

PART J  
STAIRWAYS AND FIXED LADDERS

AMENDATORY SECTION (Amending Order 91-07, filed 11/22/91, effective 12/24/91)

**WAC 296-155-475 Scope and application.** This part applies to all stairways and fixed ladders used in construction, alteration, repair (including painting and decorating), and demolition workplaces covered under chapter 296-155 WAC, and also sets forth, in specified circumstances, when ladders and stairways are required to be provided. (~~Additional requirements for ladders used on or with scaffolds are contained in chapter 296-155 WAC, Part J-1.~~)

**Reference:**

~~Requirements for ladders used on or with scaffolds are located in chapter 296-874 WAC, Scaffolds.~~

~~Requirements for portable ladders are located in chapter 296-876 WAC, Portable ladders.~~

AMENDATORY SECTION (Amending Order 91-07, filed 11/22/91, effective 12/24/91)

**WAC 296-155-47501 Definitions applicable to this part.**

(1) Cleat means a ladder crosspiece of rectangular cross section placed on edge upon which a person may step while ascending or descending a ladder.

(2) Double-cleat ladder means a ladder similar in construction to a single-cleat ladder, but with a center rail to allow simultaneous two-way traffic for employees ascending or descending.

(3) Equivalent means alternative designs, materials, or methods that the employer can demonstrate will provide an equal or greater degree of safety for employees than the method or item specified in the standard.

~~(4) (~~Extension trestle ladder means a self supporting portable ladder, adjustable in length, consisting of a trestle ladder base and a vertically adjustable extension section, with a suitable means for locking the ladders together (also see trestle ladder).~~~~

~~(5))~~ Failure means load refusal, breakage, or separation of component parts. Load refusal is the point where the structural members lose their ability to carry the loads.

~~((6))~~ (5) Fixed ladder means a ladder that cannot be readily moved or carried because it is an integral part of a building or structure. A side-step fixed ladder is a fixed ladder that requires a person getting off at the top to step to the side of the ladder side rails to reach the landing. A through fixed ladder is a fixed ladder that requires a person getting off at the top to step between the side rails of the

ladder to reach the landing. For the purpose of this standard, slip forms and scaffolds with built in ladders permanently attached, are considered to be fixed ladders.

~~((7))~~ (6) Handrail means a rail used to provide employees with a handhold for support.

~~((8))~~ (7) Individual-rung/step ladders means ladders without a side rail or center rail support. Such ladders are made by mounting individual steps or rungs directly to the side or wall of the structure.

~~((9) Job made ladder means a ladder that is fabricated, not commercially manufactured. This definition does not apply to any individual-rung/step ladders.~~

~~(10) Ladder types. For the purpose of this standard ladder types are defined by the following types:~~

~~Type IA - Extra heavy duty industrial use.~~

~~Type I - Heavy duty industrial use such as utilities and contractors.~~

~~Type II - Medium duty industrial use such as painters, offices, and light industrial use.~~

~~Type III - Light duty household use.~~

~~((11))~~ (8) Landing means any area such as the ground, roof, or platform that provides access/egress for a ladder.

~~((12))~~ (9) Lower levels means those areas to which an employee can fall from a stairway or ladder. Such areas include ground levels, floors, roofs, ramps, runways, excavations, pits, tanks, material, water, equipment, and similar surfaces. It does not include the surface from which the employee falls.

~~((13))~~ (10) Maximum intended load means the total load of all employees, equipment, tools, materials, transmitted loads, and other loads anticipated to be applied to a ladder component at any one time.

~~((14))~~ (11) Nosing means that portion of a tread projecting beyond the face of the riser immediately below.

~~((15))~~ (12) Platform means a walking/working surface for persons, elevated above the surrounding floor or ground.

~~((16))~~ (13) Point of access means all areas used by employees for work-related passage from one area or level to another. Such open areas include doorways, passageways, stairway openings, studded walls, and various other permanent or temporary openings used for such travel.

~~((17) Portable ladder means a ladder that can be readily moved or carried.~~

~~((18))~~ (14) Riser height means the vertical distance from the top of a tread to the top of the next higher tread or platform/landing or the distance from the top of a platform/landing to the top of the next higher tread or platform/landing.

~~((19))~~ (15) Side-step fixed ladder. See "fixed ladder."

~~((20))~~ (16) Single-cleat ladder means a ladder consisting of a pair of side rails, connected together by cleats, rungs, or steps.

~~((21))~~ ~~Single rail ladder means a portable ladder with rungs, cleats, or steps mounted on a single rail instead of the normal two rails used on most other ladders. Single rail ladders are prohibited from use.~~

~~(22) Special purpose ladder means a portable ladder that represents either a modification or a combination of design or construction features in one of the general purpose types of ladders previously defined, in order to adapt the ladder to special or specific uses.~~

~~(23))~~ (17) Spiral stairway means a series of steps attached to a vertical pole and progressing upward in a winding fashion within a cylindrical space.

~~((24))~~ (18) Stairrail system means a vertical barrier erected along the unprotected sides and edges of a stairway to prevent employees from falling to lower levels. The top surface of a stairrail system may also be a "handrail."

~~((25))~~ ~~Step stool (ladder type) means a self-supporting, foldable, portable ladder, nonadjustable in length, 32 inches or less in overall size, with flat steps and without a pail shelf, designed to be climbed on the ladder top cap as well as all steps. The side rails may continue above the top cap.~~

~~(26))~~ (19) Through fixed ladder. See "fixed ladder."

