AMENDATORY SECTION (Amending WSR 95-22-015, filed 10/20/95, effective 1/16/96)

WAC 296-24-73501 ((~~General requirements.~~)) Scope. This section applies to all permanent places of employment, except where domestic, mining, or agricultural work only is performed. Construction work is not to be deemed as a permanent place of employment. ((~~Measures for the control of toxic materials are considered to be outside the scope of this section.~~)) This section covers all walking-working surfaces unless specifically excluded by an individual paragraph of this section. Where used in Part J of this chapter.

NEW SECTION

WAC 296-24-73502 Definitions. As used in Part J of this chapter, the following definitions apply:

Alternating tread-type stair. A type of stairway consisting of a series of treads that are usually attached to a center support in an alternating manner such that an employee typically does not have both feet on the same level while using the stairway.

Dockboard. A portable or fixed device that spans a gap or compensates for a difference in elevation between a loading platform and a transport vehicle. Dockboards include, but are not limited to, bridge plates, dock plates, and dock levelers.

Failure. A load refusal, breakage, or separation of component parts. A load refusal is the point at which the ultimate strength of a component or object is exceeded.

Grab bar. An individual horizontal or vertical handhold installed to provide access above the height of the ladder.

Guardrail system. A barrier erected along an unprotected or exposed side, edge, or other area of a walking-working surface to prevent employees from falling to a lower level. For dimension requirements (rail heights, etc.), see the unified fall protection rule (chapter 296-880 WAC).

Handrail. Means a rail used to provide employees with a handhold for support.

Lower level. A surface or area to which an employee could fall. Such surfaces or areas include, but are not limited to, ground levels, floors, roofs, ramps, runways, excavations, pits, tanks, materials, water, equipment, and similar surfaces and structures, or portions thereof.

Maximum intended load. The total load (weight and force) of all employees, equipment, vehicles, tools, materials, and other loads the employer reasonably anticipates to be applied to a walking-working surface at any one time.

Nose, nosing. That portion of a tread projecting beyond the face of the riser immediately below.

Open riser. The gap or space between treads of stairways that do not have upright or inclined members (risers).

Platform. A walking-working surface that is elevated above the surrounding area.

Qualified. Describes a person who, by possession of a recognized degree, certificate, or professional standing, or who by extensive

knowledge, training, and experience has successfully demonstrated the ability to solve or resolve problems relating to the subject matter, the work, or the project.

Railing. A vertical barrier erected along exposed sides of stairways and platforms to prevent falls of persons. The top member of railing usually serves as a handrail.

Ramp. An inclined walking-working surface used to access another level.

Rise. The vertical distance from the top of a tread to the top of the next higher tread.

Riser. The upright (vertical) or inclined member of a stair that is located at the back of a stair tread or platform and connects close to the front edge of the next higher tread, platform, or landing.

Runway. An elevated walking-working surface, such as a catwalk, a foot walk along shafting, or an elevated walkway between buildings.

Ship stair (ship ladder). A stairway that is equipped with treads, stair rails, and open risers, and has a slope that is between 50 and 70 degrees from the horizontal.

Spiral stairs. A series of treads attached to a vertical pole in a winding fashion, usually within a cylindrical space.

Stair platform. An extended step or landing breaking a continuous run of stairs.

Stair rail or stair rail system. A barrier erected along the exposed or open side of stairways to prevent employees from falling to a lower level.

Stairway (stairs). Risers and treads that connect one level with another, and includes any landings and platforms in between those levels. Stairways include standard, spiral, alternating tread-type, and ship stairs.

Standard stairs. A fixed or permanently installed stairway. Ship, spiral, and alternating tread-type stairs are not considered standard stairs.

Tread. A horizontal member of a stair or stairway, but does not include landings or platforms.

Unprotected sides and edges. Mean any side or edge of a walking-working surface (except at entrances and other points of access) where there is no wall, guardrail system, or stair rail system to protect an employee from falling to a lower level. For requirements relating to unprotected sides and edges, see the unified fall protection rule (chapter 296-880 WAC).

Walking-working surface. Any surface, whether horizontal or vertical on which an employee walks, works, or gains access to a work area or workplace location. Walking-working surfaces include, but are not limited to, floors, the ground, roofs, ramps, bridges, runways, stairs, dockboards, formwork and concrete reinforcing steel.

AMENDATORY SECTION (Amending WSR 15-24-100, filed 12/1/15, effective 1/5/16)

WAC 296-24-73505 ((~~Aisles and passageways.~~)) General requirements. ((~~(1) You must ensure that where mechanical handling equipment is used, sufficient safe clearances are allowed for aisles, at loading docks, through doorways and wherever turns or passage must be made.~~

~~You must keep aisles and passageways clear and in good repairs, with no obstruction across or in aisles that could create a hazard.~~

~~(2) You must ensure that permanent aisles and passageways are appropriately marked. "Appropriate" does not limit the marking to printed lines on the floor only. Other appropriate methods may be marked pillars, powder stripping, flags, traffic cones, or barrels, provided they are maintained in good repair and the recognition of such markings are included in the training programs for vehicle operators and employees.~~

~~(3) You must ensure that all trestles in connection with industrial plants on which cars run, which are also used as walkways for workers, are equipped with a walkway on the outer edge, so located as to give safe minimum clearance of 3 feet to cars. Such walkways must be equipped with standard rails. Where a trestle crosses a driveway or passageway the trestle over such points must be solidly boarded over.~~)) (1) Surface conditions. You must ensure:

(a) All places of employment, passageways, storerooms, service rooms, and walking-working surfaces are kept in a clean, orderly, and sanitary condition.

Note: Sanitary condition covers hazard exposures other than slips, trips, and falls. Examples of this include the prevention of illness/disease, and the prevention of fire and explosion resulting from combustible dust accumulations.

(b) The floor of each workroom is maintained in a clean and, to the extent feasible, in a dry condition. When wet processes are used, drainage must be maintained and, to the extent feasible, dry standing places, such as false floors, platforms, and mats must be provided.

(c) Walking-working surfaces are maintained free of hazards such as sharp or protruding objects, loose boards, corrosion, leaks, spills, snow, and ice.

(2) You must ensure that each walking-working surface can support the maximum intended load for that surface.

(3) You must provide, and ensure each employee uses, a safe means of access and egress to and from walking-working surfaces.

(4) Inspection, maintenance, and repair. You must ensure:

(a) Walking-working surfaces are inspected, regularly and as necessary, and maintained in a safe condition.

(b) Hazardous conditions on walking-working surfaces are corrected or repaired before an employee uses the walking-working surface again. If the correction or repair cannot be made immediately, the hazard must be guarded to prevent employees from using the walking-working surface until the hazard is corrected or repaired.

(c) When any correction or repair involves the structural integrity of the walking-working surface, a qualified person performs or supervises the correction or repair.

NEW SECTION

WAC 296-24-74005 General requirements for all stairs. In addition to the requirements in WAC 296-24-735, you must ensure:

(1) Handrails, stair rail systems, and guardrail systems are provided in accordance with WAC 296-24-74015.

Note: For guardrail system requirements, see the unified fall protection rule (chapter 296-880 WAC).

(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 WAC 296-24-74015.

(3) Stairs have uniform riser heights and tread depths between landings.

(4) Stairway landings and stair 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.

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

(a) Less than 20 inches (51 cm) for stair platforms installed before October 1, 2020; and

(b) Less than 22 inches (56 cm) for stair platforms installed on or after October 1, 2020 (see Figure D-7 of this section).

(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.

(7) Standard stairs are used to provide access from one walking-working surface to another when operations necessitate regular and routine (once per week) 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).

(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.

(9) When subsection (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.

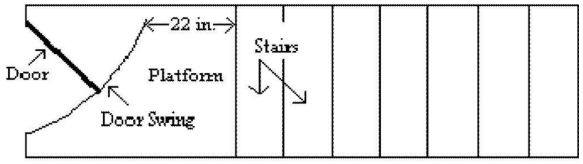


Figure D-7 - Door or Gate Opening on Stairway

(10) Each tread and the top landing of a stairway, where risers are used, should have a nose which extends .5 inch to 1 inch beyond the face of the lower riser.

(11) Stair tread noses should have an even leading edge.

NEW SECTION

WAC 296-24-74010 Standard stairs. In addition to WAC 296-24-74005, you must also ensure standard stairs:

(1) Are installed at angles between 30 to 50 degrees from the horizontal.

