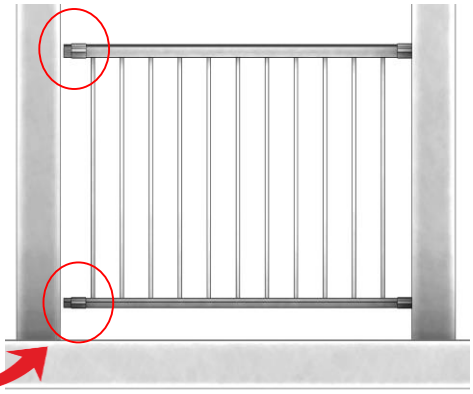
When ordering railings with attachment bars, a tight fitment can be challenging with fixed wood columns.

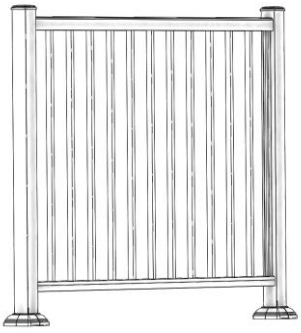
The columns must be perfectly straight and square to one another.



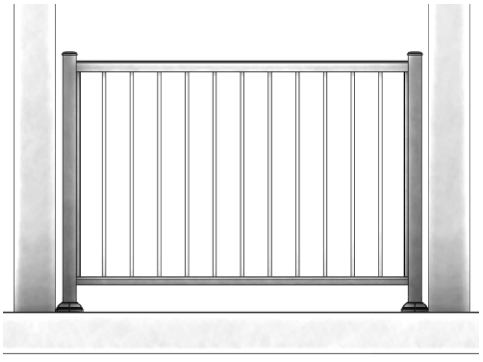
***NOTE: If the columns are not level and the measurement has more than +1/8'' difference we suggest ordering the profiled attachment.**

You can order the railing shorter than the actual measure for an easy installation.





Another possible option is to use posts between the fixed columns.

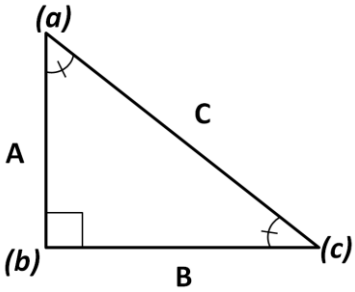


Calculating your project…

Example 5 Measuring Cement, Wood or S-100 steps

NOTE: Its very important to use a level of any kind when measuring stairs

NOTE: There are many options available to calculate RIGHT ANGLED TRIANGLES

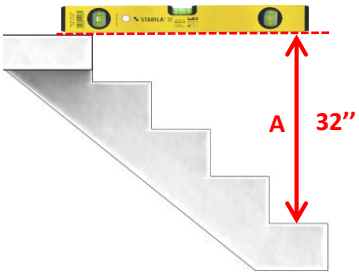


There are many free RIGHT ANGLED TRIANGLE calculator apps available you can download for your smartphone.

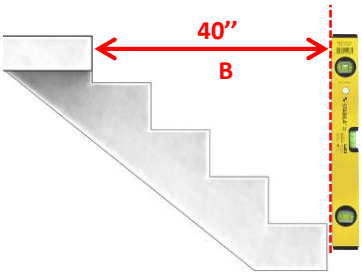
You can also search the internet for an online RIGHT ANGLED TRIANGLE calculator.

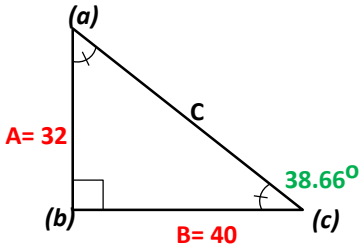
Figuring out the SLOPE ANGLE (degree)

Step 1 Measure top of step to level



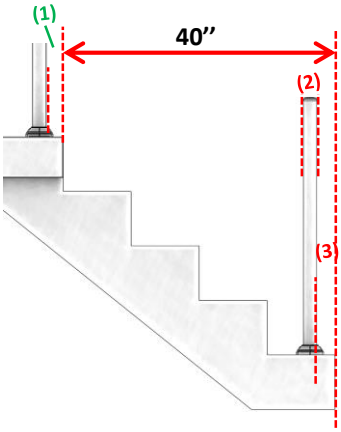
Step 2 Measure face of step to level





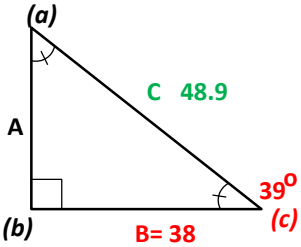
In the Triangle calculator **ENTER**
The **VERTICAL** Measure **A**
The **HORIZONTAL** Measure **B**
The **Calculator answer** is **38.66 deg**

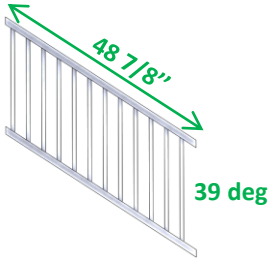
Step 3 Calculate Railing length

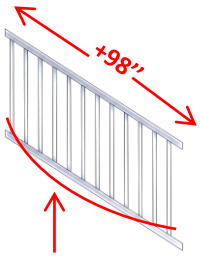


40'' Span
(1) +2 1/2'' Add the Space
(2) -2'' Deduct Post size
(3) -2 1/2'' Deduct the Space
(4) =38''

In the Right Angle Triangle calculator
Enter 38'' into **B**
(Round off 38.66 deg to 39 deg)
Enter 39 into ***(c) Angle***
The **Calculator answer** (Hypotenuse)
= 48.9 round off to fraction =48 7/8''





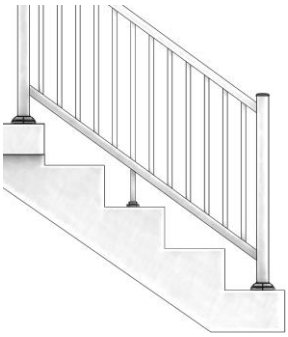


Calculating your project…

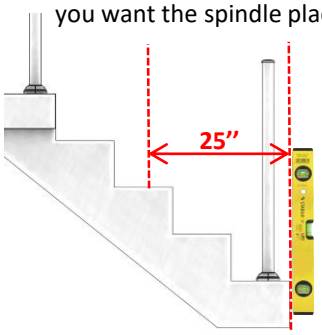
Example 5 Continued…

When the Single railing length **exceeds 98''** it's necessary to calculate and add a mid support Post or spindle. This keeps the bottom channel from sagging over time.