~~((27))~~ (20) Tread depth means the horizontal distance from front to back of a tread (excluding nosing, if any).

~~((28))~~ ~~Trestle ladder means a self-supporting portable ladder, nonadjustable in length, consisting of two sections hinged at the top to form equal angles with the base. The size is designated by the length of the side rails measured along the front edge.~~

~~(29))~~ (21) Unprotected sides and edges means any side or edge (except at entrances to points of access) of a stairway where there is no stairrail system or wall 36 inches (.9 m) or more in height, and any side or edge (except at entrances to points of access) of a stairway landing, or ladder platform where there is no wall or guardrail system 39 inches (1 m) or more in height.

AMENDATORY SECTION (Amending WSR 96-24-051, filed 11/27/96, effective 2/1/97)

**WAC 296-155-480 Fixed ladders.** Requirements relating to portable ladders were removed from this section and are now located in chapter 296-876 WAC, Portable ladders.

(1) General. The following requirements apply to all fixed ladders as indicated(~~(, including job-made ladders)~~).

(a) Ladders shall be capable of supporting (~~the following loads~~), without failure(~~(+~~

~~(i) Each self-supporting portable ladder: At least four times the maximum intended load, except that each extra heavy-duty type 1A metal or plastic ladder shall sustain at least 3.3 times the maximum intended load. The ability of a ladder to sustain the loads indicated in this section shall be determined by applying or transmitting the requisite load to the ladder in a downward vertical direction. Ladders built and tested in conformance with the applicable provisions of appendix A of this part will be deemed to meet this requirement.~~

~~(ii) Each portable ladder that is not self-supporting: At least four times the maximum intended load, except that each extra heavy duty type 1A metal or plastic ladders shall sustain at least 3.3 times the maximum intended load. The ability of a ladder to sustain the loads indicated in this section shall be determined by applying or transmitting the requisite load to the ladder in a downward vertical direction when the ladder is placed at an angle of 75 1/2 degrees from the horizontal. Ladders built and tested in conformance with the applicable provisions of appendix A will be deemed to meet this requirement.~~

~~(iii) Each fixed ladder:),~~ at least two loads of 250 pounds (114 kg) each, concentrated between any two consecutive attachments (the number and position of additional concentrated loads of 250 pounds (114 kg) each, determined from anticipated usage of the ladder, shall also be included), plus anticipated loads caused by ice buildup, winds, rigging, and impact loads resulting from the use of ladder safety devices. Each step or rung shall be capable of supporting a single concentrated load of at least 250 pounds (114 kg) applied in the middle of the step or rung. Ladders built in conformance with the applicable provisions of appendix A will be deemed to meet this requirement.

(b) Ladder rungs, cleats, and steps shall be parallel, level, and uniformly spaced when the ladder is in position for

use.

(c)(~~(i)~~) Rungs, cleats, and steps of (~~portable ladders (except as provided below) and~~) fixed ladders (including individual-rung/step ladders) shall be spaced not less than 10 inches (25 cm) apart, nor more than 14 inches (36 cm) apart, as measured between centerlines of the rungs, cleats, and steps.

~~((ii) Rungs, cleats, and steps of step stools shall be not less than 8 inches (20 cm) apart, nor more than 12 inches (31 cm) apart, as measured between centerlines of the rungs, cleats, and steps.~~

~~(iii) Rungs, cleats, and steps of the base section of extension trestle ladders shall be not less than 8 inches (20 cm) nor more than 18 inches (46 cm) apart, as measured between centerlines of the rungs, cleats, and steps. The rung spacing on the extension section of the extension trestle ladder shall be not less than 6 inches (15 cm) nor more than 12 inches (31 cm), as measured between centerlines of the rungs, cleats, and steps.~~

~~(iv) Cleats on job-made ladders shall be inset into the edges of the side rails one half inch, or filler blocks shall be used on the side rails between the cleats.~~

~~(v) Cleats on job made ladders shall be secured to each rail with three 10d common wire nails or other fasteners of equivalent strength.)~~

(d)(~~(i)~~) The minimum clear distance between the sides of individual-rung/step ladders and the minimum clear distance between the side rails of other fixed ladders shall be 16 inches (41 cm).

~~((ii) The minimum clear distance between side rails for all portable ladders shall be 11 1/2 inches (29 cm).)~~

(e) The rungs of individual-rung/step ladders shall be shaped such that employees' feet cannot slide off the end of the rungs.

(f)(~~(i)~~) The rungs and steps of fixed metal ladders manufactured after the effective date of this standard, shall be corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize slipping.

~~((ii) The rungs and steps of portable metal ladders shall be corrugated, knurled, dimpled, coated with skid resistant material, or otherwise treated to minimize slipping.~~

~~(g) Ladders shall not be tied or fastened together to provide longer sections unless they are specifically designed for such use.~~

~~(h) A metal spreader or locking device shall be provided on each stepladder to hold the front and back sections in an open position when the ladder is being used.~~

~~(i) When splicing is required to obtain a given length of side rail, the resulting side rail must be at least equivalent in strength to a one piece side rail made of the same material.~~

~~(j)~~) (g) Except when portable ladders are used to gain access to fixed ladders (such as those on utility towers, billboards, and other structures where the bottom of the fixed ladder is elevated to limit access), when two or more separate ladders are used to reach an elevated work area, the ladders shall be offset with a platform or landing between the ladders. (The requirements to have guardrail systems with toeboards for falling object and overhead protection on platforms and landings are set forth in chapter 296-155 WAC, Part K.)