(2) Have a maximum riser height of 9.5 inches (24 cm).

(3) Have a minimum tread depth of 9.5 inches (24 cm).

(4) Have a minimum width of 22 inches (56 cm) between vertical barriers (see Figure D-8 of this section).

EXCEPTION: Subsections (2) and (3) of this section do not apply to standard stairs installed prior to October 1, 2020, provided those stairs meet the dimension requirements specified in Table D-1 of this section or they use a combination that achieves the angle requirements of subsection (1) of this section.

TABLE D-1

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

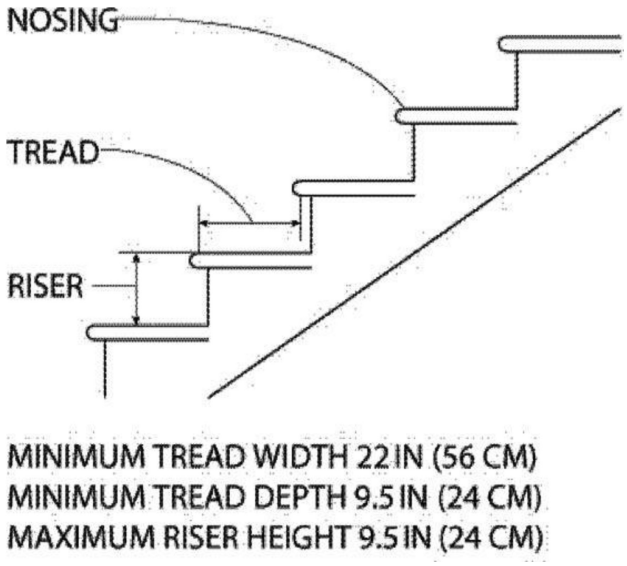


Figure D-8

NEW SECTION

WAC 296-24-74015 Handrail, stair rail, and guardrail system requirements. Handrail and stair rail systems must meet the following criteria:

Note: For guardrail system requirements, see the unified fall protection rule (chapter 296-880 WAC).

(1) Handrails are not less than 30 inches (76 cm) and not more than 38 inches (97 cm), as measured from the leading edge of the stair tread to the top surface of the handrail (see Figure D-12 of this section).

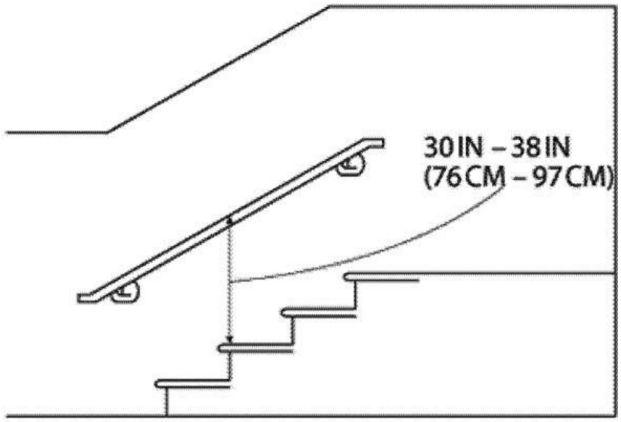


Figure D-12 - Handrail Measurement

(2) The height of stair rail systems meets the following:

(a) The height of stair rail systems installed before October 1, 2020, is not less than 30 inches (76 cm) from the leading edge of the stair tread to the top surface of the top rail; and

(b) The height of stair rail systems installed on or after October 1, 2020, is not less than 42 inches (107 cm) from the leading edge of the stair tread to the top surface of the top rail. This 42 inch height requirement intentionally conflicts with the requirement above the handrail heights be between 30 to 38 inches above the stair tread. Handrails and stair rails constructed after the effective date above must be separate (see Figure D-13b of this section).

(3) The top rail of a stair rail system installed before October 1, 2020, may serve as a handrail only when:

(a) The height of the stair rail system is not less than 36 inches (91 cm) and not more than 38 inches (97 cm) as measured at the leading edge of the stair tread to the top surface of the top rail (see Figure D-13a of this section); and

(b) The top rail of the stair rail system meets the other handrail requirements in (f) of this subsection.

Figure D-13a - Combination Handrail and Stair Rail Installed prior to October 1, 2020

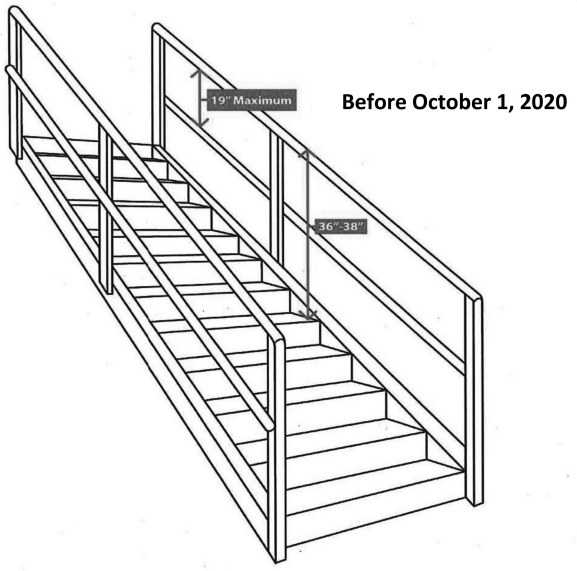
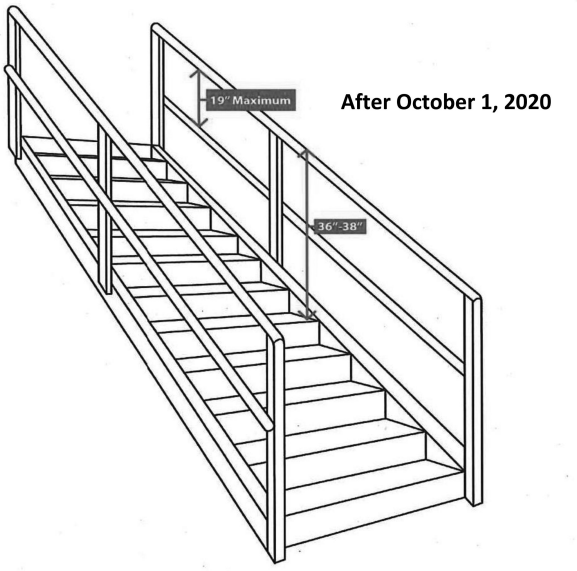


Figure D-13b - Combination Handrail and Stair Rail Installed after October 1, 2020



(4) Finger clearance. The minimum clearance between handrails and any other object is 2.25 inches (5.7 cm).

(5) Surfaces. Handrail/stair rail systems are smooth-surfaced to protect employees from injury, such a punctures or lacerations, and to prevent catching or snagging of clothing.

(6) Openings in stair rails. No opening in a stair rail system exceeds 19 inches (48 cm) at its least dimension.

(7) Handholds. Handrails have the shape and dimension necessary so that employees can grasp the handrail firmly.

(8) Projection hazards. The ends of handrails and stair rail systems do not present any projection hazards.

(9) Strength criteria. Handrails and the top rails of stair rail systems are capable of withstanding, without failure, a force of at least 200 pounds (890 N) applied in any downward or outward direction within 2 inches (5 cm) of any point along the top edge of the rail.

Note: Table D-3 below is informational only. Table D-3 is provided for employers and employees to quickly review and contrast various railing regulations (DOSH, federal OSHA, and International Building Code) in effect at the date of publication of this rule, October 1, 2020. Refer to referenced rule itself for details relating to scope, intent, definitions, application, etc.

Table D-3 – Informational Summary of Railing Requirements

Standard	Stair Rail Height	Hand Rail Height	Stair Rail as Hand Rail	Mid Rail	Toe Board
Chapter 296-880 WAC	N/A	30" - 38"	N/A	*Halfway*	43.5"
29 C.F.R. 1910.29	42" min.	30" - 38"	36" - 38"*	*Midway*	2.5"-3.5"
29 C.F.R. 1926.502/1926.1052	36" min.	30" - 37"	36" - 37"	*Between*	3.5" min.
IBC (2018) 1014/1015 (per RCW 19.27.031)	42" min.	34" - 38"	34" - 38" (Group F)	Openings < 21"	Openings < 4"

* If installed prior to October 1, 2020, otherwise prohibited in WAC 296-24-74015 (2)(b).

