AXIA
STAIR & RAILING SYSTEMS

Post Railing Systems - Infill

GLASS CLAMPS INSTALLATION

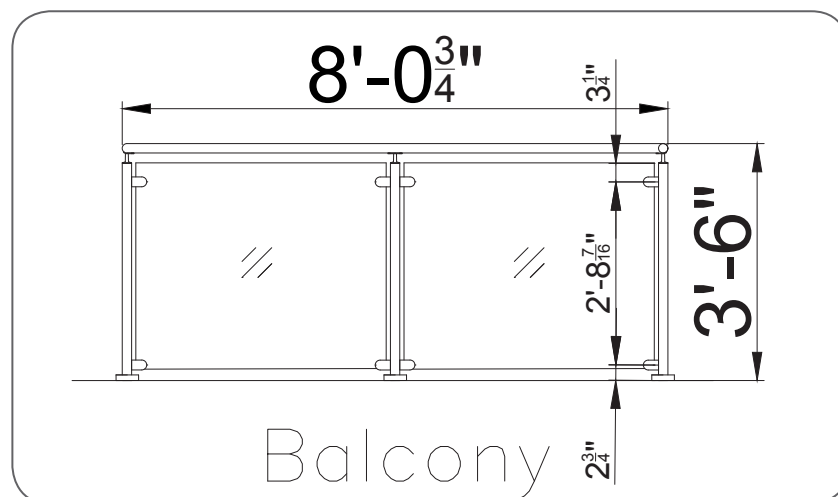|	
AX10.014.180.A.SP	(Glass clamps for round posts)
AX10.015.182.R	(Rubber insert fo round clamp, 3/8" glass)
AX10.015.183.R	(Rubber insert fo round clamp, 1/2" glass)
AX20.014.190.A.SP	(Glass clamps for square posts)
AX10.014.191.R	(Rubber insert fo square clamp, 3/8" glass)
AX10.014.192.R	(Rubber insert fo square clamp, 1/2" glass)

TOOLS REQUIRED

- **String**
- **1/8" Cobalt bit**
- **6.9 mm Cobalt bit**
- **8 mm tap**
- **Thread Lock**
- **Tape Measure**
- **Magnetic bit holder**
- **Cordless or electric drill**
- **Cutting fluid**
- **Stainless Steel cutting saw** (Cold Cut Saw, Bench top Portable Bandsaw, Chop Saw with Stainless Steel Cutting Blade)

For more detailed information on tools please visit:
www.axiarailing.com/recommended-tools

STEPS REQUIRED

1. Mark location of glass clamps on inside of newel post according to diagram provided, or desired location.

2. Glass clamps can be installed using Bottom "swift plate" to allow glass to rest on. Safety pins are not required in panel to avoid glass from falling out of clamps. Or you can use safety pins on glass clamps in lieu of swift plate.

$8'-0\frac{3}{4}"$ $3\frac{1}{4}"$

$2'-8\frac{7}{16}"$ $3'-6"$

Balcony $2\frac{3}{4}"$

3. Drill an 1/8" pilot hole using a Cobalt Drill bit at the center of each glass clamp. Use 3 or 4 drops of cutting fluid to keep bit from burning, repeat as necessary. Drill final hole with 6.9 mm Cobalt Drill bit for glass clamp. Install tap in drill and "drill" with tap into hole to cut 8mm threads into hole. Use slow RPM's and 3 or 4 drops of cutting fluid. Once tap is ¾ into post stop and reverse drill and "back out" the tap out of the post. Clean debris and oil with rag. Install 8mm screw into threads to "clean out threads", install glass clamp by removing the two screws on clamp and separating the two halves of the clamp.

Once you have one space measured perpendicular you can measure the vertical space on the "layout stick" and repeat the span. Note: this measurement varies depending on the angle of your staircase so if your rise and run are different on separate section of stairs then you will need to repeat these steps to find the spacing measurement. Note: The bottom cable on an open tread staircase should not be more than 1/2" of an inch above the nosing of the treads in order to meet the 6" sphere code in the triangle section created by the tread and riser at the side of the stairs.
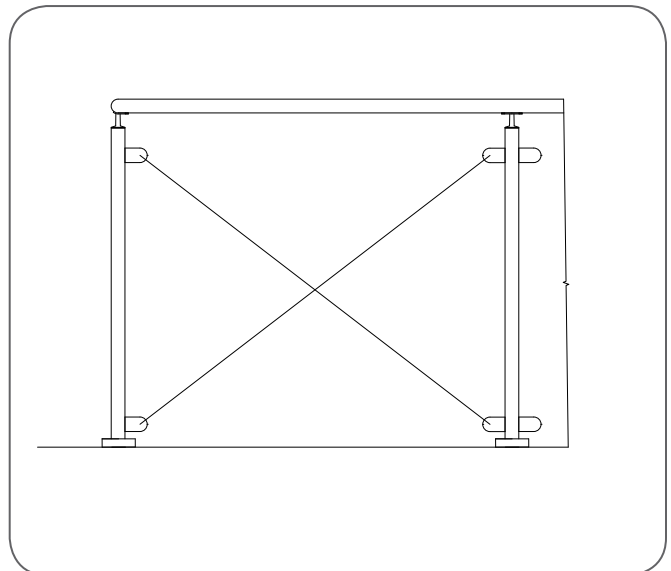
     a. We recommend 3 ¼" spacing between cable to allow for stretching of cable and still pass the 4" sphere code during inspection. 3 1/16" spacing or 3 3/16" center to center measured perpendicular to handrailing. For example; with a 10" run and 7 ¾" rise the spacing for 36" railing is 3 1/16" or 3 3/16" center to center. Vertically that measures 4 1/16" vertically up the post.