~~((k))~~) (h) Ladder components shall be surfaced so as to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing.

~~((l))~~) (i) Wood ladders shall not be coated with any opaque covering, except for identification or warning labels which may be placed on one face only of a side rail.

~~((m))~~) (j) The minimum perpendicular clearance between fixed ladder rungs, cleats, and steps, and any obstruction behind the ladder shall be 7 inches (18 cm), except in the case of an elevator pit ladder, for which a minimum perpendicular clearance of 4 1/2 inches (11 cm) is required.

~~((n))~~) (k) The minimum perpendicular clearance between the center line of fixed ladder rungs, cleats, and steps, and any obstruction on the climbing side of the ladder shall be 30 inches (76 cm), except as provided in ~~((o))~~) (l) of this subsection.

~~((o))~~) (l) When unavoidable obstructions are encountered, the minimum perpendicular clearance between the centerline of fixed ladder rungs, cleats, and steps, and the obstruction on the climbing side of the ladder may be reduced to 24 inches (61 cm), provided that a deflection device is installed to guide employees around the obstruction.

~~((p))~~) (m) Through fixed ladders at their point of access/egress shall have a step-across distance of not less than 7 inches (18 cm) nor more than 12 inches (30 cm) as measured from the centerline of the steps or rungs to the nearest edge of the landing area. If the normal step-across distance exceeds 12 inches (30 cm), a landing platform shall be provided to reduce the distance to the specified limit.

~~((q))~~) (n) Fixed ladders without cages or wells shall have a clear width to the nearest permanent object of at least 15 inches (38 cm) on each side of the centerline of the ladder.

~~((r))~~) (o) Fixed ladders shall be provided with cages, wells, ladder safety devices, or self-retracting lifelines where the length of climb is less than 24 feet (7.3 m) but the top of the ladder is at a distance greater than 24 feet (7.3 m) above lower levels.

~~((s))~~) (p) Where the total length of a climb equals or exceeds 24 feet (7.3 m), fixed ladders shall be equipped with one of the following:

- (i) Ladder safety devices; or
- (ii) Self-retracting lifelines, and rest platforms at intervals not to exceed 150 feet (45.7 m); or
- (iii) A cage or well, and multiple ladder sections, each ladder section not to exceed 50 feet (15.2 m) in length. Ladder sections shall be offset from adjacent sections, and landing platforms shall be provided at maximum intervals of 50 feet (15.2 m).

~~((t))~~ (q) Cages for fixed ladders shall conform to all of the following:

(i) Horizontal bands shall be fastened to the side rails of rail ladders, or directly to the structure, building, or equipment for individual-rung ladders;

(ii) Vertical bars shall be on the inside of the horizontal bands and shall be fastened to them;

(iii) Cages shall extend not less than 27 inches (68 cm), or more than 30 inches (76 cm) from the centerline of the step or rung (excluding the flare at the bottom of the cage), and shall not be less than 27 inches (68 cm) in width;

(iv) The inside of the cage shall be clear of projections;

(v) Horizontal bands shall be spaced not more than 4 feet (1.2 m) on center vertically;

(vi) Vertical bars shall be spaced at intervals not more than 9 1/2 inches (24 cm) on center horizontally;

(vii) The bottom of the cage shall be at a level not less than 7 feet (2.1 m) nor more than 8 feet (2.4 m) above the point of access to the bottom of the ladder. The bottom of the cage shall be flared not less than 4 inches (10 cm) all around within the distance between the bottom horizontal band and the next higher band;

(viii) The top of the cage shall be a minimum of 42 inches (1.1 m) above the top of the platform, or the point of access at the top of the ladder, with provision for access to the platform or other point of access.

~~((u))~~ (r) Wells for fixed ladders shall conform to all of the following:

(i) They shall completely encircle the ladder;

(ii) They shall be free of projections;

(iii) Their inside face on the climbing side of the ladder shall extend not less than 27 inches (68 cm) nor more than 30 inches (76 cm) from the centerline of the step or rung;

(iv) The inside clear width shall be at least 30 inches (76 cm);

(v) The bottom of the wall on the access side shall start at a level not less than 7 feet (2.1 m) nor more than 8 feet (2.4 m) above the point of access to the bottom of the ladder.

~~((v))~~ (s) Ladder safety devices, and related support systems, for fixed ladders shall conform to all of the following:

(i) They shall be capable of withstanding without failure a drop test consisting of an 18-inch (41 cm) drop of a 500-pound (226 kg) weight;

(ii) They shall permit the employee using the device to ascend or descend without continually having to hold, push or pull any part of the device, leaving both hands free for climbing;

(iii) They shall be activated within 2 feet (.61 m) after a fall occurs, and limit the descending velocity of an employee to 7 feet/sec. (2.1 m/sec.) or less;

(iv) The connection between the carrier or lifeline and the point of attachment to the body belt or harness shall not exceed 9 inches (23 cm) in length.

~~((w))~~ (t) The mounting of ladder safety devices for fixed ladders shall conform to the following:

(i) Mountings for rigid carriers shall be attached at each end of the carrier, with intermediate mountings, as necessary, spaced along the entire length of the carrier, to provide the strength necessary to stop employees' falls.

(ii) Mountings for flexible carriers shall be attached at each end of the carrier. When the system is exposed to wind, cable guides for flexible carriers shall be installed at a minimum spacing of 25 feet (7.6 m) and maximum spacing of 40 feet (12.2 m) along the entire length of the carrier, to prevent wind damage to the system.

