Prior to construction, check with your local regulatory agency for special code requirements in your area.

Start with an Inside Corner piece when applicable.

Guidelines:
- The height of the secondary handrail must be installed between 34” and 38” above the surface, regardless of the height of the guard.
- We recommend that handrails be dry fit prior to final installation to eliminate cutting and fastening errors.
- IMPORTANT: The secondary handrail must be attached to a structural support. When installing mounting brackets on post sleeves, ensure the hardware attaches to the structural support.
- For maximum strength, brackets should be used at every post and every joint, or as closely as possible to the joint.
- An adhesive may be applied to further reinforce construction.
- Handrails must be supported every 6’ on-center by a mounting bracket.

### Items You Will Need

- Pencil
- Tape Measure
- Level
- #2 Square Drive Bit
- Drill
- Chop/Miter Saw
- Quick Clamps
- PVC Cleaner

### Aluminum Offset Bracket (Line Post Mounting Bracket)

**Step 1:** Measure 2-1/2” less than the handrail height to determine bracket position. Mark surface.

**Step 2:** Align the top of the bracket mounting plate with the mark made in Step 1. Drill 5/32” pilot holes and attach to the desired surface using the 2-1/4” screws provided.

**Step 3:** Clamp handrail to bracket at appropriate location to secure in place.

**Step 4:** Drill 5/32” pilot holes and attach handrail using the 1” screws provided.

### Handrail with Aluminum Insert

**Step 1:** Dry fit handrails to determine proper lengths prior to cutting rails.

**Step 2:** Measure and cut rails to proper lengths for all runs.

**Step 3:** Install to handrail component, following instructions for the components.

### External Swivel

**Step 1:** Adjust external swivel to desired angle and install set screw.

**Step 2:** Cut handrail with aluminum insert to desired length.

**Step 3:** Insert external swivel bracket into the aluminum portion of the handrail.

**Step 4:** Pre-drill handrail and bracket with 5/32” drill bit and install 1” screw provided.
 Aluminium Joiner Kit  
**Step 1:** Use aluminum joiner to fasten handrail components at straight joints.  
**Step 2:** Slide joiner an equal distance into both components. Drill 5/32” pilot holes and fasten using 1” screws provided. 
**Note:** All joiners should be supported by an aluminum bracket as closely as possible to the joint.

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90° Post Return  
**Step 1:** Slide 90° post return into handrail.  
**Step 2:** Drill 5/32” pilot holes into desired surface and attach post return using 1-1/2” screws provided.  
**Step 3:** Drill 5/32” pilot holes into handrail and attach using 1” screws provided.

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Adjustable Joiner  
**Step 1:** Measure the angle needed. Adjoin the two joiner halves together by inserting the bolt. Place the joiner halves at the desired angle, and tighten bolt to set.  
**Step 2:** Cut handrails at ½ the desired angle. Slide handrails onto adjustable joiner.  
**Step 3:** Drill 5/32” pilot holes and fasten handrails together using 1” screws.

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Straight Aluminum Wall Mount  
**Step 1:** Slide aluminum wall mount into handrail.  
**Step 2:** Drill 5/32” pilot holes into desired surface and attach wall mount using 2-1/4” screws provided.  
**Step 3:** Drill 5/32” pilot holes into handrail and attach using 1” screws provided.

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P-Loop Return  
**Step 1:** Attach top bracket at desired location using appropriate connectors.  
**Step 2:** Cut P-Loop to desired length.  
**Step 3:** Connect P-Loop to secondary handrail tube using the appropriate joiners (Straight, Adjustable joiners or External swivel).  
**Step 4:** Set P-Loop on top of bracket and pre drill with drill bit and install 1” screw provided.  
**Step 5:** Install desired lower bracket.

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This handrail configuration has been tested and meets the requirements of 2009 IRC.

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