

step meeting the requirements of this section, or with a climbing device meeting the requirements of this subpart.

§ 1910.25 Stairs.

(a) *Scope and application.* This section covers fixed stairs, spiral stairs, ship's stairs and alternating tread type stairs. It does not apply to stairs on mobile equipment; to articulated stairs that may be installed on floating roof tanks, waterfront dock facilities or access facilities to mobile equipment at angles which change with the rise and fall of the floating support or various heights of mobile equipment; or to stairs forming an integral part of machinery. It also does not apply to stairs used only for an emergency means of egress, which are covered by subpart E of this Part.

(b) *General requirements.* (1) Stairs with four or more risers shall be provided with at least one handrail. A stair rail system shall be provided on all unprotected sides or edges of stairways with a fall hazard of four feet (1.2 m) or more.

(2) Handrails and stair rails shall meet the applicable requirements in § 1910.28(c). Stair rail systems may also serve as handrails when properly installed.

(3) The sides and edges of stair landings with a fall hazard of four feet (1.2 m) or more, unless otherwise enclosed, shall be provided with guardrail systems meeting the requirements of § 1910.28.

(4) Stairs shall be capable of supporting, without failure, at least five times their maximum intended load.

(5) All stairs installed before (*insert date 60 days after the effective date of the final rule in the Federal Register*) shall have a minimum vertical clearance of six feet, eight inches (2.05 m). The vertical clearance for all stairs (except spiral stairs) installed on or after (*insert date 60 days after the effective date of the final rule in the Federal Register*) shall be a minimum of seven feet (2.1 m).

(6) Stairs shall be installed with uniform riser heights and tread depths between landings.

(c) *Fixed stairs.* (1) Fixed stairs shall be installed at angles up to 50 degrees from the horizontal.

(2) Riser heights on fixed stairs shall be from six and one-half inches to nine and one-half inches (16.5 to 24.1 cm). (3) Fixed stairs shall have a minimum width of 22 inches (55.9 cm) between vertical barriers.

(4) Fixed stairs with closed risers shall have a minimum stair tread depth of eight inches (20.3 cm).

(5) Fixed stairs with open risers shall have a minimum tread depth of six inches (15.2 cm).

(6) Stairway landings and platforms measured in the direction of travel shall be at least 22 inches (55.9 cm) wide, and not less than 30 inches (76 cm) in length.

(d) *Spiral stairways.* (1) The clear width of the stairs shall not be less than 26 inches (66 cm).

(2) The height of the riser shall not exceed nine and one-half inches (24.1 cm).

(3) The minimum headroom above spiral stairways shall be six feet, six inches (198 cm).

(4) Treads shall have a minimum depth of seven and one-half inches (19.1 cm) at a point 12 inches (30.5 cm) from the narrowest edge.

(5) All treads shall be identical.

(6) Where doors or gates open directly onto spiral stairways, landings shall be provided meeting the requirements of paragraph (c)(6) of this section.

(e) *Ship's stairs installed on or after (insert date 60 days after the effective date of the final rule in the Federal Register).*

(1) Ship's stairs shall be installed at a slope between 50 degrees and 70 degrees from the horizontal.

(2) Risers shall be open; treads shall be at least four inches (10 cm) in depth, 18 inches (46 cm) in width, and have a vertical rise between tread surfaces of six and one-half to 12 inches (16 to 30 cm).

(3) Handrails meeting the requirements of § 1910.28 shall be installed on both sides of ship's stairs.

(f) *Alternating tread type stairs.* (1) Alternating tread type stairs shall have a series of steps between 50 and 70 degrees from the horizontal.

(2) Handrails shall be provided on both sides of alternating tread type stairs.

(3) The width between handrails shall be from 17 to 24 inches (43 to 61 cm).

(4) Alternating tread type stairs shall be equipped with slip-resistant surfaces on the treads.