4. Install outer half of Glass Clamp with 8mm Screw and tighten. Be sure clamp is centered in Newel. Be sure to use Thread Lock (Blue Label Glue) to avoid screws from backing out from vibration.

5. Be sure glass clamps are on the same plane as each other. Tip: to check glass clamp plane alignment, take string and cross from top clamp left to bottom clamp right and from top clamp right to bottom clamp left. Strings should touch in the middle. If strings are not touching adjust clamps until strings touch in the middle of the X. See fig

6. **Cut Plywood Template for Glass using 3/8 or ½" plywood (BC or Sanded Plywood) Allow 1/8 gap between template and glass clamp on each side.** Cut template to height of Newel posts. Be sure to install template with the rubber pads installed in clamp and tighten clamp completely. Check all measurements (Margins) around glass are equal, straight. Scribe to newel post, or rail if necessary, to keep equal margin. Once all margins are correct leave all templates on project in place until entire project is complete.
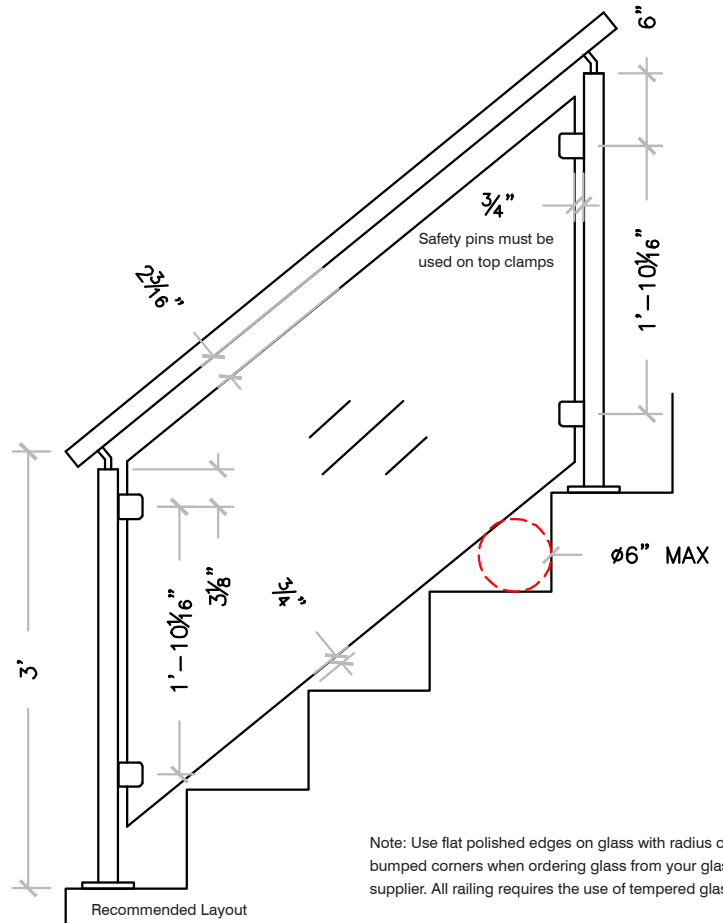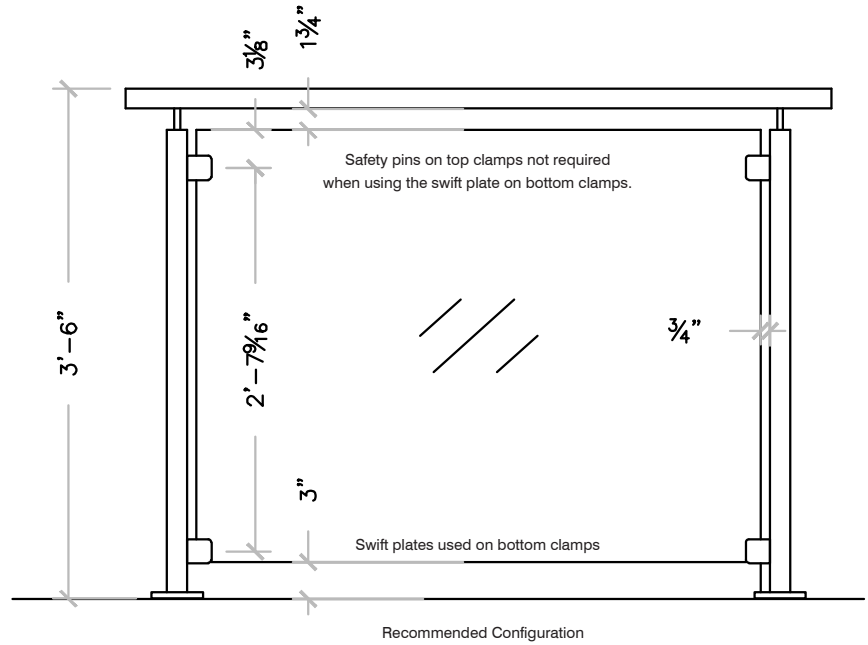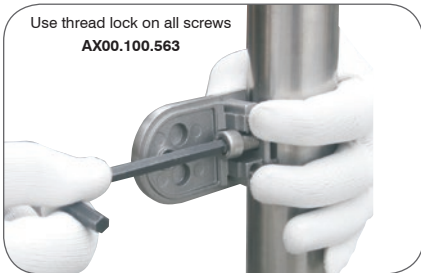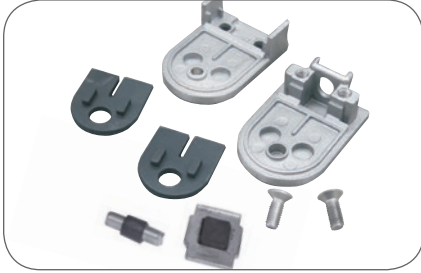
7. Once all templates are cut and installed mark or number each template 1 of total #, 2 of total #, Etc. E.G. 1 of 15, 2 of 15, 3 of 15 etc. Label on templates, job name and address phone number etc. Desired glass, edge treatment, e.g. flat polished edges, Bumped corners etc. Example: 3/8" Clear Tempered, Flat polished edges, Bumped Corners. Be sure to drill any holes on the template for safety pins. Drill ½" hole for safety pin.

