CABLE·RAIL® by feeney Step-by-Step Installation for Metal Frames

TOOL CHECKLIST

- ☐ Safety Glasses
- ☐ Work Gloves
- ☐ Pencil
- ☐ Measuring Tape
- ☐ Electric Drill
- ☐ Drill Bits
- ☐ Hammer
- ☐ Cable Cutters
- ☐ Vise-Grip Pliers
- ☐ 7/16" Wrench
- ☐ Electric Grinder with Grinding Disk & Cut-off Disk
- ☐ Hacksaw or Electric Reciprocating Saw
- ☐ Cable Lacing Needle
- ☐ Feeney Tension Gauge

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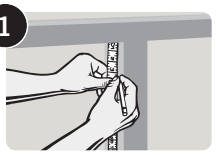

Mark drill hole locations on posts.

To minimize cable deflection, space cables no more than 3 inches apart and have a post or vertical spacer at least every 3 feet. Also, straight runs of cable (no turns/dips) should not exceed 70 feet. Runs with corners (2 bends at most) should not exceed 40 feet. See Frame Requirements on back page.

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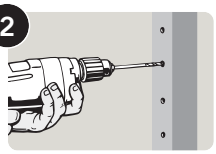

Drill holes in posts. Hole diameter depends on cable size and type of fitting. See chart below.

Cable Size	Threaded Term. Post	Intermediate Posts	Quick-Connect Post
1/8"	5/16"	1/4"	3/8"
3/16"	3/8"	1/4"	9/16"
1/4"	7/16"	5/16"	9/16"

If desired, Quick-Connect®SS posts may be through drilled at 1/4" (5/16" if 1/4" cable) and then counter-bored with the recommended Quick-Connect®SS drill to countersink the fitting.

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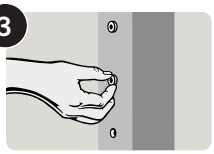

If using Isolation Bushings or Grommets (optional), insert them into their corresponding post holes.

Note: If using Isolation Bushings, call for special drill hole sizes.

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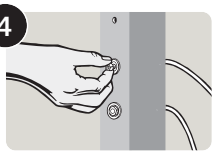

Insert the Threaded Terminal through the Terminal end post and attach a flat washer and Snug-Grip® Washer-Nut. Spin the nut 2 full turns. Strong resistance will be felt as the Snug-Grip® threads engage; so hold the Terminal shaft with pliers.

Use Beveled Washers for stair termination posts with angled holes. Available for Threaded Terminal and Quick-Connect®SS fittings. Always install the QuickConnect®SS fittings in the top stair post to prevent rain water from running down the cable into the fittings.

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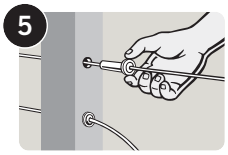

Lace the free end of the cable through the intermediate posts and Quick-Connect®SS end post. Slide-on a flat washer and Quick-Connect®SS fitting until they rest against the face of the post.

Use a Lacing Needle if snagging becomes a problem.

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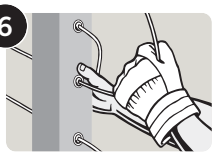

Hold the Quick-Connect®SS fitting with one hand and pull the cable tight with the other. The fitting automatically locks when you release the cable.

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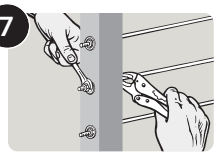

Tension the cables by holding the Threaded Terminal shaft with Vise-Grip pliers and spinning the Snug-Grip® Washer-Nuts with a wrench. A Feeney Tension Gauge may be used to check uniform tension. See tensioning sequence diagram at left.

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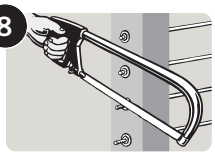

Use hacksaw, reciprocating saw, or electric grinder with cut-off disk to saw off the excess threads as close to the Snug-Grip® Washer-Nut as possible. Touch-up with electric grinder. The special Snug-Grip® threads prevent the nut from loosening.

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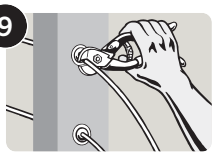

Use cable cutters or electric grinder with cut-off disk to trim the excess cable. Grind flush the exposed cable ends with an electric grinder.

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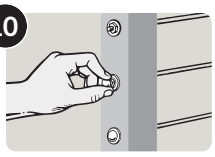


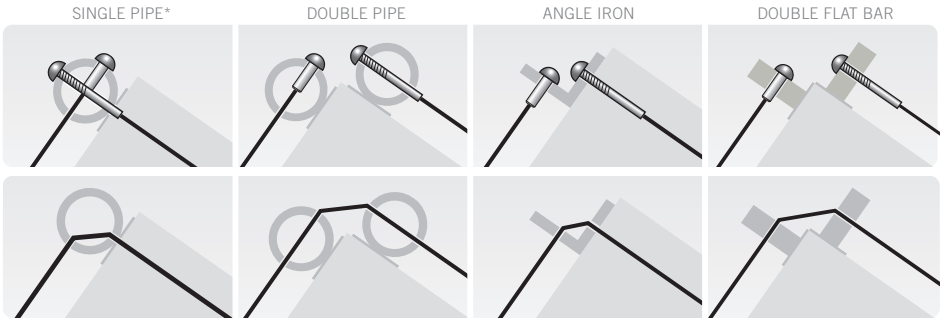
Snap on end caps over the exposed Quick-Connect®SS fittings and the Snug-Grip® Washer-Nuts. You're done.

Enviro-Magic® Cleaner can be applied for lasting protection of stainless steel cable and parts.

