



Washington State Department of
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Division of Occupational Safety and Health

Portable and Fixed Ladders

Chapter 296-876 WAC

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The Department of Labor and Industries has rewritten and reorganized for clarity and ease of use the safety standards for, Ladders, Portable and Fixed, Work rules in chapters 296-876 WAC.

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Chapter 296-876 WAC

LADDERS, PORTABLE AND FIXED

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WAC 296-876-100 Scope. This chapter applies to portable and fixed 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;*
- *Agriculture activities covered by Safety standards for agriculture, chapter 296-307.*

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-100, filed 07/24/06, effective 12/01/06. Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-100, filed 10/04/05, effective 01/01/06.]

WAC 296-876-150 Training--Section contents.

Your responsibility

To train employees who use ladders.

Training

WAC 296-876-15005

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-150, filed 07/24/06, effective 12/01/06]

WAC 296-876-15005 Training.

You must:

- Train employees to recognize ladder hazards and the procedures to minimize these hazards.
- Have a competent person train employees that use 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.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-15005, filed 07/24/06, effective 12/01/06.]

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.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-200, filed 10/04/05, effective 01/01/06]

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.

WAC 296-876-20005 (Cont.)**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.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-20005, filed 10/04/05, effective 01/01/06]

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.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-300, filed 10/04/05, effective 01/01/06]

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

When the ladder is:	Do the following:
First placed into service and periodically while in service	<ul style="list-style-type: none"> • Inspect the ladder for visible defects, including, but not limited to: <ul style="list-style-type: none"> – Working parts; <li align="center">AND – Rung or step connections to the side rails.
Damaged by impact or tips over	<ul style="list-style-type: none"> • Visually inspect the ladder for: <ul style="list-style-type: none"> – Dents, bends, cracks or splits • Check: <ul style="list-style-type: none"> – Rung or step connections to the side rails. – Hardware connections. – Rivets for shear damage. – All other components.
Exposed to excessive heat such as a fire	<ul style="list-style-type: none"> • Visually inspect the ladder for damage. • <i>Test for deflection and strength characteristics using the “in-service use tests” contained in the appropriate ANSI.</i> <p><i>Exemption:</i> <i>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.</i></p>

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-30005, filed 10/04/05, effective 01/01/06

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.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-30010, filed 10/04/05, effective 01/01/06

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.*

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-30015, filed 10/04/05, effective 01/01/06

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.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-30020, filed 10/04/05, effective 01/01/06]

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.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-400, filed 10/04/05, effective 01/01/06]

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:

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

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-40005, filed 10/04/05, effective 01/01/06]

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.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-40010, filed 10/04/05, effective 01/01/06]

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.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-40015, filed 10/04/05, effective 01/01/06]

WAC 296-876-40020 Set-up.**You must:**

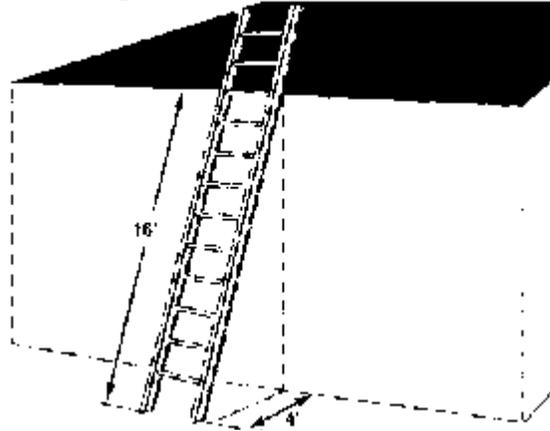
- Set-up nonself-supporting ladders at a safe angle. The ladder is set at the proper angle when the horizontal distance from the top support to the foot of the ladder is approximately one-quarter the working length of the ladder.
- Set-up job-made ladders with spliced side rails so that the horizontal 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

Note:
Safe ladder angle.