8. Once all templates are cut, installed and labeled. If desired make second set of templates for safety panels to be in place during construction while you are waiting for glass to be made and delivered.

9. Tie all glass templates together with string and take to a glass supplier to have glass made same as templates provided. Be sure to remove the rubber pads and store in a box and set in safe location until glass is ready to install to keep from losing the pads.

10. Once glass is ready to install, remove glass clamp inner halves and install glass panels. Be sure to get help holding the glass while you are tightening the glass clamps. This is a two-person job. One person holds the glass while the other installs and tightens inner half of glass clamp.

11. Install pads on outer half of glass clamps on panel you are working on only.

12. Set glass panel into glass clamps either on swift plates at bottom (balcony) cut scrap block of wood to support glass on stairs (rake) and install safety pins in hole in glass and align with hole in outer half of glass clamp.

13. Install inner half of glass clamp ensuring swift plate or safety pin are aligned and seated in inner half of clamp as you are pushing together and tighten screws.

14. Check margins around glass to post and rail to make equal. Loosen clamps and adjust glass as necessary to make margins equal or even.

15. Tighten all screws in glass clamps.

16. Clean glass and stainless steel of all fingerprints and remove labels etc.

17. Note: Tempered glass is required for all stairs and balcony railing as this is considered a hazardous location, see. IRC 2406.4.4 Glazing in Guards and Rails, Including Structural Baluster Panels, and Nonstructural Infill Panels, regardless of area or height above walking surface, shall be considered to be a hazardous location.

18. Handling Tempered Glass; be sure to use gloves when handling glass. The edges of Tempered glass are the most fragile and if tapped or hit lightly can shatter the entire piece of glass. When delivering glass set pieces vertically against wall and set on 2 scrap strips of wood to keep glass off floor to avoid entire bottom edge from having contact with floor, debris etc. Glass suction cup lifters are ideal to help move heavy glass pieces.

Use thread lock on all screws
AX00.100.563

Recommended Configuration

Safety pins on top clamps not required when using the swift plate on bottom clamps.

3⅜"

1¾"

3'–6"

2'–7⁹⁄₁₆"

3"

¾"

Swift plates used on bottom clamps

Recommended Configuration

Recommended Layout

6"

¾"

Safety pins must be used on top clamps

2³⁄₁₆"

1'–10¹⁄₆"

1'–10¹⁄₆"

3⅜"

¾"

ø6" MAX

3'

Note: Use flat polished edges on glass with radius or bumped corners when ordering glass from your glass supplier. All railing requires the use of tempered glass.

Recommended Layout