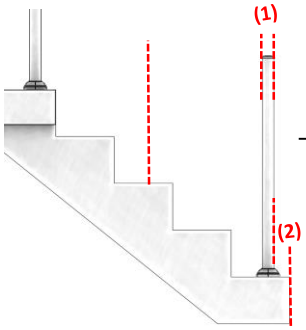
Option 1 Extended Spindle



Step 1
Measure from the step to where you want the spindle placed.



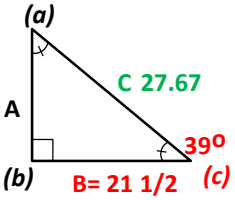
Step 2
Do your deduction

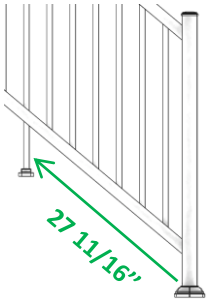


25'' Span
(1) -2'' Deduct Post size
(2) -2 1/2'' Deduct the Space
=20 1/2

Step 3

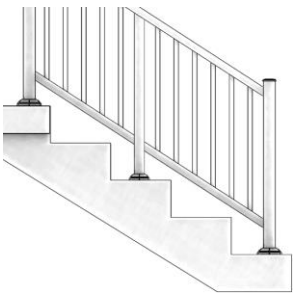
Using the angle from the previous example
In the Right Angle Triangle calculator
Enter 20 ½ HORIZONTAL Measure **B**
Enter 39 deg in Angle (c)
Calculator answer (Hypotenuse)
= 27.67 round off to fraction =27 11/16''



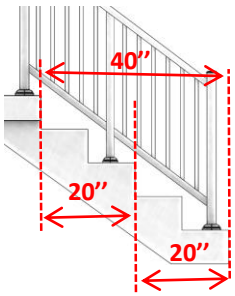


When ordering your railing ask for a leg 27 11/16 from the BOTTOM UP

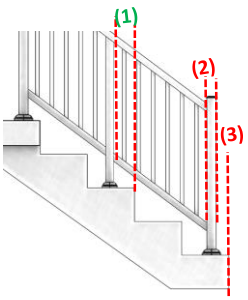
Option 2 Intermediate post



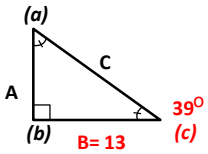
Using the measure from the previous example 40'' span and 39 deg



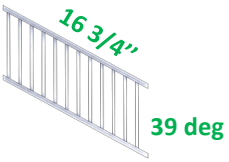
Step 1
Do deductions for 1st section



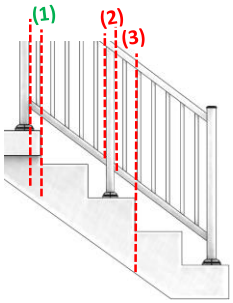
20'' Span
(1) +2 1/2'' Add the Space
(2) -2'' Deduct Post size
(3) -2 1/2'' Deduct the Space
(4) =13''



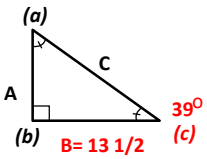
In the Right Angle Triangle calculator
Enter 13'' into **B**
Enter 39 into ***(c) Angle***
The **Calculator answer (Hypotenuse)**
= 16.73 round off to fraction =16 3/4''



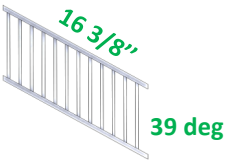
Step 2
Do deductions for 2nd section

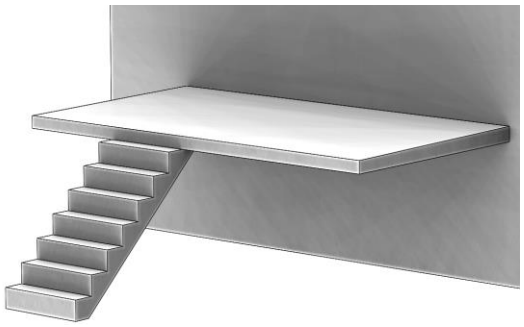


20'' Span
(1) +2 1/2'' Add the Space
(2) -1 1/2'' Deduct Post size
(3) -2 1/2'' Deduct the Space
(4) =13 1/2''



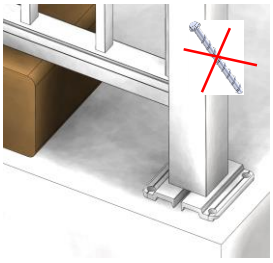
In the Right Angle Triangle calculator
Enter 13 1/2'' into **B**
Enter 39 into ***(c) Angle***
The **Calculator answer (Hypotenuse)**
= 17.37 round off to fraction =16 3/8''





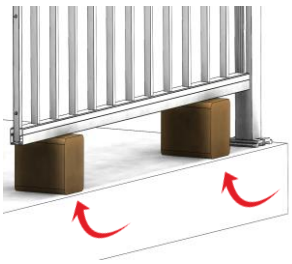
TIPS: Installing your project…

The following tips will apply to your installation.

