

Walking and Working Surfaces

Description:

The OSHA standards listed below set out minimum requirements for construction, inspection, maintenance, and use of wall and floor openings, platforms, stairways, railings, portable and fixed ladders, and scaffolding, and give requirements for weight-bearing ratings of overhead storage areas. Prevention of employee injury due to tripping, falling or structural collapse is the focus of these standards.

Regulatory Reference

29 CFR Subpart D Walking-Working Surfaces

29 CFR § 1910.21	Definitions
29 CFR § 1910.22	General requirements
29 CFR § 1910.23	Guarding floor and wall openings and holes
29 CFR § 1910.24	Fixed industrial stairs
29 CFR § 1910.25	Portable wood ladders
29 CFR § 1910.26	Portable metal ladders
29 CFR § 1910.27	Fixed ladders
29 CFR § 1910.28	Safety requirements for scaffolding
29 CFR § 1910.29	Manually propelled mobile ladder stands and scaffolds (towers)

Applies to:

Requirements of 29 CFR Subpart D apply to all permanent workplaces, except where domestic, mining, and agricultural work only is performed. Company personnel who perform materials handling (including cylinder filling and delivery), inventory control, maintenance, and installation operations are most likely to be directly affected, although all employees including managers and supervisors need to be aware of the standards and their effect on employee safety.

General Requirements:

29 CFR § 1910.22, *General requirements*, gives fundamental guidelines for workplace house-keeping, floor maintenance, keeping aisles and passageways clear and free of obstructions, marking of permanent aisles and passageways, keeping open pits, tanks and ditches covered or fitted with guardrails. Section (d) makes it unlawful to place or permit to be placed on any floor or roof of a building or structure any load greater than the designed load-bearing rating of the floor or roof. Paragraph (1) of section (d) is generally interpreted to require posting of signs giving the load-bearing capacity of floors used for overhead storage; typically the rating sign is expressed in pounds per square foot.

- (1) Definitions for terms used in § 1910.23, *Guarding floor and wall openings and holes*, are found in section (a) of § 1910.21. Section (b) lists definitions for terms used in § 1910.24, *Fixed industrial stairs*. Definitions for terms used in § 1910.25, *Portable wood ladders*, are found in section (c) of § 1910.21. Section (d) lists definitions of terms used in § 1910.26, *Portable metal ladders*. Likewise, sections (e), (f), and (g) give definitions of terms used in § 1910.27, § 1910.28, and § 1910.29, respectively.

- (2) Requirements for guarding floor and wall openings are given in § 1910.23, including requirements for stairway and stairway opening guardrails, adequate hinged coverings and/or guardrails over fixed ladders, covers over pits and trapdoor openings, guardrails with toe boards at open-sided floors, platforms and runways to protect personnel from falling or being struck by falling objects. Standard dimension requirements for guardrails, toe boards and opening widths are given in section (c). Specifications for stairway railings are given in section (d).
- (3) Minimum specifications for fixed industrial stairs are given in § 1910.24. Table D-1 lists acceptable rise/tread dimensions for various combinations of stairway installations within acceptable angles of rise between 30° and 50° from horizontal.
- (4) Prescribed rules and minimum requirements for the construction, care and use of portable wooden ladders are set out in § 1910.25. All wooden parts must be free from sharp edges and splinters, and free from defined wood defects. Minimum standards of construction for various types of portable ladders, including maximum ladder lengths, maximum distance between rungs and required safety features are found in the standard. Section (d) details requirements for care and use of portable ladders, including criteria for inspection and removal from service.
- (5) Requirements for metal portable ladders are found in § 1910.26. Spacing of rungs or steps must be on 12-inch centers, and they must be provided with some type of slip-resistant design or finish. Maximum length limitations and other structural criteria for care and maintenance are also given in the standard.
- (6) Requirements for fixed ladders are found in § 1910.27. If fixed ladders are used, particular attention should be given to figures D-1 through D-11 of the standard which illustrate requirements for various fixed ladder configurations.
- (7) § 1910.28 and § 1910.29 set out detailed requirements for construction, use, inspection, and maintenance of scaffolding and moveable (caster-mounted) scaffolding. If scaffolding is used by service personnel during the installation of overhead piping or similar operations, managers, supervisors and service technicians should be familiar with these OSHA standards, and be sure that any scaffolding used meets the OSHA requirements.

Training Requirements:

No specific training requirements are set out in Subpart D standards. However, because the criteria for inspection, care, maintenance and use of ladders and scaffolding are explicit in the standards, and require correct actions on the part of individual employees, many companies provide managers, supervisors and employees in designated job classifications with suitable training on ladder and scaffolding safety.

Maintenance and Review

Inspection of stairways, overhead storage areas, fixed ladders and portable ladders should be included in documented periodic facilities inspections. Employees can be provided ladder and scaffold safety awareness training appropriate to their job duties. Company standard operating procedures (SOP) can give specific guidelines for ladder selection, maintenance, care and use. SOP guidelines should be specific when detailing procedures for removing ladders from service for repair or scrap, so that defective ladders are neither used by employees nor conveyed to a third-party who might create a cause for litigation if injuries arise from their use outside the company.