§ 1917.118

(6) Handholds and fastenings;
(7) Floor landings;
(8) Guardrails;
(9) Lubrication;
(10) Safety switches;
(11) Warning signs and lights;
(12) Illumination;
(13) Drive pulley;
(14) Bottom (boot) pulley and clearance;
(15) Pulley supports;
(16) Motor;
(17) Drive mechanism;
(18) Brake;
(19) Electrical switches;
(20) Vibration and misalignment;
(21) “Skip” on up or down run when mounting the step (indicating worn gears); and
(22) Emergency exit ladders.
(b) Inspection records. Inspection records shall be kept for at least one year. The record of the most recent inspection shall be posted in the vicinity of the manlift or in the terminal.
(c) Emergency stop. An emergency stop device shall be available within easy reach from any position on the belt.
(d) Instructions. Manlift use instructions shall be conspicuously posted.
(e) Top floor warning sign and light. An illuminated sign and red light that are visible to the user shall be provided under the top floor opening of the manlift to warn the user to get off at that floor.
(f) Bottom floor warning sign. A sign visible to descending passengers shall be provided to warn them to get off at the bottom floor.
(g) Upper limit stop. An automatic stop device shall be provided to stop the manlift when a loaded step passes the top landing, except that manlifts installed after October 3, 1983 shall have two such devices.
(h) Handholds and steps. Each step shall be provided with a corresponding handhold.
(i) Emergency ladder. A fixed emergency ladder accessible from any position on the lift and in accordance with the requirements of §1917.118(d) shall be provided for the entire run of the manlift.
(j) Landings. (1) Clear and unobstructed landing spaces shall be provided at each level. Manlifts constructed after October 3, 1983 and that have a distance of 50 feet (15.24 m) or more between floor landings shall have an emergency landing every 25 feet (7.62 m) or less of manlift travel.
(2) Open sides of emergency landings shall be protected by guardrails.
(3) Floor landing entrances and exits shall be guarded by mazes, self-closing gates, or equivalent devices.
(4) Landings shall be of sufficient size and strength to support 250 pounds (1,112 N).
(k) Floor opening guards. The ascending sides of manlift floor openings shall be provided with cones or bevel guards to direct the user through the openings.
(1) Maintenance. Manlifts shall be equipped, maintained, and used in accordance with the manufacturer’s specifications, which shall be available at the terminal.
(m) Bottom pulley. (1) The lower pulley shall be supported by the lowest landing.
(2) Sides of the bottom pulley support shall be guarded to prevent contact with the pulley or the steps.
(n) Top clearance. A clearance of at least 11 feet (3.35 m) shall be provided between the top landing and the ceiling.
(o) Brakes. Manlifts shall be equipped with brakes that are:
(1) Self-engaging;
(2) Electrically released; and
(3) Capable of stopping and holding the manlift when the descending side is loaded with the maximum rated load.

§ 1917.118 Fixed ladders.

(a) Scope and applicability. This section applies to all fixed ladders except:
(1) Ladders forming an integral part of railway cars, highway carriers, cargo containers or other transportation carrier equipment;
(2) Climbing devices such as step bolts or structural members of tanks and towers;
(3) Ladders built into or vertically attached to tubular scaffold framing; and
(4) Ladders used only for fire-fighting or emergency purposes.
(b) Definitions. (1) **Cage** (basket guard) means a barrier enclosing or nearly enclosing a ladder’s climbing space and fastened to one or both of the ladder’s side rails or to another structure.

(2) **Fixed ladder** means a ladder, including individual rung ladders, permanently attached to a structure, building or piece of equipment.

(3) **Ladder safety device** means a support system limiting an employee’s drop or fall from the ladder, and which may incorporate friction brakes, lifelines and lanyards, or sliding attachments.

(4) **Well** means a permanent complete enclosure around a fixed ladder, which is attached to the walls of the well.

(c) **Defects.** (1) Ladders with broken, split or missing rungs, steps or rails, broken welds or connections, corrosion or wastage or other defect which may affect safe use shall be removed from service.

(2) Ladder repairs shall provide strength at least equivalent to that of the original ladder.

(d) **Ladder specifications.** (1)(i) Ladders installed before October 3, 1983, shall be capable of withstanding without damage a minimum concentrated load, applied uniformly over a 3½ inch (8.9 cm) width at the rung center, of 200 pounds (890 N).

(ii) Ladders installed after October 3, 1983 shall have rungs evenly spaced from nine to 16½ inches (22.9 to 41.9 cm) apart, center to center.