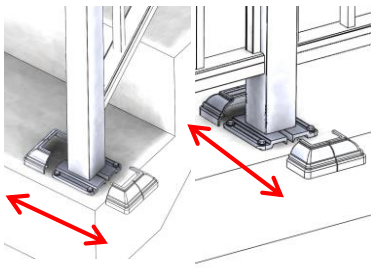


TIP: Assemble all of your sections before bolting the post down to the floor.

This will allow you to reposition the railing if necessary.



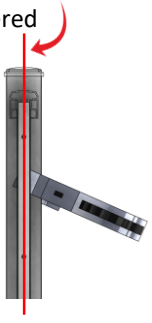
TIP: Use 2 wooden Blocks 3 15/16'' high as a spacer while assembling the railing.

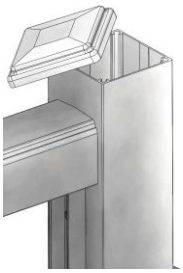


TIP: The post half plate should always be fixed perpendicular to the floor facing or side of the steps.

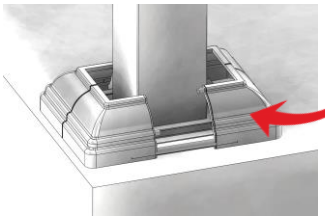
TIP: Use adjustable clamps to properly secure the railing in place.

This will insure the railing is perfectly centered

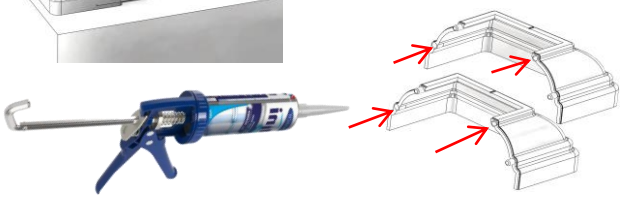


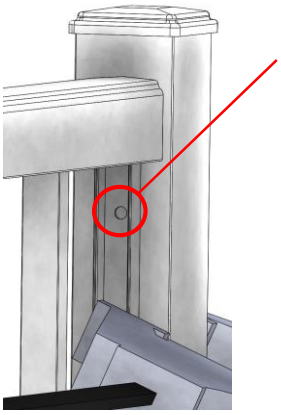


TIP: Use caulking or silicone around the inside of the cap before installing.



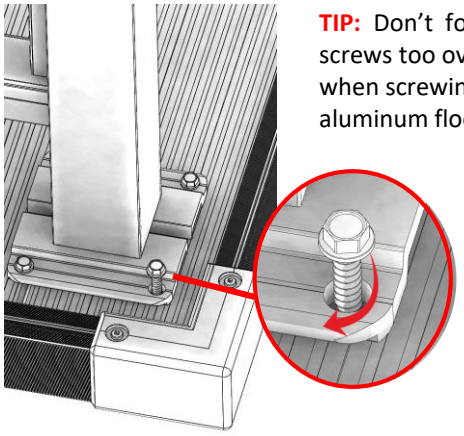
TIP: Use caulking or silicone around the inside the locking holes.





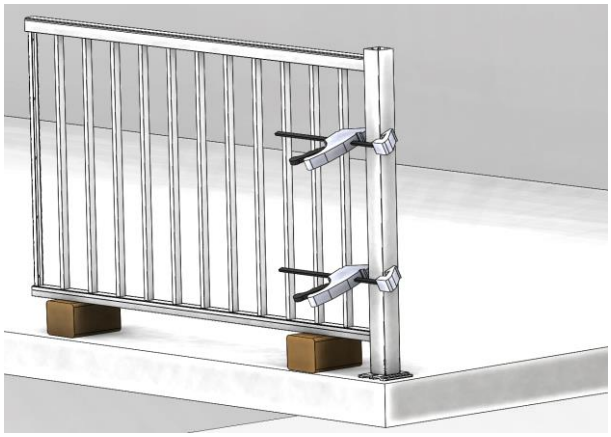
TIP: The holes in the attachment bar are pre- drilled.

Use as many screws as there are holes

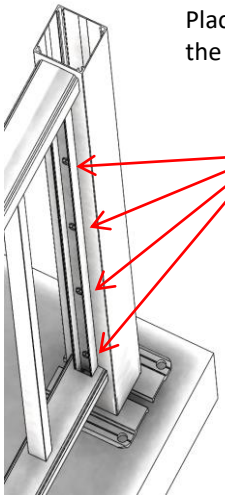


TIP: Don't force the screws too over tighten when screwing into aluminum flooring or steps.

Installing your railing step by step…

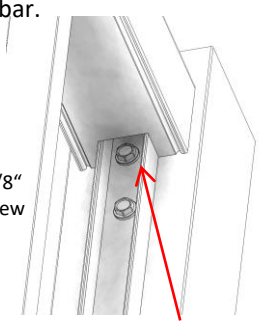


Step 1 Start assembling the railing to the post at the FRONT corner of the balcony.

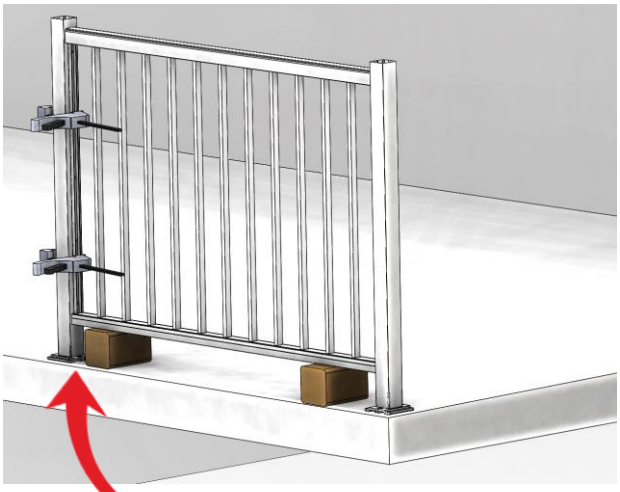


Place 1 screw per hole along the attachment bar.