Important Note: If using electric or pneumatic tools to tighten the Washer Nuts, spin the nuts very slowly otherwise they will heat-up causing the threads to seize.

Recommended cable tensioning sequence

Cables can either terminate or run through corner posts



*Offset drill holes at least 1/2" if you choose to have cables terminating at a single pipe post.

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Metal Frame Requirements

Railing frames need to be designed and built strong enough to support the tension of properly installed cables, which is a load in excess of 300 lbs for each cable. Here are some basic guidelines to help you properly prepare your railing frames. These guidelines apply whether you are using 1/8", 3/16" or 1/4" cable.

Minimum sizes for all corner and end posts

All other posts should be sized as required for top rail support strength or for code

FLAT BAR
2" wide, 1" thick

ANGLE IRON
2" wide, 1/2" thick

EXTRA STRONG PIPE
1-1/2" ID, 1-7/8" OD

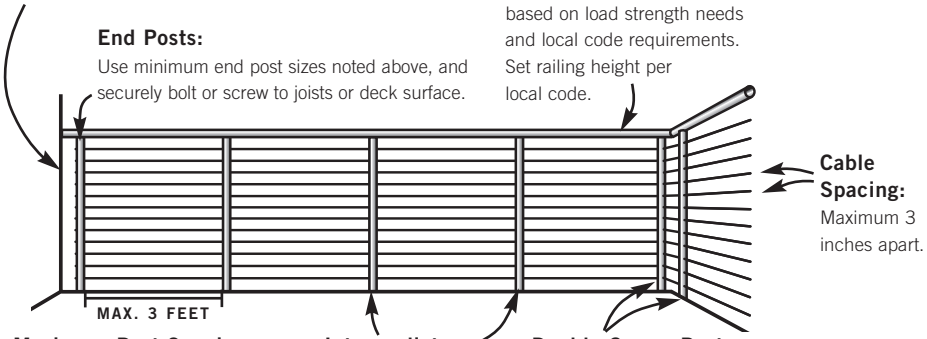
SQUARE TUBE
2" wide, 1/4" wall

The Basic Frame Design

Spacing From Walls:
Set end posts 3 to 4 inches away from the house/wall face to allow access for attaching cable end fittings.

End Posts:
Use minimum end post sizes noted above, and securely bolt or screw to joists or deck surface.

Top Rail:
Always include a strong, rigid top rail that is securely fastened to all posts. Top rail size is based on load strength needs and local code requirements. Set railing height per local code.



Cable Spacing:
Maximum 3 inches apart.

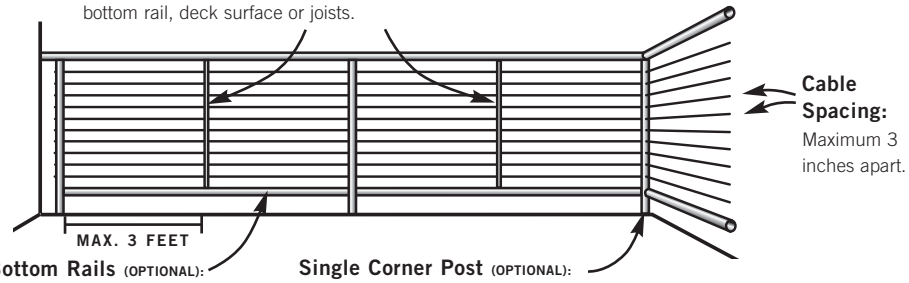
Maximum Post Spacing:
Space all posts and vertical spacers *(see below)* a maximum of 3 feet apart to minimize any deflection that may occur if the cables are ever forced apart.

Intermediate Posts:
Size all intermediate posts as required for top rail support strength or for code.

Double Corner Posts:
If possible use double corner posts to allow the cable to run continuously through the corners without terminating *(see single corner post option below).* Securely bolt or screw posts to joists or deck surface and use minimum corner post sizes noted above.

And Some Other Options

Vertical Spacers (OPTIONAL):
Slender spacers may be used instead of some of the larger intermediate posts to achieve a more open railing design. These are non-structural members and are only intended to maintain cable spacing and minimize deflection. Examples are 1" metal tubing or 1/4" flat bar. Attach spacers to the top rail and either the bottom rail, deck surface or joists.



Cable Spacing:
Maximum 3 inches apart.

Bottom Rails (OPTIONAL):
Bottom rails should be spaced no more than 4 inches above the deck surface, or as required by local code, and should be sized as needed for support strength and design appearance.

Single Corner Post (OPTIONAL):
In most cases with single corner posts cables must be terminated. Exceptions are angle iron posts or tubular metal posts. When terminating on a single corner post, be sure to offset the drill holes at least 1/2" to allow internal clearance for the cable fittings. Use minimum end post sizes noted above and securely bolt or screw to joists or deck surface.

CONSTRUCTION CHECKLIST

- ☐ Space cables no more than 3 inches apart
- ☐ Space posts/verticals no more than 3 feet apart
- ☐ Observe minimum end/corner post sizes shown above
- ☐ Securely fasten all posts and top rails
- ☐ Carefully plan all termination and corner posts for proper clearance, positioning, and maximum cable run lengths
- ☐ Straight runs of cable (no turns/dips) should not exceed 70 feet; runs with corner bends (2 bends at most) should not exceed 40 feet

IMPORTANT NOTE

For railings we recommend spacing the cables no more than 3 inches apart and placing posts or vertical members no more than 3 feet apart.

Please note that since building codes vary by state, county and city, our recommendations may not comply with code requirements in all areas.

Always consult with your local building department before starting your project.