[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-40020, filed 10/04/05, effective 01/01/06]

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.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-40025, filed 10/04/05, effective 01/01/06]

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 2 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.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-40030, filed 10/04/05, effective 01/01/06]

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.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-40035, filed 10/04/05, effective 01/01/06]

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.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-40040, filed 10/04/05, effective 01/01/06]

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

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

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-40045, filed 10/04/05, effective 01/01/06]

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.*

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-40050, filed 10/04/05, effective 01/01/06.]

WAC 296-876-500 Fixed ladder design and construction--Section contents.**Your responsibility:**

To make sure fixed ladders installed on or after December 1, 2006, meet design and construction requirements.

Design and construction--Fixed ladders installed on or after December 1, 2006.

WAC 296-876-50010

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-500, filed 07/24/06, effective 12/01/06. Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-500, filed 10/04/05, effective 01/01/06.]

WAC 296-876-600 Fixed ladder design and construction--Section contents.**Your responsibility:**

To make sure fixed ladders installed before December 1, 2006, meet design and construction requirements

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-40050, filed 10/04/05, effective 01/01/06.]

Design and construction--Fixed ladders installed before December 1, 2006.

WAC 296-876-60005

Design loads.

WAC 296-876-60010

Pitch

WAC 296-876-60015

Welding.

WAC 296-876-60020

Ladder surfaces.

WAC 296-876-60025

Rungs, cleats and steps.

WAC 296-876-60030

Side rails.

WAC 296-876-60035

Clearances.

WAC 296-876-60040

WAC 296-876-600 (Cont.)

Step-across distance.

WAC 296-876-60045

Extensions and grab bars.

WAC 296-876-60050

Hatches

WAC 296-876-60055

Platforms.

WAC 296-876-60060

Protective structures and equipment.

WAC 296-876-60065

Cages.

WAC 296-876-60070

Wells.

WAC 296-876-60075

Ladder safety devices.

WAC 296-876-60080

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 05-20-268 (Order 05-10), § 296-876-40050, filed 10/04/05, effective 01/01/06.]

WAC 296-876-60005 Design and construction--Fixed ladders installed before**December 1, 2006.**

- Make sure fixed ladders installed **before** December 1, 2006, meet the requirements of WAC 296-876-60010 through WAC 296-876-60080.

Note: Ladders will be considered to have met the requirements of this section if they meet the design and construction requirements of ANSI A14.3, American National Standard for Ladders-Fixed-Safety Requirements, in effect at the time they are installed.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-60005, filed 07/24/06, effective 12/01/06.]

WAC 296-876-60010 Design loads.

- Make sure each ladder is able to support, without failure, the total of the following loads.
 - At least 2 loads of 250 pounds each, concentrated between any two consecutive attachments.
 - Any additional concentrated loads of 250 pounds each determined from the anticipated use of the ladder.
 - Anticipated loads caused by all of the following that apply:
 - Ice buildup.
 - Winds.
 - Rigging attached to the ladder, including the load to be lifted.
 - Impact loads resulting from the use of ladder safety devices.
- Make sure the design of rails, supports, and fastenings includes:
 - Live loads to be supported by the ladder
 - and**
 - The weight of the ladder and everything attached to it.
- Consider all live loads to be concentrated at the point or points that will cause the maximum stress on the ladder or structural member.
- Make sure each step or rung is capable of supporting a single concentrated load of at least 250 pounds applied in the middle of the step or rung.
- Make sure the design stresses for wood components of ladders meet the requirements and specifications of ANSI A14.1, American National Standard for Ladders-Portable Wood-Safety Requirements, in effect when the ladder was installed.
- Make sure fastenings are designed to meet the ladder load requirements.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-60010, filed 07/24/06, effective 12/01/06.]

WAC 296-876-60015 Pitch.**You must:**

- Make sure the pitch of the ladder is no greater than 90 degrees from the horizontal.

