



Cable Rail Guards

Bulletin 34

Division of Building, Safety, and Inspection for 2018 International Codes

The purpose of this Bulletin is to ensure cable rail guards are installed consistently and to verifiable standards, complying with the intent of International Building Code (IBC) Section 1015 and International Residential Code (IRC) Section R312.

Definitions

Guard, (IBC, Chapter 2) *a building component or a system of building components located at or near the open sides of elevated walking surfaces that minimize the possibility of a fall from the walking surface to a lower level.*

Cable Rail Guards, a system of components using galvanized cable, stainless steel or non-corrosive wire rope, Terminal Posts, Intermediate Posts, and Spacers to create a Guard.

Terminal Post, a post where the ends of cables are anchored, provided with a terminal tuner turnbuckle, or supporting the tension generated by the cables.

Intermediate Support, a structural part of the Guard designed to resist the required 200-pound lateral (sideways) load.

Cable Spacer, a nonstructural device to maintain spacing of the cables.

General

- Cable rail guard must have a rigid top rail assembly attached to terminals,
- Posts cannot be more than 8 feet apart.
- Materials allowed include galvanized cable, stainless steel or non-corrosive wire rope.
- Cable spacing is 3-inches maximum between other tensioned cables, a top rail, or a walking surface. **NOTE:** *Most cables must be spaced 2 ¾ inch apart to pass inspection.*
- Cables must be supported by a **Terminal Post, Intermediate Post, or Cable Spacer**. Unsupported cable has a maximum length of 48 inches.
- The length of cables between terminal posts may not exceed 50 feet.
- Cable terminal tuner turnbuckle must be capable of being adjusted or tightened at a later date if needed.

Commercial Construction

Cable rail guards for commercial projects must be designed by a Washington State Licensed engineer. The design will show compliance with IBC Section 1607.8.

Applicants wanting material or construction different from above, must submit a request for Alternative Methods or Material application to the Building Official for approval.

Field Testing

A tension test is performed by the contractor or property owner and witnessed by the County Building Inspector. The installed system must pass the following criteria:

- **A pull through test of 5 pounds:** Apply a horizontal push or pull force to a 4-inch sphere or similar shape at mid span of the cables between vertical supports or spacers. It must take at least 5 pounds of force to pull or push the 4-inch sphere through the cables. In other words, the cables must resist the sphere passing between.
- **A tension of 150 pounds** on each cable is normally needed to pass the pull through test. Lesser tension may be used provided the minimum pull through test is achieved.