NEW SECTION

WAC 296-24-74025 Ship stairs. In addition to WAC 296-24-74005, you must also ensure ship stairs (see Figure D-9 of this section):

(1) Are installed at a slope of 50 to 70 degrees from the horizontal;

(2) Have open risers with a vertical rise between tread surfaces of 6.5 to 12 inches (17 to 30 cm);

(3) Have minimum tread depth of 4 inches (10 cm); and

(4) Have a minimum tread width of 18 inches (46 cm).

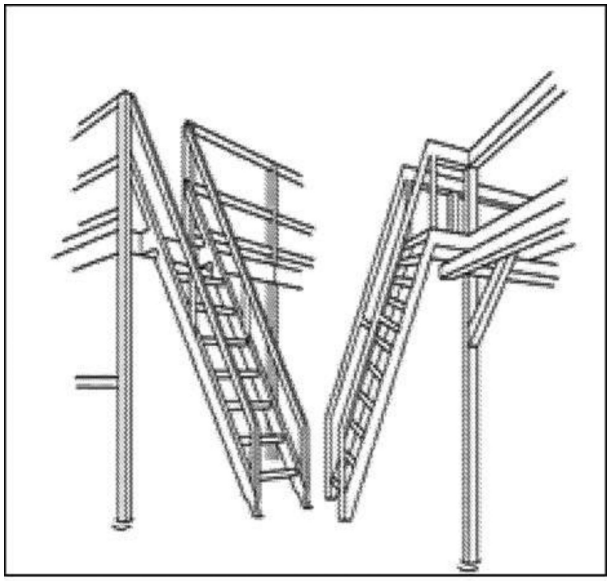


Figure D-9 - Ship Stairs

AMENDATORY SECTION (Amending Order 73-5, filed 5/9/73)

WAC 296-24-765 ((~~Fixed industrial stairs.~~)) Stairways. This section contains specifications for the safe design and construction of fixed general industrial stairs. This classification includes interior and exterior stairs around machinery, tanks, and other equipment, and stairs leading to or from floors, platforms, or pits. This section does not apply to stairs used for fire exit purposes, construction operations, stairs on scaffolds, stairs designed into machines or equipment, articulated stairs, such as may be installed on floating roof tanks or on dock facilities, the angle of which changes with the rise and fall of the base support, or to stairs on self-propelled motorized equipment.

AMENDATORY SECTION (Amending WSR 15-24-100, filed 12/1/15, effective 1/5/16)

WAC 296-24-76515 ((~~Length of stairways.~~)) Spiral stairs. ((~~Long flights of stairs, unbroken by landings or intermediate platforms, should be avoided. Consideration should be given to providing intermediate platforms where practical and where such stairways are in frequent use. You must ensure that stairway platforms are no less than the width of a stairway and a minimum of 30 inches in length measured in the direction of travel.~~)) In addition to WAC-296-24-74005, you must also ensure spiral stairs:

(1) Have a minimum clear width of 26 inches (66 cm);

(2) Have a maximum riser height of 9.5 inches (24 cm);

(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;

(4) Have a minimum tread depth of 7.5 inches (19 cm), measured at a point of 12 inches (30 cm) from the narrower edge; and

(5) Have a uniform tread size.

AMENDATORY SECTION (Amending WSR 15-24-100, filed 12/1/15, effective 1/5/16)

WAC 296-24-76555 Alternating tread-type stairs. Alternating tread-type stairs have a series of steps between 50 and 70 degrees from horizontal, attached to a center support rail in an alternating manner so that a user of the stairs never has both feet at the same level at the same time. (See Figure ((~~D-12~~)) D-11 of this section.)

(1) You must ensure that alternating tread-type stairs are designed, installed, used, and maintained in accordance with approved manufacturer's specifications, and have the following:

(a) Stair rails on all open sides;

(b) Handrails on both sides of enclosed stairs;

(c) Stair rails and handrails of such configuration as to provide an adequate handhold for a user grasping it to avoid a fall;

(d) A ((~~minimum~~)) distance of 17 to 24 inches between handrails;

(e) A minimum width of 22 inches overall;

(f) A minimum tread depth of ((~~8~~)) 8.5 inches;

(g) A minimum tread width of 7 inches; ((~~and~~))

(h) A maximum rise of ((~~9 1/2~~)) 9.5 inches to the tread surface of the next alternating tread; and

(i) Open risers if the tread depth is less than 9.5 inches (24 cm).

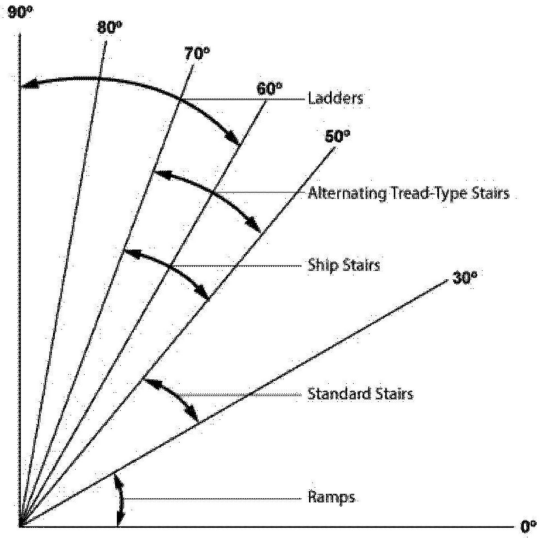
(2) You must ensure that alternating tread-type stairs have not more than a 20-foot continuous rise. You must provide one or more intermediate stair platforms in accordance with WAC ((~~296-24-76515~~)) 296-24-74005 where more than a 20-foot rise is necessary to reach the top of a required stair.

((~~(3) You must ensure that stairs and platforms are installed so the top landing of the alternating tread stair is flush with the top of the landing platform.~~

~~(4) You must ensure that stair design and construction sustains a load of not less than 5 times the normal live load, but never less strength than to carry safely a moving concentrated load of 1,000 pounds.~~

~~(5) You must ensure that treads are equipped with slip-resistant surfaces.~~

~~(6) You must ensure that where a platform or landing is used, the width is not less than the width of the stair nor less than 30-inch depth in the direction of travel. You must ensure that stairs are flush with the top of the landing platform.~~))



Angle	Type
≤ 30°	Ramps
30° - 50°	Standard Stairs
50° - 70°	Ship Stairs
50° - 70°	Alternating Tread-Type Stairs
60° - 90°	Ladders