(iii) The design and installation of mountings and cable guides shall not reduce the design strength of the ladder.

~~((x))~~ (u) The side rails of through or side-step fixed ladders shall extend 42 inches (1.1 m) above the top of the access level or landing platform served by the ladder. For a parapet ladder, the access level shall be the roof if the parapet is cut to permit passage through the parapet; if the parapet is continuous, the access level shall be the top of the parapet.

~~((y))~~ (v) For through-fixed-ladder extensions, the steps or rungs shall be omitted from the extension and the extension of the side rails shall be flared to provide not less than 24 inches (61 cm) nor more than 30 inches (76 cm) clearance between side rails. Where ladder safety devices are provided, the maximum clearance between side rails of the extensions shall not exceed 36 inches (91 cm).

~~((z))~~ (w) For side-step fixed ladders, the side rails and the steps or rungs shall be continuous in the extension.

~~((aa))~~ (x) Individual-rung/step ladders, except those used where their access openings are covered with manhole covers or hatches, shall extend at least 42 inches (1.1 m) above an access level or landing platform either by the continuation of the rung spacings as horizontal grab bars or by providing vertical grab bars that shall have the same lateral spacing as

the vertical legs of the rungs.

(2) Use. The following requirements apply to the use of all fixed ladders, (~~including job-made ladders,~~) except as otherwise indicated:

~~(a) (When portable ladders are used for access to an upper landing surface, the ladder side rails shall extend at least 3 feet (.9 m) above the upper landing surface to which the ladder is used to gain access; or, when such an extension is not possible because of the ladder's length, then the ladder shall be secured at its top to a rigid support that will not deflect, and a grasping device, such as a grabrail, shall be provided to assist employees in mounting and dismounting the ladder. In no case shall the extension be such that ladder deflection under a load would, by itself, cause the ladder to slip off its support.~~

~~(b))~~ Ladders shall be maintained free of oil, grease, and other slipping hazards.

~~((e))~~ (b) Ladders shall not be loaded beyond the maximum intended load for which they were built, nor beyond their manufacturer's rated capacity.

~~((d))~~ (c) Ladders shall be used only for the purpose for which they were designed.

~~((e)(i) Nonself supporting ladders shall be used at an angle such that the horizontal distance from the top support to the foot of the ladder is approximately one quarter of the working length of the ladder (the distance along the ladder between the foot and the top support).~~

~~(ii) Wood job-made ladders with spliced side rails shall be used at an angle such that the horizontal distance is one eighth the working length of the ladder.~~

~~((iii))~~ (d) Fixed ladders shall be used at a pitch no greater than 90 degrees from the horizontal, as measured to the back side of the ladder.

~~((f) Ladders shall be used only on stable and level surfaces unless secured to prevent accidental displacement.~~

~~(g) Ladders shall not be used on slippery surfaces unless secured or provided with slip resistant feet to prevent accidental displacement. Slip resistant feet shall not be used as a substitute for care in placing, lashing, or holding a ladder that is used upon slippery surfaces including, but not limited to, flat metal or concrete surfaces that are constructed so they cannot be prevented from becoming slippery.~~

~~(h) Ladders placed in any location where they can be displaced by workplace activities or traffic, such as in passageways, doorways, or driveways, shall be secured to prevent accidental displacement, or a barricade shall be used to keep the activities or traffic away from the ladder.~~

~~((i))~~ (e) The area around the top and bottom of ladders shall be kept clear.

~~((j) The top of a nonself supporting ladder shall be~~

~~placed with the two rails supported equally unless it is equipped with a single support attachment.~~

~~(k) Ladders shall not be moved, shifted, or extended while occupied.~~

~~(l) Ladders shall have nonconductive side rails if they are used where the employee or the ladder could contact exposed energized electrical equipment, except as provided in the following:~~

~~(i) Portable metal or other portable conductive ladders shall not be used on or near energized line or equipment except where nonconductive ladders present a greater electrical hazard than conductive ladders. A greater electrical hazard would be static electricity such as might be found in extra high voltage substations.~~

~~(ii) All conductive or metal ladders shall be prominently marked and identified as being conductive.~~

~~(iii) All conductive or metal ladders shall be grounded when used near energized lines or equipment.~~

~~(m) The top or top step of a stepladder shall not be used as a step.~~

~~(n) Cross bracing on the rear section of stepladders shall not be used for climbing unless the ladders are designed and provided with steps for climbing on both front and rear sections.~~

~~(o)) (f) Ladders shall be inspected by a competent person for visible defects on a periodic basis and after any occurrence that could affect their safe use.~~

~~((p) Portable ladders with structural defects, such as, but not limited to, broken or missing rungs, cleats, or steps, broken or split rails, corroded components, or other faulty or defective components, shall either be immediately marked in a manner that readily identifies them as defective, or be tagged with "do not use" or similar language, and shall be withdrawn from service until repaired.~~

~~(q)) (g) Fixed ladders with structural defects, such as, but not limited to, broken or missing rungs, cleats, or steps, broken or split rails, or corroded components, shall be withdrawn from service until repaired. The requirement to withdraw a defective ladder from service is satisfied if the ladder is either:~~

~~(i) Immediately tagged with "do not use" or similar language;~~

~~(ii) Marked in a manner that readily identifies it as defective;~~

~~(iii) Or blocked (such as with a plywood attachment that spans several rungs).~~

~~((r)) (h) Ladder repairs shall restore the ladder to a condition meeting its original design criteria, before the ladder is returned to use.~~

~~((s))~~ (i) Single-rail ladders shall not be used.

