

# 12" Balustrade System

## INSTALLATION INSTRUCTIONS

Page 1 of 2



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
- Exterior Spackling
- Pencil
- Safety Glasses
- Sandpaper
- Corrosion-Resistant Fasteners
- Paint Brush
- Latex Paint
- Polyurethane Compatible Adhesive
- Circular or Hand Saw
- 1 1/8" Drill Bit
- 1/2" Drill Bit
- 5/32" Drill Bit
- 7/32" 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

- Temporarily position newel post bottom sections and mark layout lines on floor surface.
- Measure the distance between each of the newel post bottom sections and cut respective lengths of railing to be installed. While measuring and cutting bottom rails, cut matching top rails to be installed in a later step.

### 2. Anchoring Steel Base Plates

- Center steel base plates inside layout lines from Step 1A above, and anchor each steel base plate to an adequate mounting surface. These will anchor the newel posts.

### 3. Installing Bear Claw Brackets

- Install 5/16" - 18 clip nuts on bear claw brackets. Position bear claw brackets flush with the bottom of the rail, and predrill 5/32" holes.
- Fasten bear claw brackets using #12 x 3/4" pan head screws provided. Position the screws as close as possible to the front of elongated slots in the bear claw brackets. Repeat this step for corresponding top rails.

### 4. Mounting the Bottom Rail

- Temporarily thread a 5/16" - 18 x 5" hex head cap screw into center of the bear claw bracket and record the indicated center line measurements .
- Transfer the measurements onto the newel post bottom section and drill 1/2" holes in the newel post bottom section. The position of these holes will determine the height that the bottom rail will be raised above the mounting surface. **Note:** For installations where bottom rail is raised off of mounting surface, blocking is recommended with a rail support block (RSB4X4X6) every 4' or less.
- Apply a 1/4" bead of polyurethane compatible adhesive on each end of the bottom rail.
- Position the bottom rail between the newel post bottom sections and align the 5/16" - 18 x 5" hex head cap screws with the bear claw brackets. Check that the bottom rail is level. Tighten 5/16"-18 x 5 hex head cap screws to 75 in./lbs. torque. Repeat Step 4 around the entire balustrade layout.
- With the bottom rail in place, lay out and mark center lines for the balusters. **Note:** Check applicable building codes concerning regulations on distance between balusters. Drill 1 1/8" holes to 3" deep to accept balusters.

### 6. Preparing Newel Posts for Balusters

- Install and tighten the two 3/8" - 16 x 39" threaded rods into the steel base plate assemblies.
- Install the two steel corner brackets inside the newel post top section using the #10 x 3/4" flat head self-tapping screws provided. Align diagonally to match threaded rods.
- Temporarily position balusters on each end of bottom rail. Temporarily position top rail and the remaining newel post components to determine height of the newel post. If the newel post is too high, trim newel to desired height.
- Trim (if required) remaining newel post sections to the same height.
- As in Step 4B, lay out and drill the 1/2" holes into each newel post top section where they will contact the top rail.

Continued on next page

## 12" Balustrade System *Continued*

Page 2 of 2

### 7. Final Assembly

- A) Position the newel post bottom section with the floor layout lines marked in Step 1A. Apply a 1/4" bead of adhesive to the channel in newel post bottom section, and align newel post center section onto newel post bottom section.
- B) Working with one rail section at a time, apply a 1/4" bead of adhesive on both ends of each baluster.
- C) Position a baluster into each pre-drilled hole in the baluster bottom rail assembly. Align and cap off with pre-drilled top rail assembly.
- D) Apply a 1/4" bead of adhesive to baluster top rail ends and to the channel in newel post top section. Align newel post top section onto newel post center section.
- E) Fasten the 5/16" - 18 x 5" hex head cap screws into the bear claw brackets in the top rail and tighten to 75 in./lbs. torque.
- F) Install a 3/8" flat washer, a 3/8" lock washer and a 3/8" - 16 hex nut onto the threaded rod assembly. Tighten the entire assembly to 100 in./lbs. torque.
- G) Apply caulk to seam in channels of newel post assembly to prevent moisture infiltration.
- H) Apply a 1/4" bead of adhesive to newel post top section, and then install newel post top.
- I) Mouldings such as MLD601, MLD602, MLD610 and MLD611 may be applied to newel post center section as a decorative treatment.

### 8. Wall Installation (Optional)

When working with wall installations, fasten the rails to the wall first, then assemble away from wall sections. **Note:** *The fasteners for mounting bear claw brackets to the wall are not included in the rail installation kit.*

- A) Determine position of baluster bottom rail and mark layout on wall. Locate position of center of bear claw brackets on wall. Mount bear claw brackets securely to wall (fasteners for this are not included in hardware pack).
- B) Apply a 1/4" bead of adhesive on the end of baluster bottom rail and position over bear claw brackets and flush with the wall. Drill a 7/32" pilot hole from the top of the baluster bottom rail into center of each bear claw bracket. Secure with 1/4" - 20 x 2" flat head self-tapping screws (provided with baluster rail installation kit).
- C) Position and install balusters using the steps described previously in these guidelines. Use above procedures to attach top rail.

### 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).