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

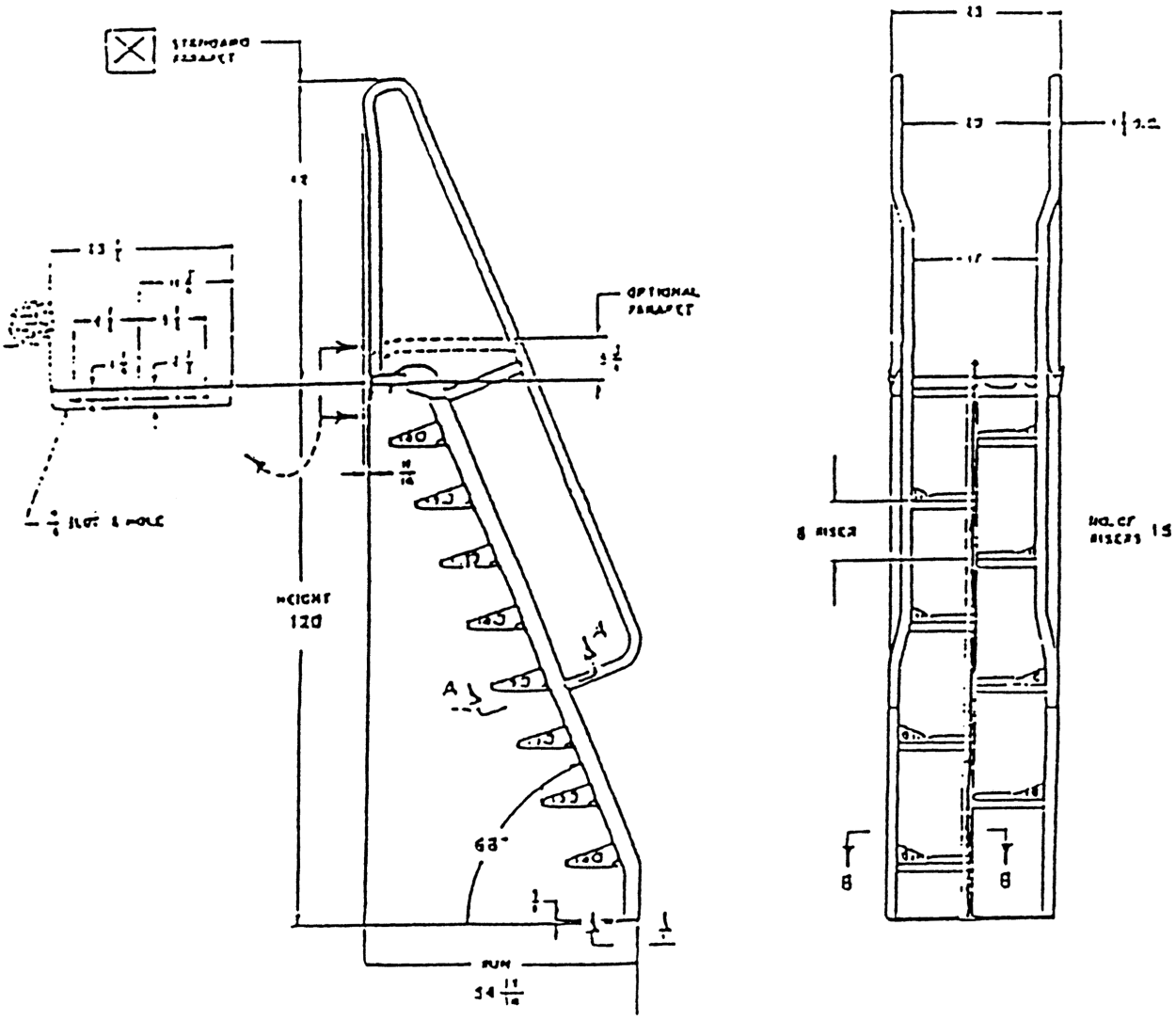


Figure D-11

AMENDATORY SECTION (Amending WSR 15-24-100, filed 12/1/15, effective 1/5/16)

WAC 296-24-85501 Dockboards (bridge plates). ((~~(1) You must ensure that~~)) You must ensure:

(1) Portable and powered dockboards are strong enough to carry the load imposed on them.

(2) ((~~You must ensure that portable dockboards are secured in position, either by being anchored or equipped with devices which will prevent their slipping.~~

~~(3) You must ensure that powered dockboards are designed and constructed in accordance with Commercial Standard CS202-56 (1961) "Industrial Lifts and Hinged Loading Ramps" published by the U.S. Department of Commerce.~~

~~(4) You must ensure that handholds, or other effective means, are provided on portable dockboards to permit safe handling.~~

~~(5) You must ensure that positive protection is provided to prevent railroad cars from being moved while dockboards or bridge plates are in position.~~)) Dockboards put into initial service on or after October 1, 2020, are designed, constructed, and maintained to prevent employees from running off the dockboard edge.

EXCEPTION: When the employer demonstrates there is no hazard of employees running off the dockboard edge, WAC 296-24-75005(1) does not apply.

(3) Portable dockboards are secured by anchoring them in place or using equipment or devices that prevent the dockboard from moving out of a safe position. When the employer demonstrates that securing the dockboard is not feasible, the employer must ensure there is sufficient contact between the dockboard and the surface to prevent the dockboard from moving out of a safe position.

(4) Powered dockboards are designed and constructed in accordance with Commercial Standard CS202-56 (1961) "Industrial Lifts and Hinged Loading Ramps" published by the U.S. Department of Commerce, or newer standards as effective as the code such as:

(a) American National Standards Institute (ANSI)/Industrial Truck Standards Development Foundation (ITSDF) B56.1-2012, Trucks, Low and High Lift, Safety Standard (B56.1-2012).

(b) ASME/ANSI MH14.1-1987, Loading Dock Levelers and Dockboards (MH14.1-1987) (Ex. 371).

(c) ANSI MH30.1-2007, National Standard for the Safety Performance, and Testing of Dock Loading Devices (MH30.1-2007) (Ex. 372).

(d) ANSI MH30.2-2005, Portable Dock Loading Devices: Standards, Performance, and Testing (MH30.2-2005) (Ex. 20).

(5) Positive protective measures, such as wheel chocks or sand shoes, are used to prevent the transport vehicle (e.g., a truck, semitrailer, trailer, or rail car) or container on which a dockboard is placed, from moving while employees are on the dockboard.

(6) You must ensure that handholds, or other effective means, are provided on portable dockboards to permit safe handling.

NEW SECTION

The following sections of the Washington Administrative Code are decodified and recodified as follows:

Old WAC Number	New WAC Number
296-24-765	296-24-740
296-24-76515	296-24-74020
296-24-76555	296-24-74030
296-24-855	296-24-7500
296-24-85501	296-24-75006

REPEALER

The following sections of the Washington Administrative Code are repealed:

WAC 296-24-73507 Covers and guardrails.

WAC 296-24-73511	Steam pipes.
WAC 296-24-750	Guarding floor and wall openings and holes.
WAC 296-24-75001	Terms.
WAC 296-24-75003	Protection for floor openings.
WAC 296-24-75005	Protection for wall openings and holes.
WAC 296-24-75007	Protection of open-sided runways.
WAC 296-24-75011	Railing, toeboards, and cover specifications.
WAC 296-24-76501	Terms.
WAC 296-24-76503	Application of requirements.
WAC 296-24-76507	Stair strength.
WAC 296-24-76509	Stair width.
WAC 296-24-76511	Angle of stairway rise.
WAC 296-24-76513	Stair treads.
WAC 296-24-76519	Vertical clearance.
WAC 296-24-76521	Open risers.
WAC 296-24-76523	General.
WAC 296-24-85503	Forging machine area.
WAC 296-24-85505	Veneer machinery.

AMENDATORY SECTION (Amending WSR 14-09-095, filed 4/22/14, effective 7/1/14)

WAC 296-876-099 Definitions. Cage. An enclosure mounted on the side rails of a fixed ladder or fastened to a structure behind the fixed ladder that ((~~encircles~~)) is designed to surround the climbing space of a fixed ladder. It ((~~is fastened to the ladder side rails or to the structure and~~)) may also be called a "cage guard" or "basket guard."

Carrier. The track of a ladder safety system that consists of a flexible cable or rigid rail attached, or immediately adjacent, to a fixed ladder.

Cleat. ((~~A ladder crosspiece used in climbing or descending. Also called a step or rung.~~)) See "rung."

Combination ladder. See "special-purpose ladder."

Competent person. Is an individual knowledgeable of ladders, including the manufacturer's recommendations and instructions for the proper use, inspection, and maintenance; and who is capable of identifying existing and potential ladder hazards; and who has the authority to take prompt corrective action to eliminate those hazards; and who is knowledgeable of the rules contained in this part regarding the installation, use, inspection, and maintenance of ladders.

Equivalent. Alternative design, material, or method to protect against a hazard. You have to demonstrate it provides an equal or greater degree of safety for employees than the method, material, or design specified in the rule.

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~~)) which is adjustable in length.

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

Fastenings. Devices to attach a ladder to a structure, building, or equipment.

Fixed ladder. A ladder permanently attached to a structure, building, or equipment. Fixed ladders include individual-rung ladders, but not ship stairs, step bolts, or manhole steps.

Grab bar((s)). ((~~Handholds placed adjacent to or as an extension above ladders for the purpose of providing access beyond the limits of the ladder.~~)) An individual horizontal or vertical handhold installed to provide access above the height of the ladder.

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.

Individual-rung/step ladder. A fixed ladder consisting of individual steps or rungs mounted directly to the side or wall of the structure, building, or equipment. An individual-rung ladder does not include manhole steps.

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

Ladder safety device. Any device, other than a cage or well, designed to ((~~arrest the fall of a person using a fixed ladder~~)) eliminate or reduce the possibility of falling from a ladder. A ladder

safety device usually consists of a carrier, safety sleeve, lanyard, connectors, and body harness.

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

Duty Rating	Ladder Type	Use	Maximum Intended Load (pounds)
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

Landing. Any area such as the ground, roof, or platform that provides access or egress to a ladder.

