

TOWNSHIP CODE AUTHORITY

Handrails, What the Code Requires

Hand rails, we see them in many shapes, forms and sizes. Some handrails are installed as a decorative part of a stairway, other times handrails are actually serving a purpose. In most instances though, a handrail is quite often confused with a guardrail. There is a distinct difference between the two. In the 2003 Michigan Residential Code (MRC) a handrail is defined as " A horizontal or sloping rail intended for grasping by the hand for guidance or support". A guardrail is defined as "A building component or system of building components located near the open sides of elevated walking surfaces, that minimizes the possibility of a fall from a walking surface to the lower level". While the top of a guardrail system can be looked at as a handrail, it must meet the code requirements of a handrail. If the top of the guardrail system does not meet the requirements of a handrail, a secondary handrail must be installed, that can be approved as a handrail. Section R311.5.6 of the 2003 MRC contains all of the code requirements for handrails. When installing a handrail to the requirements listed below, the rail installation should meet code and be able to be approved as installed.

- Most stairs in a residence will require a handrail on at least one side of a stair system. One exception to this requirement is when the stairs contain 3 or fewer risers. Those stairs with 3 or fewer risers are exempt from the handrail requirement.
- Handrails are required to be continuous for the full length of a flight of stairs, from the bottom riser to the top riser. Handrail continuity is allowed to be interrupted by a newel post at a turn in the stairs.
- Handrail ends are also required to have a return to the wall or newel post, at the top and bottom end of the handrail. Handrails may start out with a volute, turnout, easing or a starting newel over the lowest thread of a stair system.
- Handrails are required to be mounted between 34 and 38 inches high measured vertically the nose of the stair threads.
- Handrails adjacent to a wall must have a space of at least 1 1/2" between the wall and the handrail. This is to allow space for the hand to slide along the rail, without touching the wall surface.
- Finally, a handrail must meet the code requirements for graspability. If the grip size is too large, or too small, it can not be approved as a graspable handrail. The 2003 MRC states that a handrail with a circular cross section shall have an outside diameter of not less than 1 1/4" and no more than 2". If the handrail is not circular, it shall have a perimeter dimension of not less than 4" and not more than 6 1/4", with a maximum cross section dimension of 2 1/4". Should the handrail exceed the 6 1/4" perimeter dimension, a graspable finger recess area must be provided on both sides of the profile. The finger recess must begin within a distance of 3/4", measured vertically from the tallest portion of the profile, and achieve a depth of at least 5/16" within 7/8" below the widest portion of the profile. The required depth of the finger recess shall continue for a minimum of 3/8" to a level that is not less than 1 1/4" below the tallest portion of the profile. The width of the handrail above the finger recess must be at least 1 1/4" and no more than 2 3/4", with the edges having a slight radius.

Should all of that information sound confusing, the State of Michigan has a technical bulletin available, showing several styles of handrails that are approved as graspable. The easiest way to see this Technical Bulletin is to go to www.michigan.gov/cis, click on "Construction Codes and Fire Safety" in the left hand column, then click on "Publications – Bulletins", in the left hand column, scroll down to " Bulletins" in the center column, click on "Technical Bulletins ", and scroll down to and click on "Technical Bulletin #13". There you will find a 4 page document describing what is considered a graspable handrail, and as mentioned, several styles of handrail that are approved as graspable.

If you have further questions regarding graspable handrails, or wonder whether the rail you wish to use in a project is graspable, it is best to check with your local Building Dept. prior to installing a rail. As always it is far less costly to ask before an installation, than to replace a rail after the installation.