~~((t))~~ (j) When ascending or descending a ladder, the user shall face the ladder.

~~((u))~~ (k) Employees shall not ascend or descend ladders while carrying tools or materials that might interfere with the free use of both hands.

~~((v) When working from a ladder, the ladder shall be secured at both top and bottom.~~

~~(w))~~ (l) No type of work shall be performed on a ladder over twenty-five feet from the ground or floor that requires the use of both hands to perform the work, unless a safety belt is worn and the safety lanyard is secured to the ladder.

~~((x))~~ (m) Any work that requires wearing eye protection, respirators, or handling of pressure equipment shall not be performed from a ladder more than twenty-five feet above the surrounding surface.

AMENDATORY SECTION (Amending Order 91-07, filed 11/22/91, effective 12/24/91)

**WAC 296-155-48080 Appendix A.** This appendix serves as a nonmandatory guideline to assist employers in complying with the ladder loading and strength requirements of WAC 296-155-480 (1)(a). A ladder designed and built in accordance with ~~((the applicable national consensus standards, as set forth below,))~~ ANSI A14.3.1984 - American National Standard for Ladders-Fixed-Safety Requirements will be considered to meet the requirements of WAC 296-155-480 (1)(a)~~((÷))~~.

~~((\*\* Manufactured portable wood ladders: American National Standards Institute (ANSI) A14.1 1982 American National Standard for Ladders Portable Wood Safety Requirements.~~

~~\*\* Manufactured portable metal ladders: ANSI A14.2 1982-- American National Standard for Ladders--Portable Metal Safety Requirements.~~

~~\*\* Manufactured fixed ladders: ANSI A14.3 1984 American National Standard for Ladders Fixed Safety Requirements.~~

~~\*\* Job-made ladders: ANSI A14.4 1979-- Safety Requirements for Job Made Ladders.~~

~~\*\* Plastic ladders: ANSI A14.5 1982 American National Standard for Ladders Portable Reinforced Plastic Safety Requirements.)~~

**PART J-1**  
**WORKING SURFACES, GUARDING FLOORS AND WALL OPENINGS, FIXED**  
**LADDERS**

**(~~Working Surfaces, Ladders, Scaffolds~~)**

Note: Requirements relating to portable ladders have been moved to chapter 296-876 WAC, Portable ladders.

REPEALER

The following sections of the Washington Administrative Code are repealed:

|                  |                              |
|------------------|------------------------------|
| WAC 296-24-780   | Portable wood ladders.       |
| WAC 296-24-78003 | Application of requirements. |
| WAC 296-24-78005 | Materials.                   |
| WAC 296-24-78007 | Construction requirements.   |
| WAC 296-24-78009 | Ladder tests.                |
| WAC 296-24-795   | Portable metal ladders.      |
| WAC 296-24-79501 | Terms.                       |
| WAC 296-24-79503 | Requirements.                |
| WAC 296-24-79505 | Testing.                     |

REPEALER

The following sections of the Washington Administrative Code are repealed:

|                   |  |
|-------------------|--|
| WAC 296-800-290   | Summary.   |
| WAC 296-800-29005 | Inspect your portable metal ladders periodically.                                |
| WAC 296-800-29010 | Make sure your portable metal ladders are kept in good condition.                |
| WAC 296-800-29015 | Use your portable metal ladders safely.  |
| WAC 296-800-29020 | Inspect your portable wooden ladders frequently.                                 |
| WAC 296-800-29025 | Make sure your portable wooden ladders are kept in a good condition.             |
| WAC 296-800-29030 | Use your portable wooden ladders safely and for their intended purpose.          |
| WAC 296-800-29035 | Safely use a portable wooden ladder when working more than 25 feet above ground. |
| WAC 296-800-29040 | Use wooden stepladders safely.   |

## Chapter 296-876 WAC

### PORTABLE LADDERS

#### NEW SECTION

**WAC 296-876-100 Scope.** This chapter applies to portable ladders, including job-made wooden ladders.

**Exemption:** This chapter does not apply to portable ladders used:  
✍ By the fire services for fire combat that are covered by Safety standards for fire fighters, chapter 296-305 WAC;  
**OR**  
✍ For agriculture activities covered by Safety standards for agriculture, chapter 296-307 WAC.

#### NEW SECTION

**WAC 296-876-200 Design and construction--Section contents.**

**Your responsibility:**

To make sure portable ladders meet design and construction requirements.

Design and construction  
WAC 296-876-20005.

#### NEW SECTION

**WAC 296-876-20005 Design and construction.**

**IMPORTANT:**

Design and construction requirements of this section do not apply to special purpose ladders.

**Definition:**

A **special purpose ladder** is a portable ladder that is made by modifying or combining design or construction features of the general-purpose types of ladders in order to adapt the ladder to special or specific uses.

**You must:**

✎ Make sure portable ladders and job-made wooden ladders manufactured **on or after January 1, 2006**, meet the design and construction requirements and specifications of the appropriate American National Standards Institute (ANSI) standard:

- ANSI A14.1-2000, American National Standard for Ladders-Portable Wood-Safety Requirements.

- ANSI A14.2-2000, American National Standard for Ladders-Portable Metal-Safety Requirements.

- ANSI A14.5-2000, American National Standard for Ladders-Portable Reinforced Plastic-Safety Requirements.