No# 10-16 X 5/8“
Self drilling screw

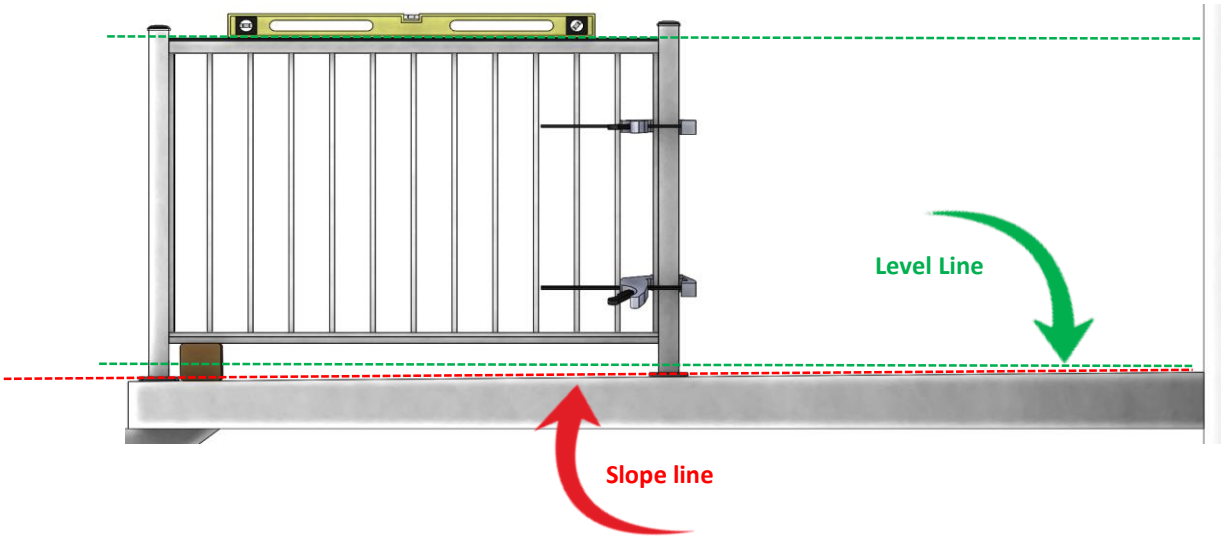


There might not be a hole, but add 1 extra screw at the very top.

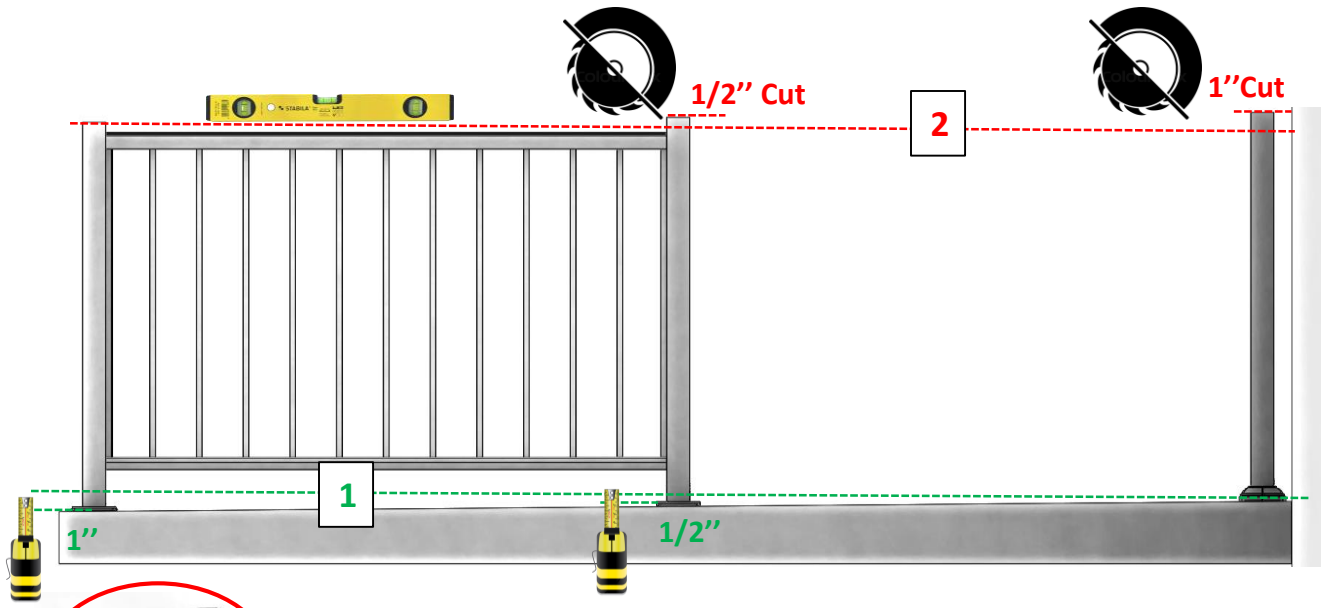


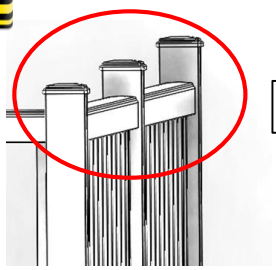
Step 2 Install the post on the opposite side.

