



## Hand Rails & Balusters

A deck with no or inadequate railings is an accident waiting to happen. To ensure safety, individual communities in the United States regulate certain aspects of construction. Most regulations come from the International Residential Code, although local building authorities often add additional restrictions for their specific communities. When you're constructing a deck, your local building authority inspects your plans to ensure that they meet or exceed local building codes before issuing a permit.

### Handrails

Install railings on any deck that is 30 inches or more from the surrounding surface and on at least one side of a stairway leading to the deck. The top of the handrail should be at least 34 inches but not more than 38 inches high. The same height rules apply to stairs, and the inspector measures the handrail height from nose of the stair tread. The handrail, itself, should be easy to grip, with a minimum diameter of 1 1/4 inches and a maximum diameter of 2 1/4 inches. You can't use a two-by-four but a two-by-two as a handrail would meet code. Some large decorative handrails are permissible, as long as their design offers a finger recess that allows secure grasping.

### Baluster Spacing

Balusters, the vertical guards that support the handrail, must be installed close enough that the space between them is no greater than 4 inches. Most city inspectors carry a 4-inch ball with them to test the spacing. Installed balusters should withstand 50 lbs. of pressure exerted over a 1-square-foot area.

### Support Posts

The structural integrity of the railing depends heavily on the posts that support the rail structure. These posts should be no farther apart than six feet on the flat deck and no farther apart than 5 1/2 feet on stairs. Your local building department might require closer post spacing for added rail strength. Local codes might also dictate the method you use to attach the posts to the deck, such as using certain types of bolts or screws. When the rail is complete, the top of the rail should withstand 200 pounds of pressure from any direction.

### Bottom Rail

Some balusters connect to the decking, while others connect to a bottom rail. If you're using a bottom rail, make sure it does not sit more than four inches above the deck surface. Like baluster spacing, this code is necessary for child safety. Even if you don't have children, your local building department will enforce this code.

Source: U.S. Building Codes for Deck Railing by *Glenda Taylor, Demand Media*

For additional information, or to schedule an inspection, please call Jeff @ (608) 434-0790

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