Manhole steps. Steps that are individually attached to, or set into, the wall of a manhole structure.

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.

Mobile. Manually propelled or moveable.

Mobile ladder stand (ladder stand). A mobile, fixed-height, self-supporting ladder that usually consists of wheels or casters on a rigid base and steps leading to a top step. A mobile ladder stand also may have handrails and is designed for use by one employee at a time.

Mobile ladder stand platform. A mobile, fixed-height, self-supporting unit having one or more standing platforms that are provided with means of access or egress.

Pitch. The included angle between the horizontal and the ladder, measured on the opposite side of the ladder from the climbing side.

Portable ladder. A ladder that can be readily moved or carried.

Qualified. Describes a person who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience has successfully demonstrated the ability to solve or resolve problems relating to the subject matter, the work, or the project.

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.

Side-step ladder. A fixed ladder that requires ((~~a person~~)) an employee to step ((~~to the side of~~)) sideways from the ladder ((~~side rails~~)) in order to reach ((~~the~~)) a walking-working surface, such as a landing.

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~~)) can be used as a stepladder, extension ladder, trestle ladder, stairway ladder, etc., in order to adapt the ladder to special or specific uses. The components of a combination ladder also may be used separately as a single ladder.

Step. ((~~A ladder crosspiece used in climbing or descending. Also called a cleat or rung.~~)) See "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.

Step bolt. (Also referred to as "pole step") means a bolt or rung attached at intervals along a structural member used for foot placement and as a handhold when climbing or standing.

Stepstool. A self-supporting, portable ladder that has flat steps and side rails. For purposes of the final rule, stepstool includes only those ladders that have a fixed height, do not have a pail shelf, and do not exceed thirty-two inches (81 cm) in overall height to the top cap, although side rails may extend above the top cap. A stepstool is designed so an employee can climb and stand on all of the steps and the top cap.

Through ladder. A fixed ladder that ((~~requires a person~~)) allows an employee to step between the side rails of the ladder to reach ((~~the~~)) a walking-working surface, such as a landing.

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.

Well. A permanent, complete walled enclosure around a fixed ladder ((~~that provides a person climbing the ladder with the same protection as a cage~~)).

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.

AMENDATORY SECTION (Amending WSR 16-23-141, filed 11/22/16, effective 12/23/16)

WAC 296-876-100 Scope. This chapter applies to portable and fixed ladders((~~,~~)) (including job-made wooden ladders), mobile ladder stands, and mobile ladder stand platforms. For ((~~requirements related to mobile ladder stands or rolling ladders, please refer to WAC 296-874-20024 Make sure stairway-type ladders meet these requirements~~)) fall arrest harness, rope/cable grab, and similar requirements related to ladder safety systems which are used on fixed ladders (see the unified fall protection rule, chapter 296-880 WAC).

EXEMPTION: This chapter does not apply to:
1. Portable ladders used by the fire services for fire combat that are covered by safety standards for firefighters, chapter 296-305 WAC;

2. Ladders used in other emergency training, and operations like rescue, and tactical law enforcement;
3. Agriculture activities covered by safety standards for agriculture, chapter 296-307 WAC;
4. Ladders designed into, or is an integral part of machines or equipment;
5. Where noted, "General Industry Only," these requirements do not yet apply to construction chapter 296-155 WAC, maritime chapter 296-56 WAC or shipyard activities chapter 296-304 WAC.

AMENDATORY SECTION (Amending WSR 14-09-095, filed 4/22/14, effective 7/1/14)

WAC 296-876-30005 Condition and inspection. (1) You must keep portable ladders in good, usable condition. Good, usable condition includes, but is not limited to:

(a) Joints between the steps or rungs and the side rails are tight.

(b) Rungs, cleats, or steps are not bent, broken, or missing.

(c) Side rails are not bent, broken, or split.

(d) All bolts and rivets are in place and secure.

(e) Hardware, fittings, and accessories are securely attached and working properly.

(f) Ropes are not frayed or badly worn.

(g) Moveable parts operate freely without binding or excessive play.

(h) Safety feet and other auxiliary equipment are not excessively worn.

(i) Metal components are not corroded.

(j) There are no other faulty or defective components.

(k) Rungs and steps of portable metal ladders are corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize the possibility of slipping.

(l) Each stepladder or combination ladder used in a stepladder mode is equipped with a metal spreader or locking device that securely holds the front and back sections in an open position while the ladder is in use.

(m) You must maintain portable ladder surfaces free of puncture and laceration hazards.

(n) You must ensure portable ladder rungs, steps, and cleats are parallel, level, and uniformly spaced when the ladder is in position for use.

(2) You must 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.

(3) You must have ((~~a competent person~~)) employees inspect ((~~a~~)) portable ladders, as follows:

(a) Competent person when required by Table 1, Ladder Inspection Criteria; and

(b) ((~~After any other occurrence that could affect safe use.~~)) Trained ladder user, prior to the user's initial use in each shift, and as necessary during the use to identify defects or damage that may occur during a work shift after the initial check. For example, if a ladder tips over, falls off a structure (e.g., roof) or vehicle, is struck by an object (e.g., vehicle or machine), or used in a corrosive environment, evidence of this damage would necessitate the authorized ladder user to initiate a ladder competent person inspection to determine whether the ladder is still safe to use.

(4) You must make sure any ladder with structural damage or other hazardous defect is:

(a) Marked to identify it as defective or tagged with "do not use" or similar language; and

(b) 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

When the ladder is:	Do the following:
First placed into service ((~~and periodically~~)) as necessary while in service	Inspect the ladder for visible defects, including, but not limited to: 1. Working parts; and 2. Rung or step connections to the side rails.
Damaged by impact or tips over	1. Visually inspect the ladder for dents, bends, cracks or splits 2. Check: a. Rung or step connections to the side rails. b. Hardware connections. c. Rivets for shear damage. d. All other components.
Exposed to excessive heat such as a fire	1. Visually inspect the ladder for damage. 2. Test for deflection and strength characteristics using the "in-service use tests" contained in the appropriate ANSI. **EXEMPTION**: 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.

(5) You must ensure stepstools have a minimum clear width of ten and one-half inches (26.7 cm).

(6) You must ensure portable ladder rungs, steps, and cleats have a minimum clear width of eleven and one-half inches (29 cm).

EXEMPTION: The minimum clear width does not apply to ladders with narrow rungs that are not designed to be stepped on, such as those located on the tapered end of orchard ladders and similar ladders.

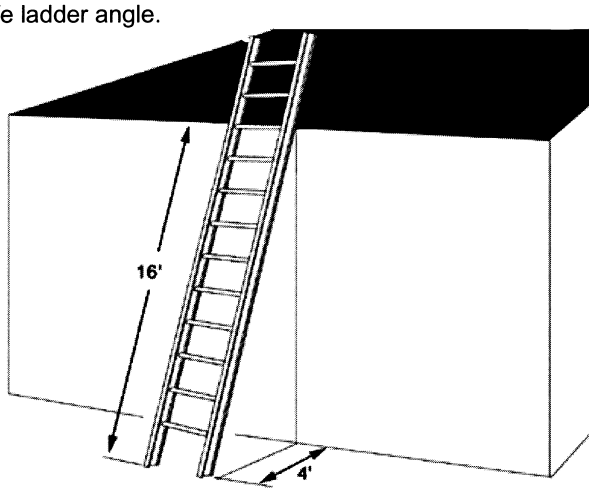
AMENDATORY SECTION (Amending WSR 14-09-095, filed 4/22/14, effective 7/1/14)

WAC 296-876-40020 Set-up. (1) 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.

(2) You must 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.

(3) You must set up the top of a nonself-supporting ladder so that both side rails are supported, unless the ladder is equipped with a single support attachment.

Note:
Safe ladder angle.



AMENDATORY SECTION (Amending WSR 14-09-095, filed 4/22/14, effective 7/1/14)

WAC 296-876-40025 Climbing and descending. (1) You must have ((~~both hands free to hold on to the ladder~~)) employees use at least one hand to grasp the ladder when climbing up and down it.

(2) You must face the ladder when climbing or descending.

(3) You must keep ladders free of oil, grease, or other slippery materials.

(4) You must keep the area around the top and bottom of ladders clear.

(5) You must make sure single-rail ladders are not used.