(5) The tread shall have a minimum depth of eight and one-half inches (22 cm).

(6) The tread shall be at least seven inches (18 cm) wide at the nosing.

(7) Landings or platforms shall meet the requirements in paragraph (c)(6) of this section.

§ 1910.26 Ramps and bridging devices.

(a) *General requirements.* (1) Ramps and bridging devices shall be designed, constructed and maintained to support their maximum intended loads.

(2) Ramps and bridging devices used for the passage of vehicles shall be designed, constructed and maintained to prevent vehicles from running off the edge.

(3) There shall be a clearly designated and separated walkway for foot passage outside of the vehicle lane when ramps and bridging devices are used for the simultaneous passage of pedestrians and motorized vehicles except when pedestrians can precede or follow a vehicle at a safe distance.

(4) Ramps and bridging devices shall be secured to prevent their displacement while employees are on them. Vehicles, such as freight cars, onto which a ramp or bridging device has been placed, shall be prevented from moving, by such means as chocks or sand shoes, while the ramp or bridging device is being used by employees.

(5) A safe means of handling portable ramps and bridging devices, such as handholds or grab handles, shall be provided for employee use.

(6) Ramps and bridging devices constructed of two or more planks shall have the planks securely connected together to prevent displacement.

(b) *Specific requirements.* (1) *Fixed ramps.* (i) Each ramp used by employees that has a

ramp angle greater than 20 degrees from the horizontal shall be provided with handrails meeting the requirements of § 1910.28.

(ii) The employer shall assure that the angle of ramps used by employees does not exceed 30 degrees from the horizontal.

(iii) Ramps which have a fall hazard of four feet (1.2 m) or more shall be provided with a stair rail system or equivalent fall protection system meeting § 1910.28.

(2) *Portable or elevating ramps and bridging devices.* (i) When one or both ends of a portable or elevating ramp or bridging device are not secured to the vehicle or dock, there shall be an overlap of at least four inches (10.2 cm) onto the unattached surface or surfaces.

(ii) Fall protection systems are not required for ramps or bridging devices when they are being used exclusively for material handling operations with motorized equipment, when:

(a) Employees engaged in those operations are exposed to fall hazards less than 10 feet (3 m); and,

(b) Those employees have been trained to recognize and avoid the hazards involved with this work. This training shall consist of instructions in the proper placement and securing of the ramps and bridging devices, securing of vehicles, and the proper use of material-handling equipment.

§ 1910.27 Work surfaces.

(a) *Scope and application.* (1) *Scope.* This section covers floors, ramps, roofs and similar walking and working surfaces, unless they are specifically covered elsewhere in this subpart.

(2) *Application.* This section does not apply to the following surfaces:

(i) Scaffolds covered in § 1910.30.

(ii) Landings on stairs which are covered in § 1910.25.

(iii) Platforms which are covered in § 1910.31.

(b) *General requirements.* (1) Employees exposed to unprotected sides or edges of surfaces that present a falling hazard of four feet (1.2 m) or more to a lower level or floor holes shall be protected by a fall protection system meeting the requirements of § 1910.28.

(2) Employees on surfaces which are less than four feet (1.2 m) above a lower level, but are above or adjacent to dangerous equipment, materials or operations, shall be protected by a fall protection system meeting the requirements of § 1910.28 to prevent their falling into or onto the hazardous areas.

(3) Employees who are exposed to falling through a covered opening in a surface that presents a fall hazard of four feet (1.2 m) or more to a lower level, and employees who are exposed to falling through skylights, shall be informed of the potential hazard and be protected by one of the following:

(i) The surface shall be designed, covered or reinforced to carry the intended load; or

(ii) Employees shall be protected by a fall protection system in accordance with § 1910.28.

(4) A floor hole less than one foot (30.5 cm) in its least dimension (the shortest distance from the edge of the work surface or toeboard to the object going through the work surface) provided for passage of machinery, piping, or