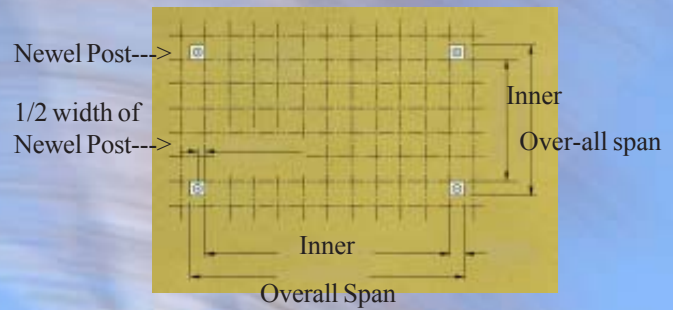


Baluster Instruction Guide

1) Placing the Newel Post

Place newel posts as per the span chart. Mark the inside edge of the post and remove. Calculate 1/2 the width of the newel post and mark from the inside edge line of the newel post position. This marks the spot where the newel post hardware needs to be installed. Do not secure the newel post before installing angle brackets to the newel post as shown in step 2.



2) Securing Angle Brackets to the Newel Posts

Determine the placement of your top rail & bottom rail

Note: a) height of baluster (not including pipe)

b) height of bottom rail

c) distance of bottom rail from substrate

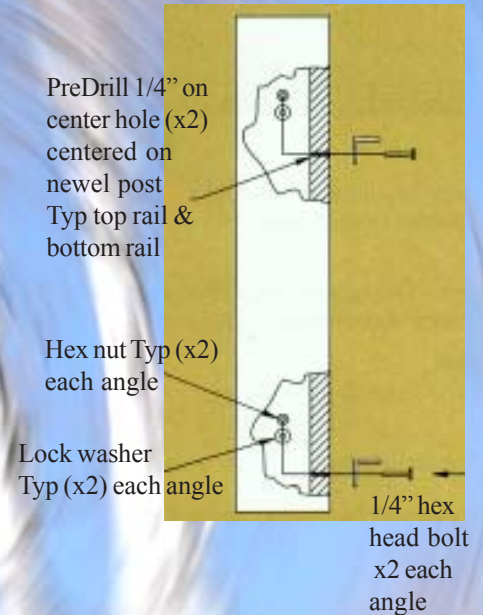
Locate the following components from the hardware kit

a) Aluminum angles (4 per newel post)

b) 1/4" Hex head bolt (x8) or 1/4" threaded rod (x4)

c) 1/4" Hex head nut (x8) d) Lock washers (x8)

Mark the position of the aluminum angle on the face of the newel posts. The angles mount to the underside of the rails. Drill four 1/4" diameter holes in the locations where the brackets are to be mounted. Be sure the holes pass through the uPVC pipe of the newel post. Secure the brackets to the newel post as indicated in the diagram with bolts, washers, and nuts provided in the hardware kit.



3) Preparing the Rails

It is important that the rails are assembled with the proper surfaces facing up and down according to the drawings. The number of balusters required for each span of balustrade is determined by using the National Building code 4" ball rule. Always check your local building codes as well for inspection purposes.

3a) How to determine the spacing of the balusters

Check with the product DXF drawing (request from Imperial) to determine the "on-center" spacing for the baluster. Multiply the number of balusters minus one by the center spacing to determine the total space between the newel post occupied by the balusters.

Example: Baluster IP7120

On-center spacing is 6"

With a span of 10 Ft between the newel posts

20 balusters are required

Thus $(20-1) \times 6" = 114"$

Important Note: Always use a professional for installation. Call for your local building codes requirements. Call us for any further required technical information.

3b) Where to make the first hole

Center the span you arrived at above 114" on the bottom rail and make a mark at each end of the span. Make a mark at each on-center increment. If not, re-calculate. Be sure the distance between the end of the rail and the first mark is less than the on-center dimension. This is to ensure that the 4" ball rule applies to the end baluster.

example: 120" span - 114" balusters = 6 divided by 2 = 3"

Thus your first baluster is centered 3" from the newel post.

Refer to the DXF product drawing for the diameter of the pipe on the end of the balusters. Bore out a hole of the corresponding diameter to a depth of 1-1/2". Remove any excess product from the hole.

Repeat this procedure for the underside of the top rail.

