

# 5" & 7" Balustrade Systems

## INSTALLATION INSTRUCTIONS



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Check applicable building codes since this procedure may require alterations to meet applicable building code regulations. Fypon does not, under any circumstances, warrant the installation of its products.

### Materials Needed

- Ladder
- Tape Measure
- Hacksaw or Reciprocating Saw
- Steel Cutting Blade
- Exterior Spackling
- Pencil
- Safety Glasses
- Sandpaper
- Corrosion-Resistant Fasteners
- Paint Brush
- Latex Paint
- Polyurethane Compatible Adhesive
- Circular or Hand Saw
- 1/8" Drill Bit
- 13/64" Drill Bit
- 1/2" Drill Bit
- Power Drill
- Plumb Bob
- Hydraulic Jack
- Phillips Head Driver
- Combination Square
- Zinc-based Primer Spray Paint (*Steel use only*)
- 3/4" Open End Wrench or Adjustable Wrench

### 1. Initial Layout

Mark layout lines on floor surface where all porch posts and newel posts will be located. Allow dimensions for the layout of both newel posts and porch posts. **Note:** *This layout is important in order to get accurate measurements for the actual length of each top and bottom rail.*

### 2. Build Up and Assemble Balustrade Sections

- A) Using accurate field measurements taken in Step 1, cut the top and bottom rails to length for each respective section.
- B) Mark center lines on rails. Mark Baluster positions, then drill holes to accept the balusters. **Note:** *Check applicable building codes concerning regulations on distance between balusters.*

**Tip:** A drill press with standard woodworking drill bits works well for drilling these holes.

- C) Apply a 1/4" bead of urethane base construction adhesive on each end of baluster. Then insert balusters into the drilled top and bottom rail.
- D) Lay the rail assembly on a flat surface. Use strap clamps as needed to draw rail assembly together. Clamp tightly and allow the adhesive to set up. This usually takes a minimum of 12 hours. Before glue sets up, make sure assembly is square and that the balusters are square to the rail section. Clean off any excess adhesive with a putty knife. Allow glue to dry completely. Painting can be done before field assembly, if desired.

### 3. Install Porch Posts

- A.) Determine the required height of the post by carefully measuring the distance from the floor to the bottom of the porch structure being supported.
- B.) The post is a load bearing support. It can be trimmed to various heights without affecting the integrity of the post. If sizing is needed, the post has a steel pipe molded into the center which must be cut with a hack saw or reciprocating saw with metal cutting blade. If post is trimmed be sure to maintain adequate flat area at bottom to mount rail sections.
- C.) Pre-drill holes approximately 3/4" up from the bottom of the post using a 13/64" drill bit and roughly centered on the post. Drill through both the polymer shell and the steel reinforcement. Now use a 1/2" drill bit to expand the holes through the polymer only (do not drill through the steel reinforcement). Repeat this process at the top of the post, pre-drilling holes approximately 3/4" from the top and centered.
- D.) Paint all exposed steel at both the top and bottom of the post, using a high quality zinc based primer spray paint to help prevent corrosion.
- E.) Identify the correct location of the top mounting plate first, and use a plumb line dropped from the center point of the top plate location to accurately align the center point location for the bottom post mounting plate.
- F.) Install the top and bottom mounting plates using corrosion resistant mechanical fasteners. For installation into concrete or stone materials, appropriate masonry and/or other fasteners must be used.
- G.) Lift (jack) the upper structure just high enough to allow the post to be set into place between the mounting brackets.
- H.) Use the 13/64" holes drilled in the post as guide holes to drill 13/64" holes through the post mounting plates. Attach the post to the top and bottom mounting plates with corrosion resistant screws (four screws provided, two for each mounting bracket).
- I.) Patch screw holes using polyurethane compatible exterior grade filler.
- J.) Sand and paint as desired.

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### 4. Install Newel Posts

- A) Center the steel base mounting plate within layout lines marked out in Step 1 and attach them securely to floor surface (fasteners to mount to floor surface not provided). Install and tighten the two  $\frac{3}{8}$ "-16 x 50" threaded rods into mounting plate.
- B) The newel post may be trimmed to a desired height (measure and cut from the unrouted end of the post). Align the post over the threaded rods. Install the steel top mounting plate over the threaded rods into the recessed cavity of the newel post top. Install  $\frac{3}{8}$ " flat and lock washers and tighten with  $\frac{3}{8}$ " nuts to 100 in./lbs. torque.
- C) Trim collars may be used on the bottom of the newel posts to add a finishing touch. Slide the collars over the top of the newel post into position before the newel post top is fastened in place.
- D) Finish newel post by attaching newel post top. Apply polyurethane compatible adhesive then nail or screw top into position.

### 5. Install Rail Sections

- A) Determine height of rail and fasten top angle bracket securely to post using two screws (#14 x 2 1/2). A 1/8" pilot hole is required.
- B) Fasten bottom angle bracket to underside of rail section using one screw.
- C) Apply polyurethane compatible adhesive to the ends of rail that come in contact with post. Position rail assembly between post and install remaining screws.

### 6. Rail Support Blocks

- A.) Rail support blocks should be placed under the bottom rail at a span of every 48" or less. These blocks can be trimmed for height and should be attached with adhesive and mechanical fasteners as required.

### 7. Patch Holes & Touch Up or Paint

### General Installation Notes

Any adhesives, sealants, fillers or paint used must be compatible with the material that is being installed (*see manufacturer's recommendations in the Finishing and Adhesives section below*). Always use corrosion-resistant mechanical nails or screws along with manufacturer's recommended adhesive product when installing all Fypon products. This combination provides a secure, long-lasting bond. Countersink all fasteners about 1/8" and fill with product compatible filler. Exterior installations should be finished using a manufacturer's recommended caulk to prevent water infiltration behind siding, windows and doors. Some exterior installations, in particular new construction before siding is applied, may require a J-channel and/or flashing to prevent water infiltration. Installers must determine which installation technique is best for the specific situation.

### Finishing and Adhesives

**Polyurethane (PUR)** – Fypon polyurethane products are factory primed. Depending on product location, always use interior/exterior-grade, PUR compatible adhesives, sealants, and fillers when installing Fypon products. Consult the manufacturer's recommendations for your particular climate and the substrate you are installing to.

**Cellular PVC** – Depending on product location, always use interior/exterior-grade, PVC compatible adhesives, sealants, and fillers when installing Fypon products. Consult the manufacturer's recommendations for your particular climate and the substrate you are installing to. If painting is desired, a 100% acrylic latex paint with a Light Reflectance Value (LRV) of 55% or higher must be used. **Applying paint with an LRV of 54% or lower will void the warranty.**

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#### IMPORTANT:

Please read these installation guidelines thoroughly before beginning installation. Please note that these guidelines are provided only to assist with the installation of Fypon moulding and millwork products. Modified procedures may be required in order to meet specific situations, unique applications and local building codes. The manufacturer does not, under any circumstances, warrant the installation of its products. Be sure to wear appropriate protective clothing, gloves and safety glasses when working with any tools. Installer should check for and relocate all electrical wiring within the proposed installation area, as needed (be sure to disconnect all electric power before working with any electrical wiring and follow all applicable local electrical codes and safety procedures).