Note:

- *The preferred pitch of fixed ladders is within the range of 75 to 90 degrees from the horizontal. Ladders with a pitch range of 60 to 75 degrees from the horizontal are considered substandard and are only permitted if necessary to meet the installation requirements.*
- *Fixed stairs are an alternative for installations where a pitch angle of less than 60 degrees is necessary. See Fixed industrial stairs, WAC 296-24-765, in the General Safety and Health Standards, chapter 296-24 WAC.*

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-60015, filed 07/24/06, effective 12/01/06.]

WAC 296-876-60020 Welding.

- Make sure welding meets the requirements of ANSI A14.3, American National Standard for Ladder-Fixed-Safety Requirements, in effect at the time the ladder was installed.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-60020, filed 07/24/06, effective 12/01/06.]

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.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-60025, filed 07/24/06, effective 12/01/06.]

WAC 296-876-60030 Rungs, cleats and steps.

- Make sure rungs have a minimum diameter as follows:
 - Rungs of wood ladders are at least one and one-eighth inches.
 - 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.
 - Rungs of all other metal ladders are at least three-quarters inch.
- Make sure rungs, cleats, and steps are all of the following:
 - Parallel.
 - Level.
 - Uniformly spaced throughout the length of the ladder.
 - Spaced so the distance from the centerline of one rung to the centerline of the next rung does not exceed 12 inches.

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 14 inches.

You must:

- Make sure the minimum inside clear width of the stepping surface of rungs, steps, or cleats is 16 inches.
- 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.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-60030, filed 07/24/06, effective 12/01/06.]

WAC 296-876-60035 Side rails.**You must:**

- Make sure the shape of the side rail:
 - Provides an adequate gripping surface
 - and**
 - Is uniform throughout the length of climb.
- Make sure a side rail that has been spliced to obtain a longer length is at least equivalent in strength to a one-piece side rail made of the same material.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-60035, filed 07/24/06, effective 12/01/06.]

WAC 296-876-60040 Clearances.**You must:**

- Make sure ladders without wells or cages are at least 30 inches from the nearest permanent object on the climbing side, measured perpendicular to the ladder from the centerline of the rungs, cleats, or steps.

Exception: 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 24 inches if a deflection device is installed to guide persons around the obstruction.

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 15 inches, measured from the center of the rungs, cleats, or steps.
- 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 7 inches.

Exception: Fixed ladders in elevator pits may reduce the minimum clearance from the ladder to the nearest permanent object in back of the ladder to 4 and one-half inches.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-60040, filed 07/24/06, effective 12/01/06.]

WAC 296-876-60045 Step-across distance.**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, this is:
 - Not less than 7 inches
 - or**
 - Greater than 12 inches.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-60045, filed 07/24/06, effective 12/01/06.]

WAC 296-876-60050 Extensions and grab bars.**You must:**

- Make sure the side rails of through or side-step ladders extend 42 inches above the top of the access level or landing platform.

Note:

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

You must:

- Make sure the extension of a through ladder above the access level or landing platform has:
 - Steps or rungs omitted from the extension
 - or**
 - Clearance between the side rail that is:
 - Not less than 24 inches
 - or**
 - Greater than 30 inches.

Exception: *The maximum clearance between the side rails of the extension may be increased to 36 inches if the ladder has a ladder safety device.*

You must:

- Make sure the side rails of through or step-side ladders extend 42 inches above the top of the access level or landing platform.
- Make sure side-step ladders have the steps or rungs and the side rails continuous in the extension.
- Make sure individual rung-step ladders are extended at least 42 inches above the access level or landing platform by:
 - Continuing the rung spacings as horizontal grab bars
 - or**
 - 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.*

You must:

- Make sure grab bars:
 - Are at least 4 inches from the nearest permanent object in back of the grab bar, measured from the centerline of the grab bar
 - and**
 - Do not extend beyond the rungs on the climbing side of the ladder.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-60050, filed 07/24/06, effective 12/01/06.]