* Manufacturer's limited warranty upon request * All specifications subject to change without notice, Final product & measurements may vary from this brochure



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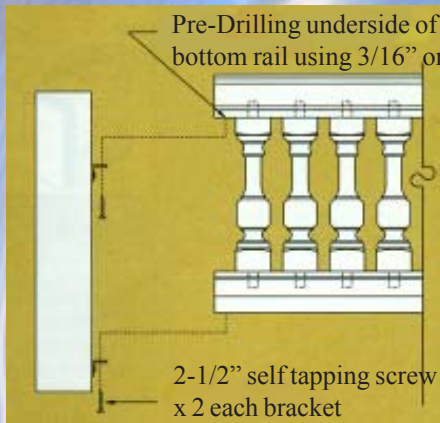
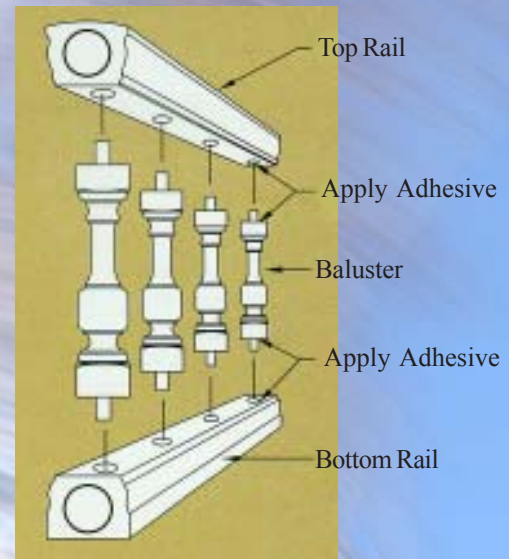
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Baluster Instruction Guide

4) Attaching Balusters to the Rails

Use only approved polyurethane adhesive example PL Premium or an approved equal. Adhesive must be applied to all contact surfaces. Apply a generous bead of adhesive such that it will spread across the entire contact surface. Place balusters into holes on the bottom rail and ensure that they are turned straight. Lay the top rail over the balusters, line up the balusters to the holes and drop into place. Use a rubber mallet to tap lightly the top rail down to ensure a tight fit. Toe nailing balusters to rails is also acceptable. Patch with an interior/exterior vinyl spackling compound or bondo. It is recommended that the rail-baluster assembly be clamped together during the adhesive drying time. Cargo load straps work well. Follow adhesive manufacturer's recommended curing time and clean up procedures.



5) Fitting Rails to Newel Posts

Bottom Rail Resting on Substrate:

Toe-nail with 3" wood screws to newel post (screws not included). Use a minimum of 4 screws (2 per side) Patch with an interior/exterior vinyl spackling compound or bondo

Bottom Rail Raising Above the Substrate:

Mount the rail-baluster assembly onto the brackets securing to the newel post. Use the 2-1/2" self tapping screws (x8 per newel post) to secure the rails to the angle brackets. In keeping with the four inch ball rule, the space between the bottom rail and substrate must not exceed 4"

6) Securing Newel Post to the Substrate

Using a 5/8" diameter bit, drill a hole 2" deep into the surface you are securing the newel post to. Use a hammer to drop the substrate anchor into the hole. Turn the 3/8" diameter threaded rod into the anchor about 1/2". Place the newel post over the threaded rod. Place the steel plate (size varies) over the exposed threaded rod and secure down with the 1/4" lock washer and nut.

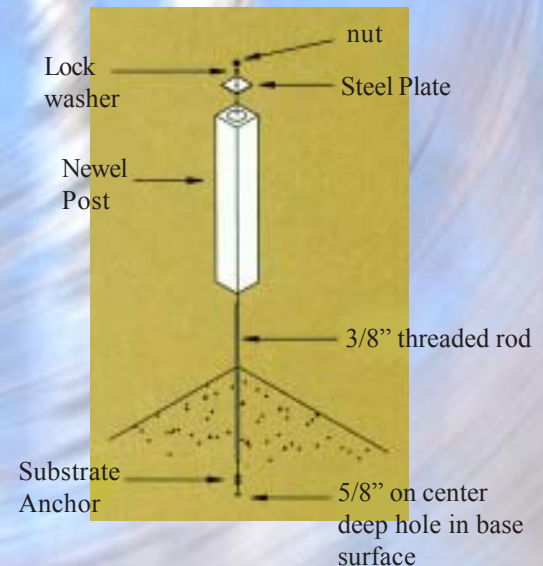
7) Decorating Caps and Balls

To install the decorative caps and/or balls you have chosen for the top of the newel post, apply adhesive to all contact surfaces of the cap and newel post. Center the cap on the post and apply. Screws may be used to secure the cap to the post although the adhesive is strong enough to bond permanently. In some cases, the underside of the decorative cap may need to be routed to hide the newel hardware.

The balustrade is ready for finishing. All products are supplied with a white double primed finish ready to apply a finish top coat. Quality latex or oil based paint should be used.

8) Support Blocks Under the Bottom Rail

In order to ensure the stability and integrity of the balustrade system, support blocks should be placed under the bottom rail such that the space between each supporting element does not exceed 48". Anchor the support blocks to the substrate.



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