

GUARDING IN-GROUND/IN-FLOOR DOOR OPENINGS

NYC DEP EHS GUIDANCE

EFFECTIVE 2/1/07

1 Overview

This document provides guidance for guarding against potential fall hazards created by open in-ground or in-floor doors or hatches that are not protected by standard railings. Such doors or hatches are common at locations such as pump stations, well stations, shafts and metering pits and may be located in unguarded residential and public areas (e.g. sidewalks, roads, parking lots, etc.). The openings are generally covered by lockable flush-mounted stainless steel covers of adequate closed strength with shocks (to aid in opening the doors) and a locking mechanism to hold the door in the open position. These types of doors are commonly referred to as Bilco doors because many are manufactured by Bilco.

2 Definitions

Floor opening - An opening measuring 12 inches or more in its least dimension, in any floor, platform, pavement, or yard through which persons may fall; such as a hatchway, stair or ladder opening, pit, or large manhole. Floor openings occupied by elevators, dumb waiters, conveyors, machinery, or containers are excluded from 29 CFR 1910.23..

In-ground door/opening – any door in the ground which, when opened, is a “floor opening” (see definition) subject to 29 CFR 1910.23 requirements.

In-floor door/opening – any door in a floor which, when opened, is a “floor opening” (see definition) subject to 29 CFR 1910.23 requirements.

Standard railing – A vertical barrier erected along exposed edges of a floor opening, wall opening, ramp, platform, or run- way to prevent falls of persons (with standard strength and construction).

Standard strength and construction – Any construction of railings, covers, or other guards that meets the requirements of §1910.23.

3 Regulatory Requirements

Based upon the classification of the in-ground or in-floor openings (infrequently used), the following OSHA regulation requires either a standard railing or someone constantly attending the opening while the door is open:

OSHA §1910.23(a)(5)

Every pit and trapdoor floor opening, infrequently used, shall be guarded by a floor opening cover of standard strength and construction. While the cover is not in place, the pit or trap opening shall be constantly attended by someone or shall be protected on all exposed sides by removable standard railings.

4 Methods of Compliance for Unguarded Openings

The regulatory requirement cited above can be satisfied by using one of the following methods:

- Requiring an attendant to constantly monitor any open in-ground or in-floor door without standard railings, communicating this requirement effectively to all staff and supervision responsible for entering such doors, and verifying implementation;

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- Using a mobile temporary railing system that meets the requirements for standard guardrails with appropriate warning signs to prevent people in the area from falling into the opening;
- Using light-weight drop-in gratings that protect the openings; or
- Constructing or modifying the door opening so that it has “pop-up” railings that meet regulatory requirements.

5 **Equipment Options**

Portable Railings

A variety of portable railings meeting the requirements for standard OSHA (29 CFR 1910.23) railings are available. The drawback to the portable railings is that the bases are heavy to handle; however, devices are available to help move the bases. A representative example of a portable railing is shown below along with an example of a device used for moving the railing base (source: www.bluewater-mfg.com).



Light-weight Grating

Many manufacturers such as Bilco offer a light-weight grating that fits into the angle supports of the door opening. Bilco’s fall protection grating is constructed of corrosion resistant fiberglass and includes lift assistance and an automatic hold open arm for ease of operation and user safety. Bilco offers its fall protection grating in standard and special sizes and kits can be supplied to retrofit the product onto Bilco doors in the field.



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Pop-up railings

For new installations or replacements of in-ground door openings, manufacturers offer doors with integral pop-up railings, such as the following.