(6) You must make sure no employee carries any object or load that could cause the employee to lose balance and fall while climbing up or down the ladder.

AMENDATORY SECTION (Amending WSR 14-09-095, filed 4/22/14, effective 7/1/14)

WAC 296-876-60025 Ladder surfaces. ((~~You must make sure all parts and surfaces of the ladder are free of splinters, sharp edges, burrs, or projections that may be hazardous to persons using the ladder.~~)) See the fixed ladder inspection requirements under WAC 296-876-70010 Inspection and repair.

AMENDATORY SECTION (Amending WSR 14-09-095, filed 4/22/14, effective 7/1/14)

WAC 296-876-60030 Rungs, cleats and steps. (1) You must make sure rungs have a minimum diameter as follows:

(a) Rungs of wood ladders are at least one and one-eighth inches.

(b) Rungs of metal ladders subject to unusually corrosive exposures, such as individual metal rungs imbedded in concrete which serve as access to pits and to other areas under floors, are at least one inch.

(c) Rungs of all other metal ladders are at least three-quarters inch.

(2) You must make sure rungs, cleats, and steps are ((~~all of the following:~~

~~(a) Parallel.~~

~~(b) Level.~~

~~(c) Uniformly spaced throughout the length of the ladder.~~

~~(d)~~)) spaced so the distance from the centerline of one rung to the centerline of the next rung does not exceed ((~~twelve~~)) fourteen inches, or is less than ten inches (see Figure D-2 in this section). Ladder rungs in elevator shafts must be spaced not less than six inches (15 cm) apart, and not more than sixteen and one-half inches (42 cm) apart, as measured rung from rung centerline to the next centerline (along the ladder side rails).

((**Exception:** ~~The vertical distance from the ground, floor, or roof at the access level to the first rung may be adjusted within a range of fourteen inches.~~))

(3) You must make sure the minimum inside clear width of the stepping surface of rungs, steps, or cleats is sixteen inches (see Figure D-2 below).

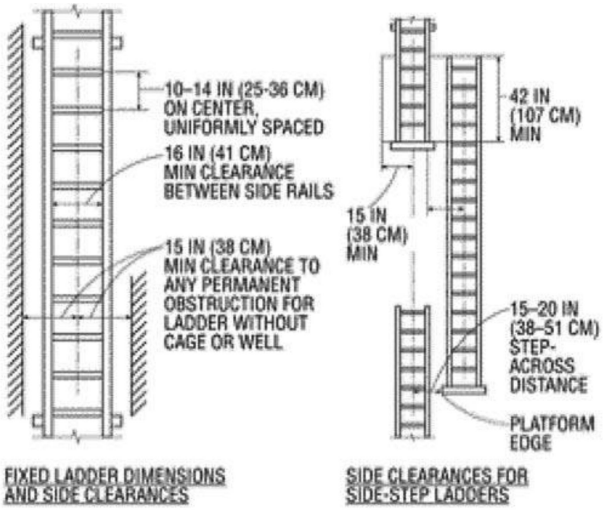


Figure D-2 - Side-Step Fixed Ladder Sections

(4) You must make sure individual rung or step-type ladders have rungs or steps that are shaped so that a person's foot cannot slide off the end (see Figure D-4 below).

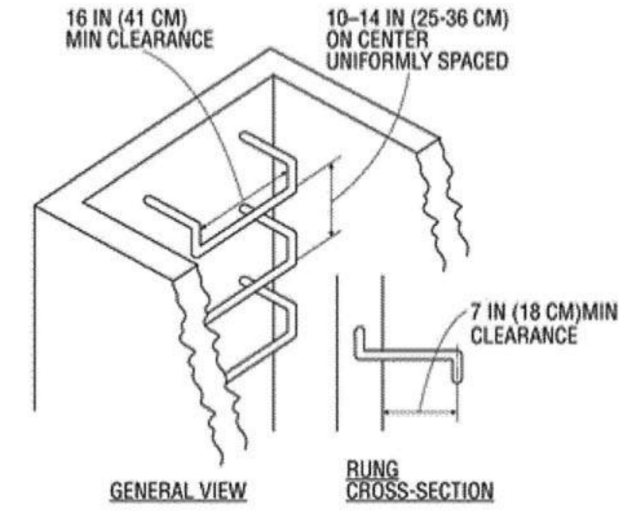


Figure D-4 - Individual Rung Ladder

AMENDATORY SECTION (Amending WSR 14-09-095, filed 4/22/14, effective 7/1/14)

WAC 296-876-60040 Clearances. (1) You must make sure ladders without wells or cages are at least thirty inches from the nearest permanent object on the climbing side, measured perpendicular to the ladder from the centerline of the rungs, cleats, or steps.

EXEMPTION: When unavoidable obstructions are encountered, the minimum perpendicular clearance between the centerline of the rungs, cleats, or steps and an obstruction on the climbing side may be reduced to twenty-four inches if a deflection device is installed to guide persons around the obstruction.

(2) You must make sure ladders without wells or cages have a clear width from the nearest permanent object on each side of the ladder of at least fifteen inches, measured from the center of the rungs, cleats, or steps.

(3) You must make sure the distance from the centerline of the rungs, cleats, or steps to the nearest permanent object in back of the ladder is at least seven inches.

EXEMPTION: Fixed ladders in elevator pits may reduce the minimum clearance from the ladder to the nearest permanent object in back of the ladder to four and one-half inches.

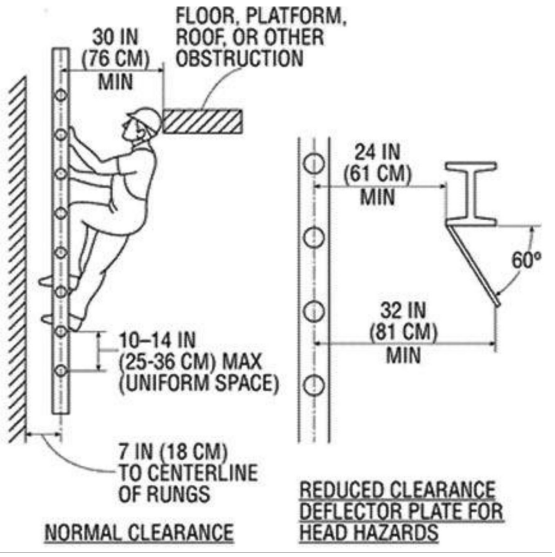


Figure D-5 - Fixed Ladder Clearances

AMENDATORY SECTION (Amending WSR 14-09-095, filed 4/22/14, effective 7/1/14)

WAC 296-876-60045 Step-across distance. (1) You must make sure a through ladder at the point of access or egress has a step-across distance, measured from the centerline of the steps or rungs to the nearest edge of the landing area, that is:

(a) Not less than seven inches; or

(b) Greater than twelve inches.

(2) You must make sure a side-step ladder at the point of access or egress has a step-across distance, measured from the ((~~side rail~~)) centerline of the ladder to the nearest edge of the access point(s) of the landing area or platform, that is:

(a) Not less than ((~~seven~~)) fifteen inches; or

(b) Greater than ((~~twelve~~)) twenty inches.

AMENDATORY SECTION (Amending WSR 16-23-141, filed 11/22/16, effective 12/23/16)

WAC 296-876-60050 Extensions and grab bars. (1) You must make sure the side rails of through or side-step ladders extend forty-two inches above the top of the access level or landing platform.

Note: For a parapet ladder, the access level is:
1. The roof if the parapet is cut to permit passage through it; or
2. The top of the parapet if it is continuous and uncut.

(2) You must make sure the extension of a through ladder above the access level or landing platform has:

(a) Steps or rungs omitted from the extension; and

(b) Clearance between the side rails that is:

(i) Not less than twenty-four inches; or

(ii) Greater than thirty inches.

EXEMPTION: The maximum clearance between side rails of the extension may be increased to thirty-six inches if the ladder has a ladder safety device.

(3) You must make sure side-step ladders have the steps or rungs and the side rails continuous in the extension (see Figure D-2 in WAC 296-876-60030).

(4) You must make sure individual rung-step ladders are extended at least forty-two inches above the access level or landing platform by:

(a) Continuing the rung spacings as horizontal grab bars; or

(b) Providing vertical grab bars that have the same lateral spacing as the vertical legs of the rungs.

