

- Part Number: 1910
- Part Title: Occupational Safety and Health Standards
- Subpart: D
- Subpart Title: Walking-Working Surfaces
- Standard Number: 1910.25
- Title: Stairways

### **1910.25(a) Application**

This section covers all stairways (including standard, spiral, ship, and alternating tread-type stairs), except for stairs serving floating roof tanks, stairs on scaffolds, stairs designed into machines or equipment, and stairs on self-propelled motorized equipment.

### **1910.25(b) General requirements**

The employer must ensure:

1910.25(b)(1) **Handrails, stair rail systems, and guardrail systems** are provided in accordance with § 1910.28;

1910.25(b)(2) **VERTICAL CLEARANCE** above any stair tread to any overhead obstruction is **at least 6 feet, 8 inches (203 cm)**, as measured from the leading edge of the tread. Spiral stairs must meet the vertical clearance requirements in paragraph (d)(3) of this section.

1910.25(b)(3) Stairs have **UNIFORM riser heights and tread depths** between landings;

1910.25(b)(4) Stairway landings and platforms are **at least the width of the stair and at least 30 inches (76 cm) in depth**, as measured in the direction of travel;

1910.25(b)(5) When a door or a gate opens directly on a stairway, a **platform is provided**, and the **swing of the door or gate does NOT reduce the platform's effective usable depth** to:

1910.25(b)(5)(i) Less than 20 inches (51 cm) for platforms installed **BEFORE January 17, 2017**; and

1910.25(b)(5)(ii) Less than 22 inches (56 cm) for platforms installed on or **AFTER January 17, 2017** (see Figure D-7 of this section);

1910.25(b)(6) Each stair can **support AT LEAST FIVE TIMES the normal anticipated live load**, but **NEVER LESS** than a concentrated load of 1,000 pounds (454 kg) applied at any point;

1910.25(b)(7) **STANDARD STAIRS** are used to provide access from one walking-working surface to another when operations necessitate **REGULAR AND ROUTINE TRAVEL** between levels, including access to operating platforms for equipment. Winding stairways may be used on tanks and similar round structures when the **diameter of the tank or structure is AT LEAST 5 feet (1.5 m)**.

1910.25(b)(8) Spiral, ship, or alternating tread-type stairs are **used ONLY** when the employer can demonstrate that it is **NOT** feasible to provide standard stairs.

~~1910.25(b)(8) Spiral, ship, or alternating tread-type stairs are used only when the employer can demonstrate that it is not feasible to provide standard stairs. (This is a repeat they missed in the final publishing)~~

1910.25(b)(9) When paragraph (b)(8) of this section allows the use of spiral, ship, or alternating tread-type stairs, they are **INSTALLED, USED, AND MAINTAINED** in accordance with **MANUFACTURER'S INSTRUCTIONS**.

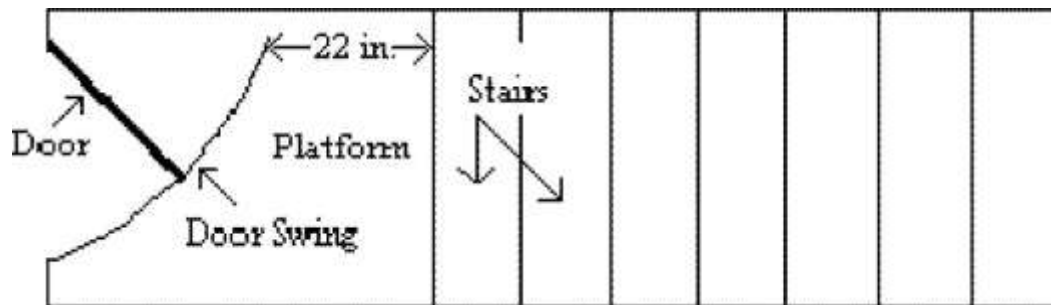


Figure D-7 -- Door or Gate Opening on Stairway

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### 1910.25(c) *Standard stairs*

In addition to paragraph (b) of this section, the employer must ensure standard stairs:

1910.25(c)(1) Are installed at **ANGLES BETWEEN 30 TO 50 DEGREES** from the horizontal;

1910.25(c)(2) Have a **MAXIMUM RISER HEIGHT OF 9.5 INCHES (24 cm)**;