Step 3 Due to the slope in the balcony floor, you can start with a block but use a level for the railing



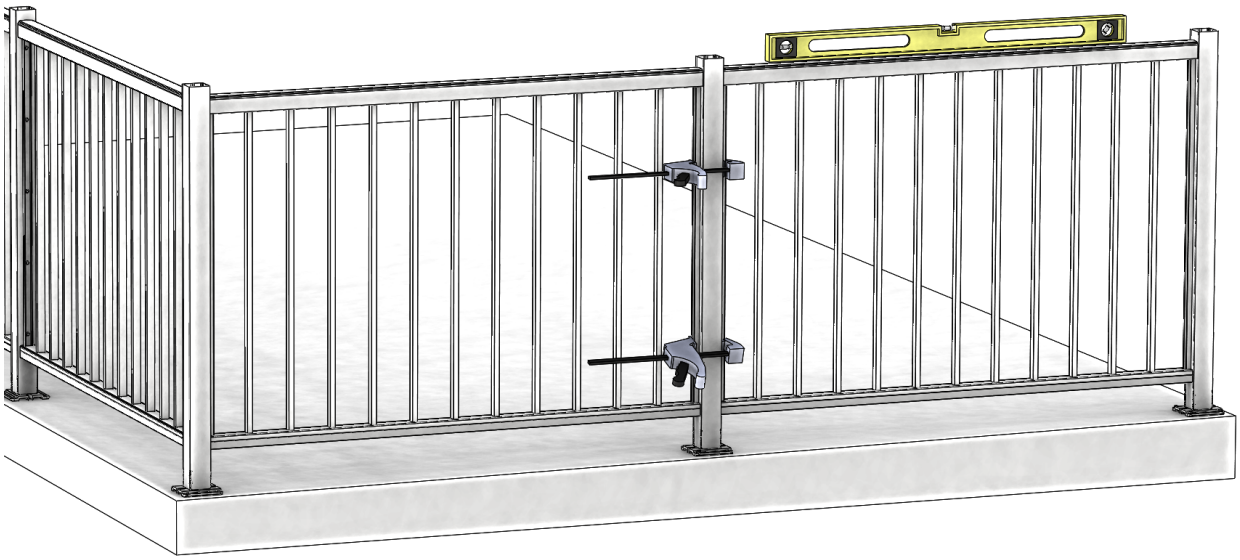
Optional: Installing your railings step by step…



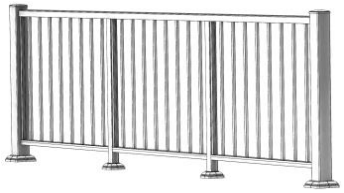


Step 4 Before completing the installation , you may cut the post on the slope side so that they are all the same height.

1. **First measure the slope height at each post.**
2. **Then transfer that measure to the post on the opposing side and cut.**

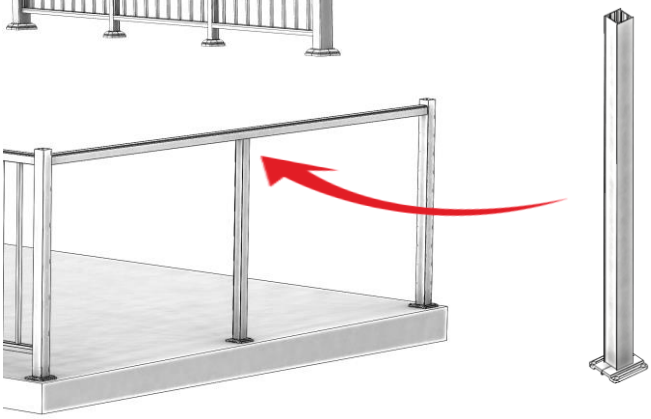


Step 5 Complete the installation of the section using the modified posts.

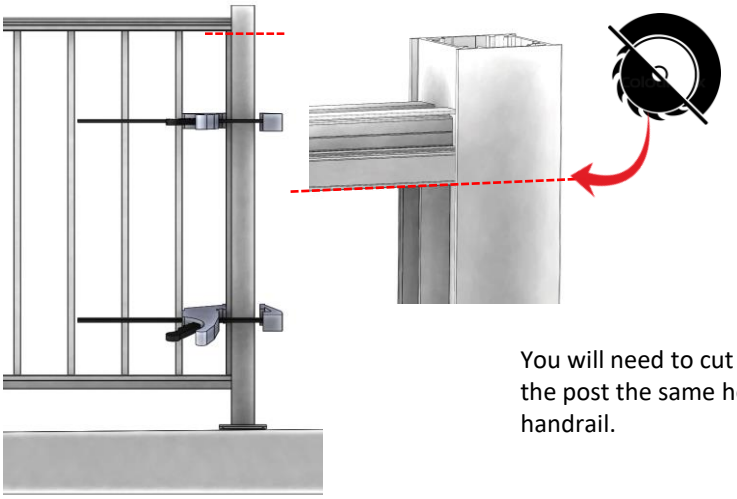


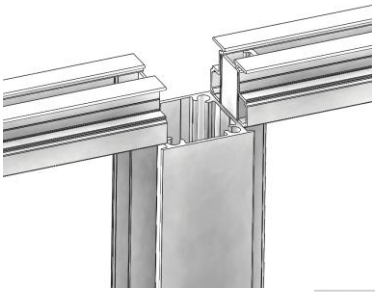
Installing your railings step by step…

Installing a continuous hand rail.