- ANSI A14.4-2002, American National Standard Safety Requirements for Job-Made Wooden Ladders.

✎ Make sure portable ladders manufactured **before January 1, 2006**, meet the design and construction requirements and specifications of the appropriate ANSI standard in effect on the date of manufacture:

- ANSI A14.1, American National Standard for Ladders-Portable Wood-Safety Requirements.

- ANSI A14.2, American National Standard for Ladders-Portable Metal-Safety Requirements.

- ANSI A14.5, American National Standard for Ladders-Portable Reinforced Plastic-Safety Requirements.

**Note:** A commercially manufactured portable ladder should have a label indicating it meets the requirements of the ANSI standard. If in doubt, check with the manufacturer.

## NEW SECTION

### **WAC 296-876-300 Ladder care--Section contents.**

#### **Your responsibility:**

To make sure portable ladders are inspected, maintained, stored and transported properly.

Condition and inspection

WAC 296-876-30005.

Repair

WAC 296-876-30010.

Storage

WAC 296-876-30015.

Transport

WAC 296-876-30020.

NEW SECTION

**WAC 296-876-30005 Condition and inspection.**

**You must:**

 Keep portable ladders in good, usable condition. Good, usable condition includes, but is not limited to:

- Joints between the steps or rungs and the side rails are tight.

- Rungs, cleats, or steps are not bent, broken, or missing.

- Side rails are not bent, broken, or split.

- All bolts and rivets are in place and secure.

- Hardware, fittings and accessories are securely attached and working properly.

- Ropes are not frayed or badly worn.

- Moveable parts operate freely without binding or excessive play.

- Safety feet and other auxiliary equipment are not excessively worn.

- Metal components are not corroded.

- There are no other faulty or defective components.

 Make sure wood ladders are not coated with an opaque covering except for the minimum amount necessary for identification and warning information which may be placed on one face only of a side rail.

 Have a competent person inspect a ladder:

- When required by Table 1, Ladder Inspection Criteria;

**AND**

- After any other occurrence that could affect safe use.

 Make sure any ladder with structural damage or other hazardous defect is:

- Marked to identify it as defective or tagged with "do not use" or similar language;

**AND**

- Removed from service.

**Note:** Ladders subjected to certain acids or alkali materials may experience chemical corrosion and a reduction in strength. Consult the manufacturer or a qualified person prior to use.

**Table 1  
Ladder Inspection Criteria**

| <b>When the ladder is:</b>                                  | <b>Do the following:</b>   |
|---|--|
| First placed into service and periodically while in service |  Inspect the ladder for visible defects, including, but not limited to:<br>- Working parts; |

|  |  |
|--|--|
|  | <p><b>AND</b></p> <ul style="list-style-type: none"> <li>- Rung or step connections to the side rails.</li> </ul>  |
| Damaged by impact or tips over           | <ul style="list-style-type: none"> <li>✎ Visually inspect the ladder for: <ul style="list-style-type: none"> <li>- Dents, bends, cracks or splits</li> </ul> </li> <li>✎ Check: <ul style="list-style-type: none"> <li>- Rung or step connections to the side rails.</li> <li>- Hardware connections.</li> <li>- Rivets for shear damage.</li> <li>- All other components.</li> </ul> </li> </ul>  |
| Exposed to excessive heat such as a fire | <ul style="list-style-type: none"> <li>✎ Visually inspect the ladder for damage.</li> <li>✎ Test for deflection and strength characteristics using the "in-service use tests" contained in the appropriate ANSI.</li> </ul> <p><b>Exemption:</b><br/>Job-made wooden ladders are not to be subjected to load or impact tests. Those tests may weaken lumber components or fasteners, causing hidden damage that could result in sudden failure during use.</p> |

NEW SECTION

**WAC 296-876-30010 Repair.**

**You must:**

- ✎ Make sure repairs restore the ladder to a condition meeting its original design criteria.

- ✎ Prohibit repairs to a defective side rail.

**Note:** A commercially manufactured ladder with a defective side rail cannot be repaired by the user. Side rail repair can only be done by the manufacturer.

NEW SECTION

**WAC 296-876-30015 Storage.**

**You must:**

- ✎ Make sure material is not put on ladders in storage.

**Note:** ✎ Store portable ladders on racks designed to protect them when not in use. The racks should have enough supporting points to prevent the ladder from sagging.

✎ Do not store wood ladders near sources of heat, moisture, or dampness.

## NEW SECTION

### **WAC 296-876-30020 Transport.**

#### **You must:**

✎ Properly support ladders while transporting them on vehicles.

✎ Make sure ladders transported in a truck rack are positively secured in a fixed position that prevents chafing or abrasion.

**Note:** Securing the ladder to each support point will greatly reduce damage due to road shock.

## NEW SECTION

### **WAC 296-876-400 Use--Section contents.**

#### **Your responsibility:**

To use portable ladders safely.

Designed use

WAC 296-876-40005.

Workplace activities or traffic

WAC 296-876-40010.

Support

WAC 296-876-40015.

Set-up

WAC 296-876-40020.

Climbing and descending

WAC 296-876-40025.

Getting on and off ladders at upper levels

WAC 296-876-40030.

Exposed electrical hazards

WAC 296-876-40035.

Persons on ladders

WAC 296-876-40040.

Multisection ladders

WAC 296-876-40045.

Self-supporting ladders

WAC 296-876-40050.

NEW SECTION

**WAC 296-876-40005 Designed use.**

**You must:**

✎ Use ladders only for their intended purpose.