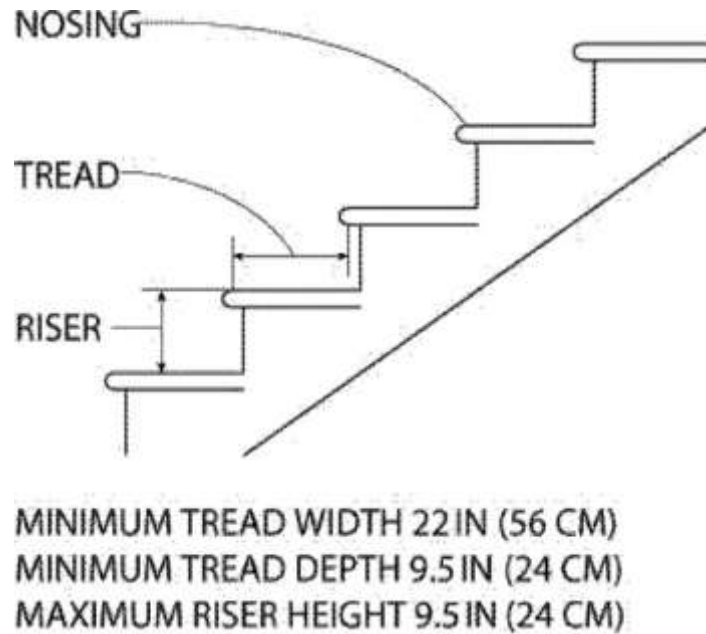
1910.25(c)(3) Have a **MINIMUM TREAD DEPTH OF 9.5 INCHES (24 cm)**; and

1910.25(c)(4) Have a **MINIMUM WIDTH OF 22 INCHES (56 CM) BETWEEN VERTICAL BARRIERS** (see Figure D-8 of this section).

1910.25(c)(5) *Exception to paragraphs (c)(2) and (3) of this section.* The requirements of paragraphs (c)(2) and (3) do not apply to standard stairs installed **PRIOR** to January 17, 2017. OSHA will deem those stairs in compliance if they meet the dimension requirements specified in Table D-1 of this section or they use a combination that achieves the angle requirements of paragraph (c)(1) of this section.

Table D-1 -- Stairway Rise and Tread Dimensions

| Angle to horizontal | Rise (in inches) | Tread run (in inches) |
|---------------------|------------------|-----------------------|
| 30 deg. 35'         | 6 1/2            | 11                    |
| 32 deg. 08'         | 6 3/4            | 10 3/4                |
| 33 deg. 41'         | 7                | 10 1/2                |
| 35 deg. 16'         | 7 1/4            | 10 1/4                |
| 36 deg. 52'         | 7 1/2            | 10                    |
| 38 deg. 29'         | 7 3/4            | 9 3/4                 |
| 40 deg. 08'         | 8                | 9 1/2                 |
| 41 deg. 44'         | 8 1/4            | 9 1/4                 |
| 43 deg. 22'         | 8 1/2            | 9                     |
| 45 deg. 00'         | 8 3/4            | 8 3/4                 |
| 46 deg. 38'         | 9                | 8 1/2                 |
| 48 deg. 16'         | 9 1/4            | 8 1/4                 |
| 49 deg. 54'         | 9 1/2            | 8                     |



Minimum tread width 22 IN (56 CM), Minimum Tread Depth 9.5 IN (24 CM), Maximum Riser Height 9.5 IN (24 CM).

#### **1910.25(d) *Spiral stairs***

In addition to paragraph (b) of this section, the employer must ensure spiral stairs:

1910.25(d)(1) Have a **MINIMUM CLEAR WIDTH OF 26 INCHES** (66 cm);

1910.25(d)(2) Have a **MAXIMUM RISER HEIGHT OF 9.5 INCHES** (24 cm);

1910.25(d)(3) Have a **MINIMUM HEADROOM ABOVE SPIRAL STAIR TREADS OF AT LEAST 6 FEET, 6 INCHES (2 M)**, measured from the leading edge of the tread;

1910.25(d)(4) Have a **MINIMUM TREAD DEPTH OF 7.5 INCHES** (19 cm), measured at a point 12 inches (30 cm) from the narrower edge;

1910.25(d)(5) Have a **UNIFORM TREAD SIZE**;

#### **1910.25(e) *Ship stairs***

In addition to paragraph (b) of this section, the employer must ensure ship stairs (see Figure D-9 of this section):

1910.25(e)(1) Are installed at a **SLOPE OF 50 TO 70 DEGREES** from the horizontal;

1910.25(e)(2) Have **OPEN RISERS WITH A VERTICAL RISE BETWEEN TREAD SURFACES OF 6.5 TO 12 INCHES** (17 to 30 cm);

- 1910.25(e)(3) Have **MINIMUM TREAD DEPTH OF 4 INCHES** (10 cm); and
- 1910.25(e)(4) Have a **MINIMUM TREAD WIDTH OF 18 INCHES** (46 cm).