EXEMPTION: Extensions are not required for individual rung-step ladders with access openings through a manhole or hatch.

(5) You must make sure grab bars:

(a) Are at least four inches from the nearest permanent object in back of the grab bar, measured from the centerline of the grab bar; ((~~and~~))

(b) Do not extend beyond the rungs on the climbing side of the ladder; and

(c) The minimum size (cross-section) of grab bars is the same size as the rungs of the ladder.

EXEMPTION: WAC 296-876-60050 (5)(c) applies to general industry only. See the exemption list in the scope section of WAC 296-876-100 for more information.

AMENDATORY SECTION (Amending WSR 14-09-095, filed 4/22/14, effective 7/1/14)

WAC 296-876-60055 Hatches. ((~~(1) You must make sure counterbalanced hatch covers~~)) When a fixed ladder terminates at a hatch (see Figure D-3 below), you must ensure the hatch cover:

(1) Opens with sufficient clearance to provide easy access to or from the ladder.

EXEMPTION: WAC 296-875-60055(1) applies to general industry only. See the exemption list in the scope of WAC 296-876-100 for more information.

(2) Opens at least seventy degrees from the horizontal if the hatch is counterbalanced.

((~~(2)~~)) (3) You must make sure the inside clear width of the hatch is a nominal thirty inches.

((~~(3)~~)) (4) You must make sure the distance from the centerline of the rungs or cleats to the edge of the hatch opening on the climbing side, measured perpendicular to the ladder, is:

(a) Not less than twenty-four inches; or

(b) Greater than thirty inches.

((~~(4)~~)) (5) You must make sure hatches with clearance on the climbing side of the ladder that is between twenty-four and twenty-seven inches are fitted with a deflector plate mounted at an angle of sixty degrees from the horizontal.

Note: The springs or other counterbalance mechanisms for the hatch may project into the hatch opening provided they do not reduce clearance to less than twenty-four inches and a deflector plate is installed to guide persons around the obstruction.

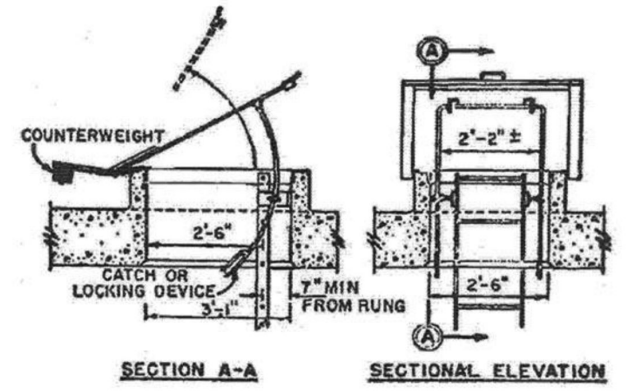


Figure D-3 - Example of Counterbalanced Hatch Cover at Roof

AMENDATORY SECTION (Amending WSR 14-09-095, filed 4/22/14, effective 7/1/14)

WAC 296-876-60065 Protective structures and equipment.

Note: DOSH and federal OSHA plan to phase out the recognition of ladder cages as effective means of fall-protection in the requirements below. New fixed ladders constructed after October 1, 2020, must incorporate ladder safety systems. Employers have until October 1, 2040, to equip preexisting fixed ladders with ladder safety systems/personal fall arrest systems.

(1) You must make sure a cage, well, or ladder safety system is provided if:

(a) The length of climb is less than twenty-four feet; and

(b) The top of the ladder is more than twenty-four feet above the ground, floor, or roof.

(2) You must make sure a ladder with a single length of climb that is equal to or greater than twenty-four feet is either:

(a) Equipped with a ladder safety device; or

(b) Uses multiple ladder sections and meets all of the following:

(i) Each section is provided with a cage or well.

(ii) The length of climb of any ladder section is not greater than fifty feet.

(iii) Each ladder section is offset from adjacent sections.

(iv) Landing platforms are provided at maximum intervals of fifty feet.

EXEMPTION: During construction activities, a self-retracting lifeline with landing platforms provided at maximum intervals of one hundred fifty feet may be used instead of a ladder safety device or multiple ladder sections.

AMENDATORY SECTION (Amending WSR 14-09-095, filed 4/22/14, effective 7/1/14)

WAC 296-876-60080 Ladder safety devices.

Notes:
- Requirements for ladder safety devices, also referred to as ladder safety systems, are described below. Ladder safety devices typically consist of a carrier (see definitions in WAC 296-876-099), safety sleeve or carrier/cable/rope grab, lanyard, connectors, and full body harness (typically with frontal d-ring). The requirements below apply to the combination of components in use.
- Where an employer elects to use automatic self-retracting lifelines (SRL); and the SRL is installed, used, inspected, and maintained consistent with the manufacturer's instructions and terms of use, the SRL would fulfill the employer's ladder safety device obligations.

• Information related to fall protection requirements (fall arrest requirements, inspection criteria, training requirements, etc.) are found in DOSH's Safety Standards for Fall Protection (chapter 296-880 WAC).

(1) You must make sure ladder safety devices and related support systems meet all of the following:

(a) Are capable of withstanding, without failure, the test drop of a five-hundred-pound weight for a free-fall distance of eighteen inches.

(b) The device does not require a person to continually hold, push, or pull any part of the device and allows them to have both hands free to grip the ladder.

(c) In the event of a fall, the device:

(i) Is activated within two feet; and

(ii) Limits the fall velocity to seven feet per second or less.

(d) Uses a connection between the carrier or lifeline and the point of attachment on the full body harness that is not longer than nine inches.

(2) You must make sure ladder safety devices with rigid carriers have mountings that:

(a) Are attached at each end of the carrier; and

(b) Have intermediate mountings that are all of the following:

(i) Spaced along the entire length of the carrier in accordance with the manufacturer's recommendations.

(ii) Installed within one foot below each splice on the carrier.

(iii) Have a maximum distance between mountings that is twenty-five feet or less.

(3) You must make sure ladder safety devices with flexible carriers have:

(a) Mountings that are attached at each end of the carrier; and

(b) Cable guides that are spaced at least twenty-five feet, but no further than forty feet, apart along the entire length of the carrier.

(4) You must make sure the design and installation of mountings and cable guides does not reduce the design strength of the ladder.

AMENDATORY SECTION (Amending WSR 14-09-095, filed 4/22/14, effective 7/1/14)

WAC 296-876-70010 Inspection and repair. (1) You must keep ladders in safe condition.

(2) You must have ((~~a competent person~~)) employees inspect ((~~a~~)) fixed ladders for visual defects, as follows:

(a) ((~~Periodically; and~~)) Competent person, when required by Table 1 (see WAC 296-876-30005), Ladder inspection criteria.

(b) ((~~After any occurrence that could affect safe use.~~)) Trained ladder user, prior to the user's initial use in each shift, and as necessary during the use to identify defects or damage that may occur during a work shift after the initial check. For example, if a ladder tips over, falls off a structure (e.g., roof) or vehicle, is struck by an object (e.g., vehicle or machine), or used in a corrosive environment, evidence of this damage would necessitate the authorized ladder user to initiate a ladder competent person inspection to determine whether the ladder is still safe to use.

EXEMPTION: WAC 296-876-70010 (2)(c) applies to general industry only. See the exemption list in the scope section of this chapter (WAC 296-876-100) for more information.

(3) You must make sure any ladder with structural damage or other hazardous defect is immediately removed from service.

Notes: 1. Structural damage includes, but is not limited to, any of the following:
a. Broken or missing rungs, cleats, or steps.
b. Broken or split rails.
c. Corroded components.
d. Bolts and welds missing or not secure.
2. A ladder is considered to be removed from service if any of the following are done:
a. It is marked to identify it as defective.
b. It is tagged with "do not use" or similar language.
c. It is blocked so that it cannot be used, for example, by using a plywood attachment that spans several rungs.

(4) You must make sure repairs restore the ladder to a condition meeting its original design criteria.

(5) You must ensure wooden fixed ladders are not coated with any material that may obscure structural defects.

(6) You must maintain fixed ladder parts and surfaces free of splinters, sharp edges, burrs, projections, puncture, and laceration hazards that may be hazardous to persons using the ladder.

(7) You must ensure fixed ladders are capable of supporting their maximum intended load.

(8) You must ensure fixed ladder rungs, steps, and cleats are parallel, level, and uniformly spaced.