**Note:** Unless specifically recommended by the manufacturer, do not use a ladder as a:

- ✎ Brace.
- ✎ Skid.
- ✎ Lever.
- ✎ Guy or gin pole.
- ✎ Gangway.
- ✎ Platform.
- ✎ Scaffold plank.
- ✎ Material hoist.

**You must:**

✎ Make sure not to overload ladders. Do not exceed either the:

- Maximum intended load;

OR

- Manufacturer's rated capacity.

**Definitions:**

- The **maximum intended load** is the total load of all persons, equipment, tools, materials, transmitted loads, and other loads reasonably anticipated to be applied to a ladder or ladder component at any one time.

- **Ladder type.** The designation that identifies the maximum intended load (working load) of the ladder. Ladder types are as follows:

| <b>Duty Rating</b> | <b>Ladder Type</b> | <b>Use</b>                           | <b>Maximum Intended Load (Pounds)</b> |
|--------------------|--------------------|--------------------------------------|---------------------------------------|
| Extra Heavy-Duty   | IA                 | Industry, utilities, contractors     | 300                                   |
| Heavy-Duty         | I                  | Industry, utilities, contractors     | 250                                   |
| Medium-Duty        | II                 | Painters, offices, light maintenance | 225                                   |
| Light-Duty         | III                | General household use                | 200                                   |

NEW SECTION

**WAC 296-876-40010 Workplace activities or traffic.**

**You must:**

✎ Protect ladders that are set-up in a location where they could be displaced by workplace activities or traffic by either:

- Securing the ladder to prevent accidental displacement;

OR

- Using a barricade to keep the activities or traffic away from the ladder.

✎ Protect ladders that are set-up in front of doors that open towards the ladder by doing at least one of the following:

- Block the door open.
- Lock the door.
- Guard the door to keep it from opening into the ladder.

NEW SECTION

**WAC 296-876-40015 Support.**

**You must:**

✎ Place the ladder either:

- With a secure footing on a firm, level support surface;

OR

- Secure the ladder to prevent accidental displacement.

✎ Make sure a ladder is not placed on ice, snow, or other slippery surface unless the ladder is prevented from accidental displacement by either:

- Securing it;

OR

- Providing the ladder with slip-resistant feet.

**Note:** Slip-resistant feet are not a substitute for care in placing, lashing, or holding a ladder that is used on a slippery surface.

**You must:**

✎ Make sure ladders are not placed on boxes, barrels, or other unstable bases to obtain additional height.

✎ Place a straight ladder so the side rails are equally supported by the top support, unless the ladder is equipped with a single support attachment.

✎ Make sure the top support of the ladder is reasonably rigid and able to support the load.

NEW SECTION

**WAC 296-876-40020 Set-up.**

**You must:**

 Set-up nonself-supporting ladders at a safe angle. The ladder is set at the proper angle when the horizontal distance from the top support to the foot of the ladder is approximately one-quarter the working length of the ladder.

 Set-up job-made ladders with spliced side rails so that the horizontal distance from the top support to the foot of the ladder is not greater than one-eighth the working length of the ladder.

**Definition:**

The **working length** of a nonself-supporting ladder is the length, measured along the rails, from the base support point of the ladder to the point of bearing at the top.

**Safe Ladder Angle**



NEW SECTION

**WAC 296-876-40025 Climbing and descending.**

**You must:**

 Have both hands free to hold on to the ladder.

- ✎ Face the ladder when climbing or descending.
- ✎ Keep ladders free of oil, grease, or other slippery materials.
- ✎ Keep the area around the top and bottom of ladders clear.
- ✎ Make sure single-rail ladders are not used.

**Definition:**

A **single-rail ladder** is a portable ladder with crosspieces mounted on a single rail.

NEW SECTION

**WAC 296-876-40030 Getting on and off ladders at upper levels.**

**You must:**

✎ Make sure a ladder used to access an upper level has the side rails extended at least three feet (.9 m) above the landing surface if the ladder length permits.

✎ Do the following if a ladder used to access an upper level is not long enough to obtain a three-foot side rail extension above the landing surface:

- Secure the ladder at the top to a rigid support that will not deflect.

- Provide a grasping device, such as a grabrail, to assist in mounting and dismounting the ladder.

- Make sure the ladder deflection under a load would not, by itself, cause it to slip off its support.

✎ Make sure, if two or more separate ladders are used to reach an elevated work area, that the ladders are offset with a platform or landing between them.

**Exemption:** A platform or landing is not required when a portable ladder is used to reach a fixed ladder on structures such as utility towers and billboards where the bottom of the fixed ladder is elevated to limit access.

NEW SECTION

**WAC 296-876-40035 Exposed electrical hazards.**

**You must:**

✎ Use ladders with nonconductive side rails where the ladder could contact uninsulated, energized electric lines or equipment.

- Metal ladders or other ladders specifically designed to permit grounding or dissipation of static electricity may be

used around high static electrical fields if all of the following are met:

✎ Using nonconductive ladders would present a greater hazard than using conductive ladders.

✎ Ladders are prominently marked and identified as being conductive.

✎ Ladders are grounded when used near energized lines or equipment.

**Note:** Examples of ladders with conductive side rails are metal ladders, and wood or reinforced plastic ladders with metal side rail reinforcement.

#### NEW SECTION

##### **WAC 296-876-40040 Persons on ladders.**

###### **You must:**

✎ Make sure a ladder is not moved, shifted, or adjusted while anyone is on it.