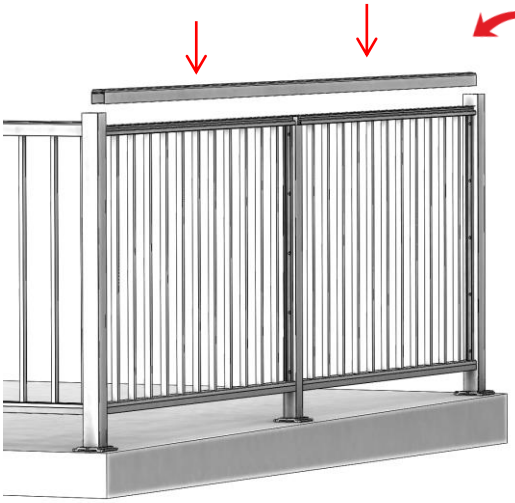


The installation process is basically the same except that the intermediate post will pass beneath the hand rail allowing fore an uninterrupted continuous hand rail



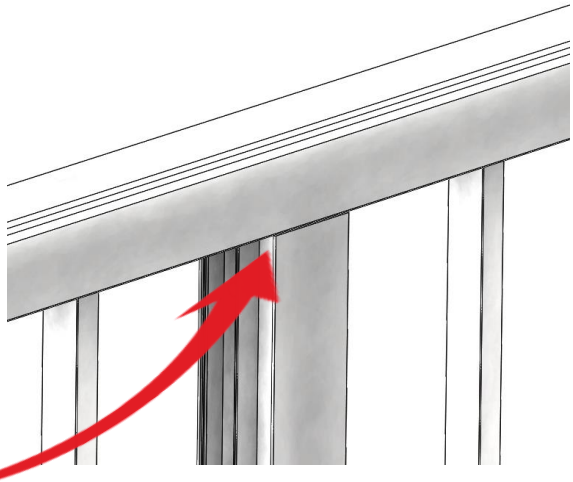


You will need to cut the post so that the top of the post the same height as the underside of the handrail.

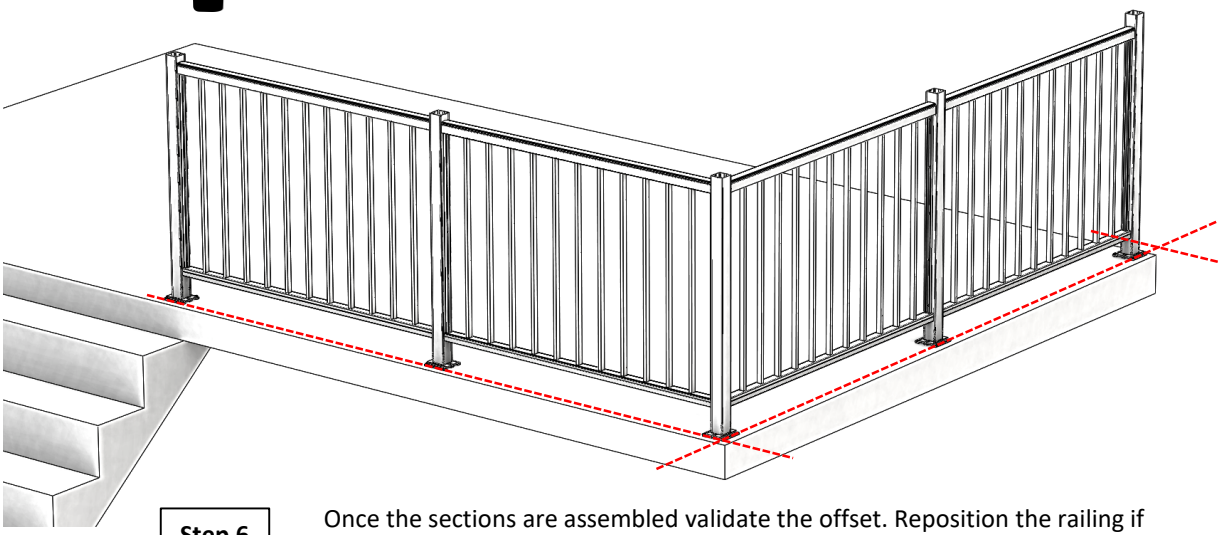


Complete the installation by clipping the continuous handrail over the top of the 2 sections.

The fit should be fairly tight so as not to see through to the other side

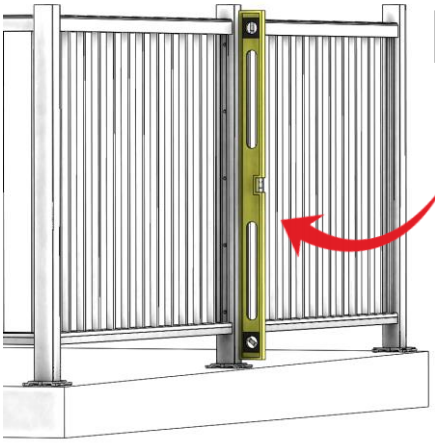


Installing your railings step by step…



Step 6

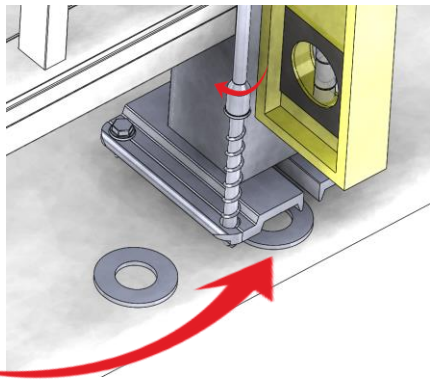
Once the sections are assembled validate the offset. Reposition the railing if necessary then start fixing the posts.