(ii) Ladders installed after October 3, 1983 shall have a width between side rails of at least 10 inches (25.4 cm).

(3)(i) Ladders installed before October 3, 1983 shall have a width between side rails of at least 12 inches (30.48 cm).

(ii) Ladders installed after October 3, 1983 shall have a width between side rails of at least 12 inches (30.48 cm).

(4) The minimum distance between the rung center line and the nearest permanent object behind the rung shall be 4 inches (10.16 cm), except that in ladders installed after October 3, 1983, the minimum distance shall be 7 inches (17.78 cm) unless physical limitations make a lesser distance, not less than 4½ inches (11.43 cm), necessary.

(5) When a ladder passes through an opening or past overhead obstructions, a minimum 24 inch (.61 m) clearance shall exist between the climbing side and any obstruction. Where this distance is less than 30 inches (0.76 m), a deflection device shall be installed for guidance through the opening.

(6) The side rails of ladders shall extend at least 36 inches (0.91 m) above the top landing surface, unless grab bars or equivalent holds are provided.

(7) Ladders whose pitch exceeds 90° to the horizontal (slanting backward on the climbing side) shall not be used.

(e) **Protection against falls.** (1) Fixed ladders more than 20 feet (6.1 m) in height shall be provided with a cage, well, or ladder safety device.

(2) When a well or cage is used, ladders with length of climb exceeding 30 feet (9.14 m) shall comply with the following provisions:

(i) The ladder shall consist of multiple sections not exceeding 30 feet (9.14 m) each;

(ii) Each section shall be horizontally offset from adjacent sections, except as specified in paragraph (e)(2)(iv) of this section, and

(iii) A landing platform capable of supporting a load of 100 pounds per square foot (4.79 kPa) and fitted with guardrails complying with Sec. 1917.112(c) shall be provided at least every 30 feet (9.14 m), except as specified in paragraph (e)(2)(iv) of this section.

(iv) For ladders installed after October 3, 1983, offset sections and landing platforms are not required if hinged platforms capable of supporting 100 pounds per square foot (4.79 kPa), and which are kept closed except when opened for passage, are within the cage or well at intervals not exceeding 30 feet (9.14 m).
§ 1917.119 Portable ladders.

(a) Scope and applicability. This section applies to all portable ladders, including job-made ladders for temporary use, unless otherwise specified.

(b) Standards for existing manufactured portable ladders. (1) Rungs of manufactured portable ladders obtained before October 3, 1983, shall be capable of supporting a 200-pound (890 N) load without deformation.

(2) Rungs shall be evenly spaced from 9 to 16 1/2 inches (22.9 to 41.9 cm), center to center.

(3) Rungs shall be continuous members between carrier centerlines and safety belts of 10 1/2 inches (25.4±5.08 cm); and

(4) Be firmly attached and without sharp edges.


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(a) Scope and applicability. This section applies to all portable ladders, including job-made ladders for temporary use, unless otherwise specified.

(b) Standards for existing manufactured portable ladders. (1) Rungs of manufactured portable ladders obtained before October 3, 1983, shall be capable of supporting a 200-pound (890 N) load without deformation.

(2) Rungs shall be evenly spaced from 9 to 16 1/2 inches (22.9 to 41.9 cm), center to center.

(3) Rungs shall be continuous members between rails. Each rung of a double-rung ladder (two side rails and a center rail) shall extend the full width of the ladder.

(4) Width between side rails at the base of the ladder shall be at least 12 inches (30.48 cm) for ladders 10 feet (3.05 m) or less in overall length, and shall increase at least 1/4 inch (0.64 cm) for each additional 2 feet (0.61 m) of ladder length.

(c) Standards for manufactured portable ladders. Portable manufactured ladders obtained after January 21, 1998 shall bear identification indicating that they meet the appropriate ladder construction requirements of the following standards:

ANSI A14.1–1990, Safety Requirements for Portable Wood Ladders
ANSI A14.2–1990, Safety Requirements for Portable Metal Ladders
ANSI A14.5–1992, Safety Requirements for Portable Reinforced Plastic Ladders

(d) Standards for job-made portable ladders. Job-made ladders shall:

(1) Have a minimum and uniform distance between rungs of 12 inches (30.48 cm), center to center;

(2) Be capable of supporting a 250-pound (1,112 N) load without deformation; and

(3) Be so constructed that an employee’s foot cannot slide off the ends; and

(4) Be firmly attached and without sharp edges.