✎ Secure the ladder at the top and bottom when working from it.

✎ Use a safety belt with a lanyard that is secured to the ladder when doing any work that:

- Requires the use of both hands;

###### **AND**

- Is done from a ladder more than twenty-five feet above the ground or floor.

✎ Prohibit work being done from a ladder more than twenty-five feet above the ground or floor if the work requires wearing eye protection or a respirator.

#### NEW SECTION

##### **WAC 296-876-40045 Multisection ladders.**

###### **You must:**

✎ Make sure not to tie or fasten ladder sections together to make longer ladders unless:

- The ladder manufacturer endorses this type of use;

###### **AND**

- You have hardware fittings specifically designed for this purpose.

✎ Make sure each section of a multisection ladder, when fully extended and locked in position to be used, overlaps the

adjacent section as indicated in Table 2, Minimum Required Overlap for Extension Ladders.

**Table 2  
Minimum Required Overlap for Extension Ladders**

| <b>If the ladder size (feet) is:</b> | <b>Minimum required overlap for a two-section ladder is (feet):</b> |
|--------------------------------------|---|
| Up to and including 36               | 3   |
| Over 36 up to and including 48       | 4   |
| Over 48 up to and including 60       | 5   |

NEW SECTION

**WAC 296-876-40050 Self-supporting ladders.**

**You must:**

✎ Make sure self-supporting ladders are not used as single ladders or in the partially closed position.

✎ Make sure stepladders are fully opened with the spreaders locked.

✎ Make sure not to climb on the rear braces of a self-supporting ladder unless they are designed and recommended for that purpose by the manufacturer.

✎ Prohibit standing or stepping on the:

- Top cap and top step of a step or trestle ladder.
- Bucket or pail shelf of a self-supporting ladder.

**Exemption:** The restriction against using the top step is not applicable if it is eighteen inches or more below the top cap.

NEW SECTION

**WAC 296-876-500 Training--Section contents.**

**Your responsibility:**

To train employees who use portable ladders.

Training

WAC 296-876-50005.

## NEW SECTION

### **WAC 296-876-50005 Training.**

#### **You must:**

✎ Train employees to recognize ladder hazards and the procedures to minimize these hazards.

✎ Have a competent person train employees that use portable ladders in at least the following topics:

- The proper construction, use, placement, and care in handling ladders.

- The maximum intended load capacities of ladders that are used.

- The requirements of this chapter.

✎ Retrain employees as necessary to make sure they know and understand the content of the original training.

## NEW SECTION

### **WAC 296-876-600 Definitions.**

#### **Cleat**

A ladder crosspiece used in climbing or descending. Also called a step or rung.

#### **Extension ladder**

A nonself-supporting portable ladder consisting of two or more sections. The sections travel in guides or brackets that allow the length of the ladder to be changed. The size is designated by the sum of the lengths of each section, measured along the side rails.

#### **Failure**

The ladder or ladder component loses the ability to carry the load, breaks, or separates into component parts.

#### **Job-made ladder**

A ladder that is made, not commercially manufactured, to fit a specific job situation. They are for temporary use until a particular phase of construction is completed or until permanent stairways or fixed ladders are ready to use.

#### **Ladder**

A device having steps, rungs, or cleats that can be used to climb or descend.

#### **Ladder type**

The designation that identifies the maximum intended load

(working load) of the ladder. Ladder types are as follows:

| <b>Duty Rating</b> | <b>Ladder Type</b> | <b>Use</b>                           | <b>Maximum Intended Load (Pounds)</b> |
|--------------------|--------------------|--------------------------------------|---------------------------------------|
| Extra Heavy-Duty   | IA                 | Industry, utilities, contractors     | 300                                   |
| Heavy-Duty         | I                  | Industry, utilities, contractors     | 250                                   |
| Medium-Duty        | II                 | Painters, offices, light maintenance | 225                                   |
| Light-Duty         | III                | General household use                | 200                                   |

**Maximum intended load**

The total load of all persons, equipment, tools, materials, transmitted loads, and other loads reasonably anticipated to be applied to a ladder or ladder component at any one time. Sometimes referred to as working load.

**Portable ladder**

A ladder that can be readily moved or carried.

**Reinforced plastic**

A plastic that has high-strength fillers embedded in the base resin to increase strength.

**Reinforced plastic ladder**

A ladder whose side rails are reinforced plastic. The crosspieces, hardware, and fasteners may be made of metal or other suitable material.

**Rung**

A ladder crosspiece used in climbing or descending. Also called a cleat or step.

**Single ladder**

A nonself-supporting portable ladder, nonadjustable in length, consisting of one section. The size is designated by the overall length of the side rail.

**Single-rail ladder**

A portable ladder with crosspieces mounted on a single rail. Single-rail ladders are prohibited from use.

**Special-purpose ladder**

A portable ladder that is made by modifying or combining design or construction features of the general-purpose types of ladders in order to adapt the ladder to special or specific uses.

**Step**

A ladder crosspiece used in climbing or descending. Also called a cleat or rung.

**Stepladder**

A self-supporting portable ladder, nonadjustable in length, with flat steps and hinged at the top. The size is designated by the overall length of the ladder measured along the front edge of the side rails.

**Trestle ladder**

A self-supporting portable ladder, nonadjustable in length, consisting of two sections hinged at the top to form equal angles with the base. The size is designated by the length of the side rails measured along the front edge.

**Working length**

The length of a nonself-supporting ladder, measured along the rails, from the base support point of the ladder to the point of bearing at the top.