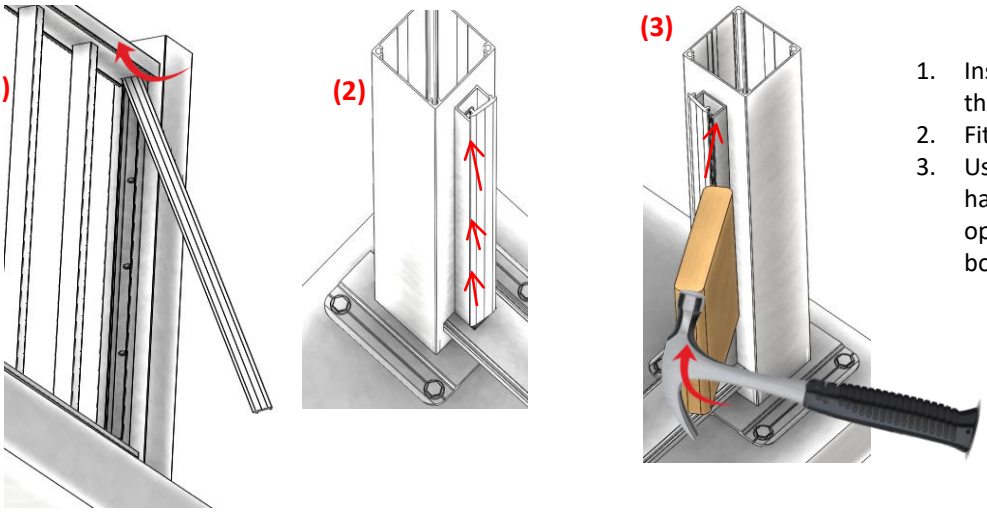


Step 7

Be sure that the post remains level as you tighten the screws down on the base.

Use washers or other material on hand to shim the base plate.





TIP: Installing attachment bar cap

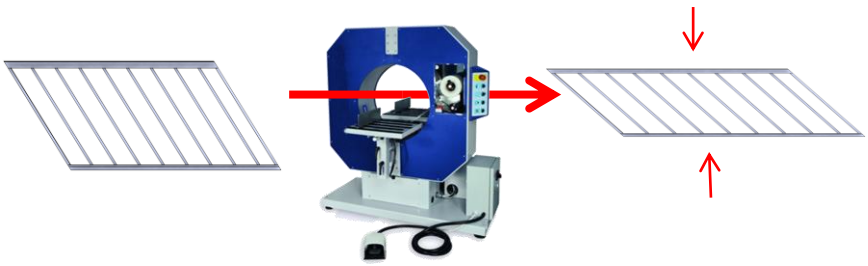
1. Insert the cap into the railing at the top.
2. Fit the clip in on one side.
3. Using a piece of wood and a hammer gently clip in the opposing side from top to the bottom.

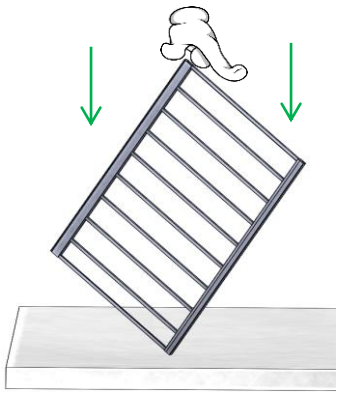
Installing your stair railings step by step…

IMPORTANT NOTE:
When attempting to install your angled railing on the steps, you may come across this issue where the angle on the railing is quite different than the angle of the steps.

SOLUTION: To remedy this issue, stand the railing up on its end and force downwards so the railing assumes its original shape,

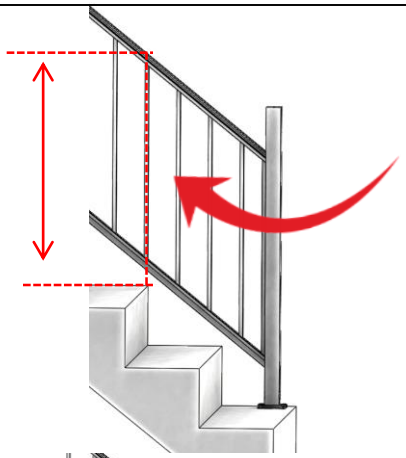
As the railing is passed through the wrapping machine, the pressure of the wrapping will compress the railing therefore changing the angle.



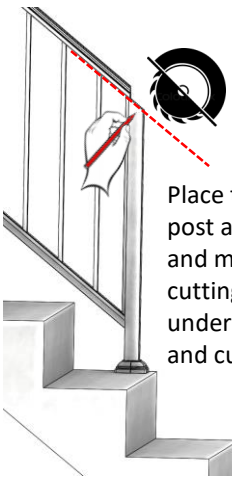


Step 1

Start at the top of the stairs going down.

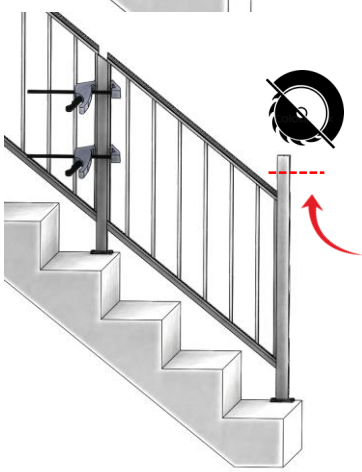


NOTE: Keep a vertical space of 36” between the top edge of the step and the top of the railing.



Step 2

Place the intermediate post against the railing and mark a diagonal cutting line following the underside of the railing and cut the post.

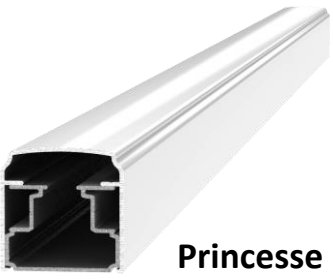


Step 3

Complete the installation of the last section and post.

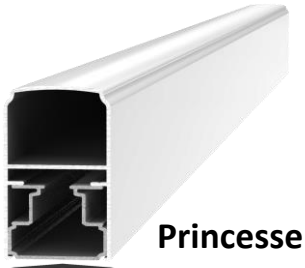
Cut the post to the right height.