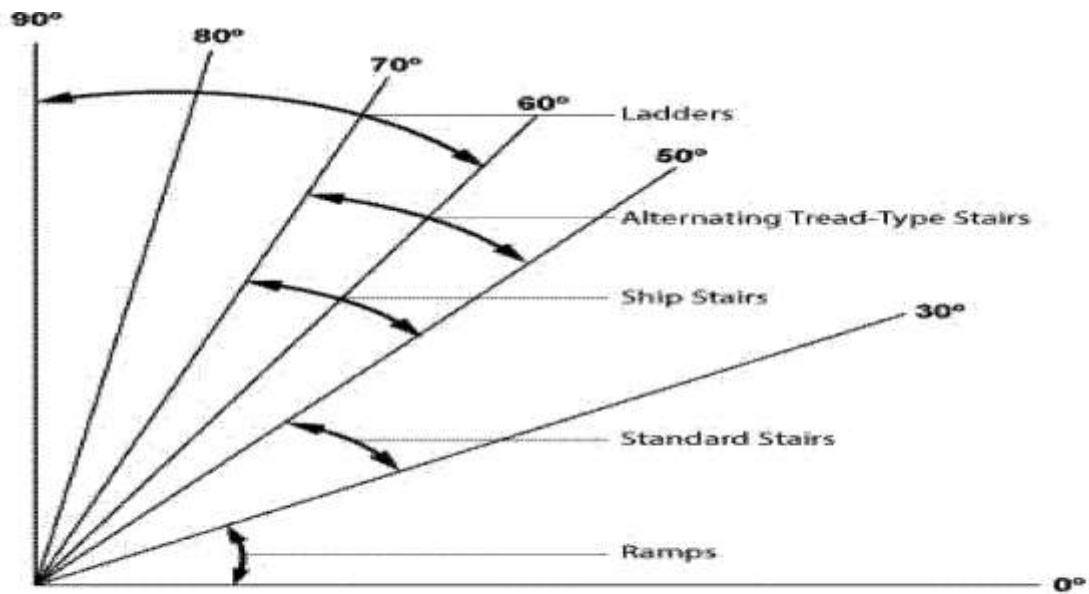
Figure D-9 – Ship Stairs

Figure D-9 -- Ship Stairs.

**1910.25(f) *Alternating tread-type stairs***

In addition to paragraph (b) of this section, the employer must ensure alternating tread-type stairs:

- 1910.25(f)(1) Have a series of treads installed at a **SLOPE OF 50 TO 70 DEGREES** from the horizontal;
- 1910.25(f)(2) Have a **DISTANCE BETWEEN HANDRAILS OF 17 TO 24 INCHES** (51 to 61 cm);
- 1910.25(f)(3) Have a **MINIMUM TREAD DEPTH OF 8.5 INCHES** (22 cm); and
- 1910.25(f)(4) Have **OPEN RISERS IF THE TREAD DEPTH IS LESS THAN 9.5 INCHES** (24 cm);
- 1910.25(f)(5) Have a **MINIMUM TREAD WIDTH OF 7 INCHES** (18 cm), measured at the leading edge of the tread (*i.e.*, nosing).



| Angle                 | Type                          |
|-----------------------|-------------------------------|
| $\leq 30^\circ$       | Ramps                         |
| $30^\circ - 50^\circ$ | Standard Stairs               |
| $50^\circ - 60^\circ$ | Ship Stairs                   |
| $60^\circ - 70^\circ$ | Alternating Tread-Type Stairs |
| $70^\circ - 90^\circ$ | Ladders                       |

**Figure D-10 – Angles for Stairs, Ramps, and Ladders**

Figure D-10 -- Angles for Stairs, Ramps, and Ladders.

[39 FR 23502, June 27, 1974, as amended at 43 FR 49744, Oct. 24, 1978; 49 FR 5321, Feb. 10, 1984; 81 FR 82987-82990, Nov. 18, 2016]