WAC 296-876-60055 Hatches.**You must:**

- Make sure counterbalanced hatch covers open at least 70 degrees from the horizontal.
- Make sure the inside clear width of the hatch is a nominal 30 inches.
- 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:
 - Not less than 24 inches
 - or**
 - Greater than 30 inches.
- Make sure hatches with clearance on the climbing side of the ladder that is between 24 and 27 inches are fitted with a deflector plate mounted at an angle of 60 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 24 inches and a deflector plate is installed to guide persons around the obstruction.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-60055, filed 07/24/06, effective 12/01/06.]

WAC 296-876-60060 Platforms.**You must:**

- Make sure landing platforms for side-step ladders extend at least 30 inches on the climbing side of the ladder.
- Make sure landing platforms are:
 - At least 30 inches wide
 - and**
 - Equipped with standard railings and toeboards placed to allow safe access to the ladder.

Reference: Requirements for standard railings and toeboards are in Railings, toeboards, and cover specifications, WAC 296-24-75011, the General Safety and Health Standards, chapter 296-24 WAC.

You must:

- Make sure the top rung or step of the ladder is level with the landing served by the ladder.
- Make sure the spacing from the landing platform to the first rung below the platform of a through ladder is the same as the rung spacing of the ladder.
- Make sure, if 2 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.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-60060, filed 07/24/06, effective 12/01/06.]

WAC 296-876-60065 Protective structures and equipment.**You must:**

- Make sure a cage, well, or ladder safety system is provided if:
 - The length of climb is less than 24 feet
 - and**
 - The top of the ladder is more than 24 feet above the ground, floor, or roof.
- Make sure a ladder with a single length of climb that is equal to or greater than 24 feet is either:
 - Equipped with a safety ladder device
 - or**
 - Uses multiple ladder sections and meets all of the following:
 - Each section is provided with a cage or well.
 - The length of climb of any ladder section is not greater than 50 feet.
 - Each ladder section is offset from adjacent sections.
 - Landing platforms are provided at maximum intervals of 50 feet.

Exemption: During construction activities, a self-retracting lifeline with landing platforms provided at maximum intervals of 150 feet may be used instead of a ladder safety device or multiple ladder sections.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-60065, filed 07/24/06, effective 12/01/06.]

WAC 296-876-60070 Cages.**You must:**

- Make sure the cages meet all of the following:
 - Extends at least 42 inches above the top of the platform or above the point of access and egress at the top of the ladder.
 - Has provisions for accessing and egressing the platform or the point of access or egress of the ladder.
 - There is at least 27 inches, but not more than 30 inches, from the cage to the centerline of the step or rung at all points except where the cage flares at the bottom of the ladder.
 - The cage is at least 27 inches wide.
 - There are no projections inside the cage.
- Make sure the bottom of the cage is:
 - At least 7 feet but not more than 8 feet above the point of access to the bottom of the ladder
 - and**
 - Flared at least 4 inches all around within the distance between the bottom horizontal band and the next higher band.
- Make sure vertical bars are:
 - Spaced at intervals on 9 and one-half inches or less on center around the circumference of the cage
 - and**
 - Fastened to the inside of the horizontal bands.
- Make sure the horizontal bands meet all of the following:
 - The vertical intervals between horizontal bands is not more than 4 feet on center.
 - The horizontal bands on ladders with side rails are fastened to the side rails.
 - The horizontal bands of individual-rung ladders are fastened directly to the structure, building, or equipment.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-60070, filed 07/24/06, effective 12/01/06.]

WAC 296-876-60075 Wells.

- Make sure there is at least 27 inches, but not more than 30 inches, from the centerline of the step or rung to the inside face of the well on the climbing side of the ladder.
- Make sure the inside clear width is at least 30 inches.
- Make sure the well:
 - Completely encircles the ladder
 - and**
 - Is free of projections.
- Make sure the bottom of the wall on the access side is at least 7 feet, but not more than 8 feet, above the point of access to the bottom of the ladder.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-60075, filed 07/24/06, effective 12/01/06.]

