Building a Strong Frame: Metal



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 metal railing frame. These guidelines apply whether you are using 1/8", 3/16", or 1/4" cable.

Minimum sizes for all corner and end posts:











Square Tube

Cables can either terminate or run through corner posts





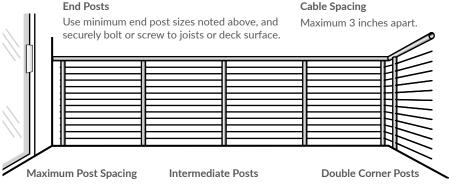
Basic Frame Design

Spacing From Walls

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

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.



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.

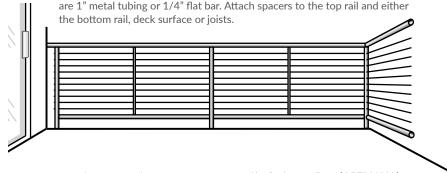
Size all intermediate posts as required for top rail support strength or per local code.

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

Other Frame 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



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):

At single corner wood posts, cables must be terminated. 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

Observe minimum end/corner post size 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.

Cables can either terminate or run through corner posts.

Straight runs of cable (no turns/dips) should not exceed 70 feet; runs with corner bends (2 bends at most) should not exceed 50 feet.

Space cables no more than 3 inches apart. Space posts/verticals no more than 3 feet apart.

Number of cables needed:

36-inch, NO bottom rail = 11 cables 36-inch, with bottom rail = 9 cables 42-inch, NO bottom rail = 13 cables 42-inch, with bottom rail = 11 cables

To tension cable railing: start at the center cable and alternate.

IMPORTANT NOTES

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.

Immediately following installation, the product should be cleaned, followed by a regular maintenance schedule. For areas within 1 mile of salt or brackish water, cleaning must be performed quarterly. More details online:

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