Handrail Options…

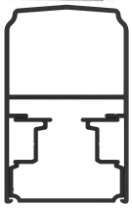


Princesse

1 5/8" x 1 5/8"

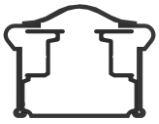


Princesse Plus



1 5/8" x 2 5/8"

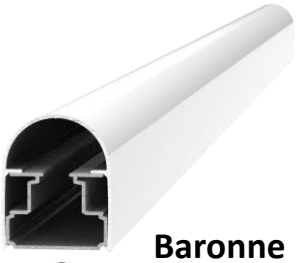
Marquise



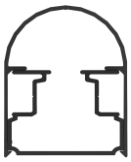
1 5/8" x 1 1/2"

White

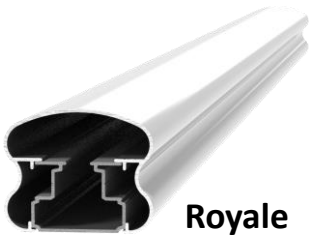
Black



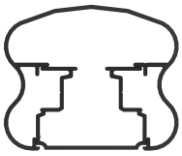
Baronne



1 5/8" x 2"



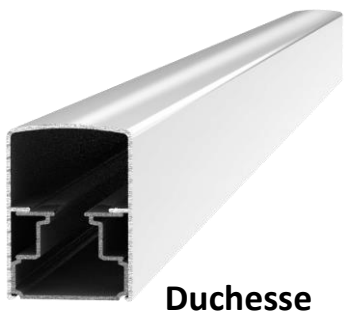
Royale



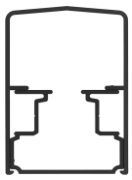
2 3/8" x 2"

Commercial Brown

Clay

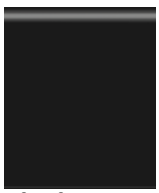


Duchesse



1 5/8" x 2 1/4"

White



Black

Commercial Brown

Clay

Charcoal

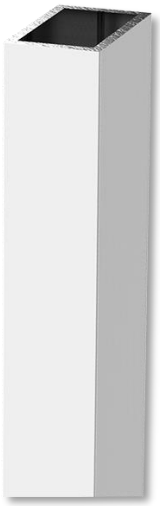
Ivory

Storm Zone

Imitation wood

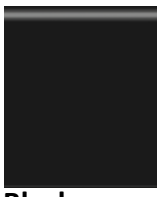
Spindle Options…

1/2" x 3/4« Curved Spindle



1/2" x 3/4"

White



Black

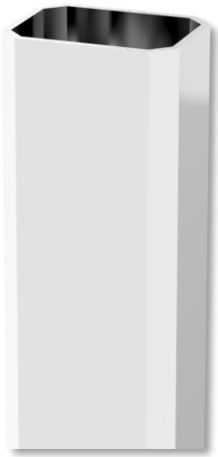
Commercial Brown

Clay

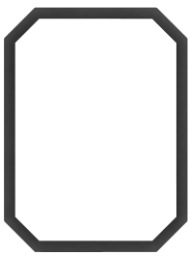
Charcoal

Ivory

Storm Zone



3/4" x 1"

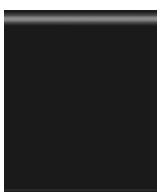


Spindle insertion

Spike

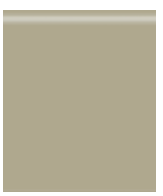
3/4" x 3/4"

White



Black

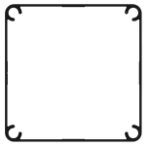
Commercial Brown



Clay

Post Options…

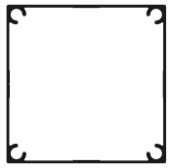
2’’ Post



2" x 2"

Polycarbonate Base& Cap

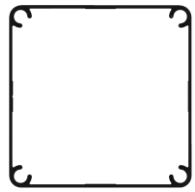
3’’ Post



3" x 3"

Polycarbonate Base& Cap

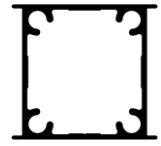
4’’ Post



3 3/4" x 3 3/4"

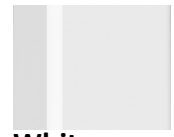
Aluminum Base& Cap

Intermediate Post



1 1/2" x 1 5/8"

Polycarbonate Base



White

Black

Commercial Brown

Clay

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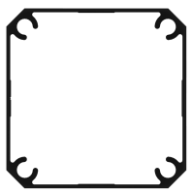
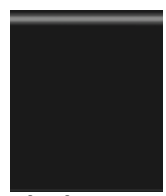
2 1/2’’ Post



2 1/2" x 2 1/2"

Polycarbonate Base& Cap

White



Black

Commercial Brown

Clay

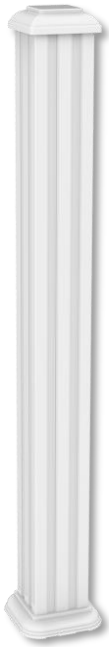
Charcoal

Ivory

Storm Zone

Column-Post Options…

4’’ Fluted

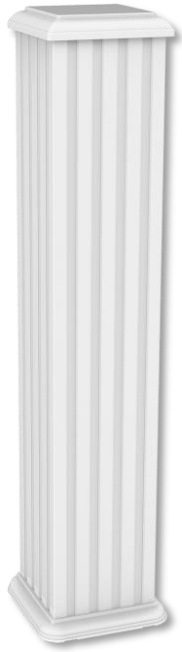


3 3/4" x 3 3/4"

6’’ Fluted

5 1/4" x 5 1/4"

8’’ Fluted

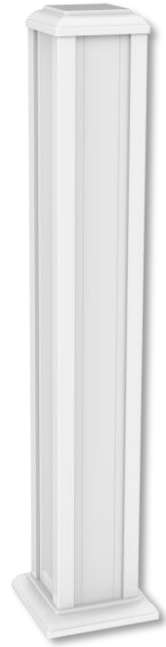


7 1/4" x 7 1/4"

4’’ Plain

3 3/4" x 3 3/4"

6’’ Contemporary



5 1/4" x 5 1/4"

All Caps & Bases are in aluminium

White

Black

Commercial Brown

Clay