AMENDATORY SECTION (Amending WSR 14-09-095, filed 4/22/14, effective 7/1/14)

WAC 296-876-80010 Climbing and descending. (1) You must have ((~~both hands free to hold on to the ladder~~)) employees use at least one hand to grasp the ladder when climbing up and down it.

(2) You must face the ladder when climbing or descending.

(3) You must keep ladders free of oil, grease, or other slippery materials.

(4) You must make sure no employee carries any object or load that could cause the employee to lose balance and fall while climbing up or down the ladder.

(5) You must make sure fixed ladders are used only for the purposes for which they were designed.

NEW SECTION

WAC 296-876-90005 Step bolt requirements. In addition to the walking-working surface rule (WAC 296-24-73505) requirements, and the relevant fixed ladder standard requirements in this chapter, you must ensure:

(1) Each step bolt installed on or after October 1, 2020, in an environment where corrosion may occur is constructed of, or coated with, material that protects against corrosion.

(2) Each step bolt is designed, constructed, and maintained to prevent the employee's foot from slipping off the end, or side edge, of the step bolt.

(3) Step bolts are uniformly spaced at a vertical distance of not less than twelve inches (30 cm) and not more than eighteen inches (46 cm) apart, measured center to center (see Figure D-6 of this section).

The spacing from the entry and exit surface to the first step bolt may differ from the spacing between the other step bolts.

(4) Each step bolt has a minimum clear width of four and one-half inches (11 cm).

(5) The minimum perpendicular distance between the centerline of each step bolt to the nearest permanent object in back of the step bolt is seven inches (18 cm). When the employer demonstrates that an obstruction cannot be avoided, the distance must be at least four and one-half inches (11 cm).

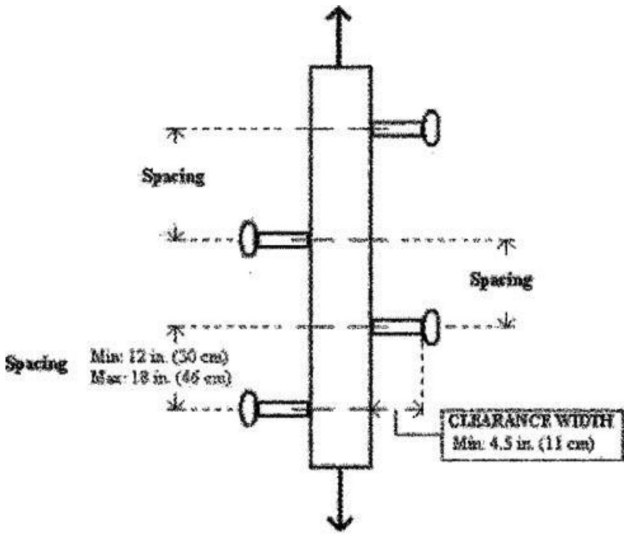


Figure D-6 - Step Bolt Spacing

(6) Each step bolt installed before October 1, 2020, is capable of supporting its maximum intended load.

(7) Each step bolt installed on or after October 1, 2020, is capable of supporting at least four times its maximum intended load.

(8) Each step bolt is inspected at the start of the work shift and maintained in accordance with the walking-working surface rule (WAC 296-24-73505).

(9) Each step bolt installed before October 1, 2020, is capable of supporting its maximum intended load.

(10) Each step bolt installed on or after October 1, 2020, is capable of supporting at least four times its maximum intended load.

(11) Each step bolt is inspected at the start of the work shift and maintained in accordance with the walking-working surface rule (WAC 296-24-73505).

NEW SECTION

WAC 296-876-90010 Manhole step requirements. In addition to the walking-working surface rule (WAC 296-24-73505) requirements and the relevant fixed ladder standard requirements (chapter 296-876 WAC), you must ensure:

(1) Each manhole step is capable of supporting its maximum intended load.

(2) Rungs and steps of manhole entry ladders that are supported by the manhole opening have a minimum clear width of nine inches (23 cm).

(3) Each manhole step installed on or after January 17, 2017:

(a) Has a corrugated, knurled, dimpled, or other surface that minimizes the possibility of an employee slipping.

(b) Is constructed of, or coated with, material that protects against corrosion if the manhole step is located in an environment where corrosion may occur.

(c) Has a minimum clear step width of ten inches (25 cm).

(d) Is uniformly spaced at a vertical distance not more than sixteen inches (41 cm) apart, measured center to center between steps. The spacing from the entry and exit surface to the first manhole step may differ from the spacing between the other steps.

(e) Has a minimum perpendicular distance between the centerline of the manhole step to the nearest permanent object in back of the step of at least four and one-half inches (11 cm).

(f) Is designed, constructed, and maintained to prevent the employee's foot from slipping or sliding off the end.

(4) The employer must ensure that each manhole step is inspected at the start of the work shift and maintained in accordance with the walking-working surface rule (WAC 296-24-73505).

NEW SECTION

WAC 296-876-910 Mobile ladder stands and mobile ladder stand platforms.

Summary

Your responsibility: To meet these requirements for mobile ladder stands and mobile ladder stand platforms.

You must meet the requirements...	in this section:
General requirements	WAC 296-876-91005
Design requirements for mobile ladder stands	WAC 296-876-91010
Design requirements for mobile ladder stand platforms	WAC 296-876-91015

NEW SECTION

WAC 296-876-91005 General requirements. You must ensure:

(1) Mobile ladder stands and platforms have a step width of at least sixteen inches (41 cm).

(2) Steps and platforms of mobile ladder stands and platforms are slip resistant. Slip-resistant surfaces must be either an integral part of the design and construction of the mobile ladder stand and platform, or provided as a secondary process or operation, such as

dimpling, knurling, shotblasting, coating, spraying, or applying durable slip-resistant tapes.

(3) Mobile ladder stands and platforms are capable of supporting at least four times their maximum intended load.

(4) Load bearing wheels or casters are capable of supporting their proportional share of four times the maximum intended load, plus their proportional share of the unit's weight.

(5) Unless otherwise specified in this section, mobile ladder stands and platforms with a top step height of four feet (1.2 m) or above have handrails with a vertical height of twenty-nine and one-half inches (75 cm) to thirty-seven inches (94 cm), measured from the front edge of a step. Removable gates or nonrigid members, such as chains, may be used instead of handrails in special-use applications.

(6) The maximum work-surface height of mobile ladder stands and platforms does not exceed four times the shortest base dimension, without additional support. For greater heights, outriggers, counterweights, or comparable means that stabilize the mobile ladder stands and platforms and prevent overturning must be used.

(7) Mobile ladder stands and platforms that have wheels or casters are equipped with a system to impede horizontal movement when an employee is on the stand or platform.

(8) You must ensure mobile ladder stands and platforms are not moved while an employee is on them.

NEW SECTION

WAC 296-876-91010 Design requirements for mobile ladder stands. You must ensure:

(1) Steps are uniformly spaced and arranged, with a rise of not more than ten inches (25 cm) and a depth of not less than seven inches (18 cm). The slope of the step stringer to which the steps are attached must not be more than sixty degrees, measured from the horizontal.

(2) Mobile ladder stands with a top step height above ten feet (3 m) have the top step protected on three sides by a handrail with a vertical height of at least thirty-six inches (91 cm); and top steps that are twenty inches (51 cm) or more, front to back, have a midrail and toeboard. Removable gates or nonrigid members, such as chains, may be used instead of handrails in special-use applications.

(3) The standing area of mobile ladder stands is within the base frame.

NEW SECTION

WAC 296-876-91015 Design requirements for mobile ladder stand platforms. You must ensure:

(1) The steps of mobile ladder stand platforms meet the requirements of WAC 296-876-91010(1). When the employer demonstrates that the requirement is not feasible, steeper slopes or vertical rung ladders may be used, provided the units are stabilized to prevent overturning.

(2) Mobile ladder stand platforms with a platform height of four to ten feet (1.2 m to 3 m) have, in the platform area, handrails with a vertical height of at least thirty-six inches (91 cm) and midrails.

(3) All ladder stand platforms with a platform height above ten feet (3 m) have guardrails and toeboards on the exposed sides and ends of the platform.

(4) Removable gates or nonrigid members, such as chains, are only permitted to be used on mobile ladder stand platforms, instead of handrails and guardrails, in special-use applications.