

# 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



## The Basic Frame Design

### Spacing From Walls:

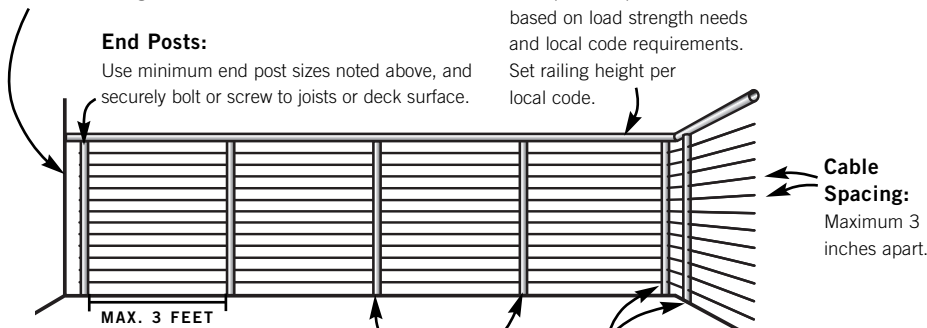
Set end posts 3 to 4 inches away from the house/wall face to allow access for attaching cable end fittings.

### 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.



### 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.

**Cable Spacing:**  
Maximum 3 inches apart.

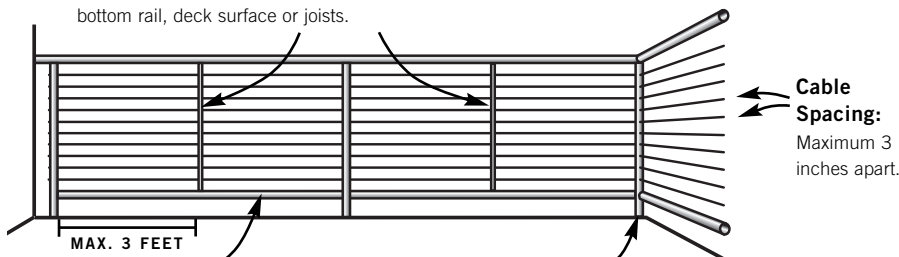
## CONSTRUCTION CHECKLIST

- 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

## 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.



### 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.

**Cable Spacing:**  
Maximum 3 inches apart.

## 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.