WAC 296-876-60080 Ladder safety devices.**You must:**

- Make sure ladder safety devices and related support systems meet all of the following:
 - Are capable of withstanding, without failure, the test drop of a 500 pound weight for a free-fall distance of 18 inches.
 - 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.
 - In the event of a fall, the device:
 - Is activated within 2 feet
 - and**
 - Limits the fall velocity to 7 feet per second or less.
 - Uses a connection between the carrier or lifeline and the point of attachment on the full body harness that is not longer than 9 inches.
- Make sure ladder safety devices with rigid carriers have mountings that:
 - Are attached at each end of the carrier
 - and**
 - Have intermediate mountings that are all of the following:
 - Spaced along the entire length of the carrier in accordance with the manufacturer's recommendations.
 - Installed within one foot below each splice on the carrier.
 - Have a maximum distance between mountings that is 25 feet or less.
- Make sure ladder safety devices with flexible carriers have:
 - Mountings that are attached at each end of the carrier
 - and**
 - Cable guides that are spaced at least 25 feet, but no further than 40 feet, apart along the entire length of the carrier.
- Make sure the design and installation of mountings and cable guides does not reduce the design strength of the ladder.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-60080, filed 07/24/06, effective 12/01/06.]

WAC 296-876-700 Fixed ladder inspection and maintenance.**Your responsibility:**

To make sure fixed ladders are inspected and maintained properly.

Protection against corrosion and deterioration.

WAC 296-876-70005.

Inspection and repair.

WAC 296-876-70010.

WAC 296-876-70005 Protection against corrosion and deterioration.**You must:**

- Paint or otherwise treat metal ladders or metal parts to resist rust and corrosion if they are:
 - Exposed to the elements
 - or**
 - Located where rust or corrosion could be expected.
- Treat wood ladders used in conditions where decay may occur with a nonirritating preservative.
- 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.
- Treat the interface between different materials or use other means to prevent.
 - One material from damaging or having a harmful effect on another material
 - and**
 - Electrolytic action between dissimilar metals.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-70005, filed 07/24/06, effective 12/01/06.]

WAC 296-876-70010 Inspection and repair.**You must:**

- Keep ladders in safe condition.
- Have a competent person inspect a ladder for visual defects:
 - Periodically
 - and**
 - After any occurrence that could affect safe use.
- Make sure any ladder with structural damage or other hazardous defect is immediately removed from service.

Note:

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

WAC 296-876-700010 (Cont.)**You must:**

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

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-70010, filed 07/24/06, effective 12/01/06.]

WAC 296-876-800 Fixed ladder use.**Your responsibility:**

To use fixed ladders safely.

Designed loads.

WAC 296-876-80005.

Climbing and descending.

WAC 296-876-80010.

WAC 296-876-80005 Designed load.**You must:**

- Make sure not to overload ladders. Do not exceed either the:
 - Maximum intended load
 - or**
 - Manufacturer's rated capacity.

Definition:

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.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-80005, filed 07/24/06, effective 12/01/06.]

WAC 296-876-80010 Climbing and descending.**You must:**

- Keep 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.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-80010, filed 07/24/06, effective 12/01/06.]

WAC 296-876-900 Definitions.

Cage - An enclosure that encircles 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 or basket guard.

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

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 that 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.

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

Fastenings - A fastening is a device to attach a ladder to a structure, building, or equipment.

WAC 296-876-900 (Cont.)

Fixed ladder - A ladder permanently attached to a structure, building, or equipment.

Grab bars - Handholds placed adjacent to or as an extension above ladders for the purpose of providing access beyond the limits 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.

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.

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.

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.

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.

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 to step to the side of the ladder side rails to reach the 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 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.

WAC 296-876-900 (Cont.)

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.

Through ladder - A fixed ladder that requires a person to step between the side rails of the ladder to reach the 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 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.

[Statutory Authority: RCW 49.17.010, .040, .050, and .060. 06-16-020 (Order 06-10), § 296-876-900, filed 07/24/06, effective

