

DRAFT

MODIFICATIONS TO PROPOSED STATE STANDARD, TITLE 8, CHAPTER 4

Ed note: Text proposed to be added is in underline. Text proposed to be deleted is in strikeout. The text in brackets indicates the source of the preceding text that is proposed to be added, e.g. [from 3276] or [from ANSI ...]; or, when applicable, the section where the preceding deleted text is proposed to be relocated, e.g. [to 3278]. **Double strikeout and double underlined text in bold type represents modifications proposed by the advisory committee. Highlighted text in italics represents the Board staff's modifications to text that was proposed by the advisory committee.**

SUBCHAPTER 4, CONSTRUCTION SAFETY ORDERS
ARTICLE 22, SCAFFOLDS – VARIOUS TYPES

§1648. Ladder-Jack Scaffolds.

(d) All ladders used in connection with ladder jack scaffolds shall be ~~at least heavy-duty type I, IA, or IAA duty rated~~ ladders and shall be designed and constructed in accordance with the General Industry Safety Orders, Sections ~~3278 and 3279~~ 3276(c). Job-built ladders shall not be used for this purpose.

NOTE: See Section 3276(d) for portable ladder types, duty ratings and working loads.

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SUBCHAPTER 7. GENERAL INDUSTRY SAFETY ORDERS
GROUP 1. GENERAL PHYSICAL CONDITIONS AND STRUCTURES
ARTICLE 4. ACCESS, WORK SPACE, AND WORK AREAS

§~~3276~~. 3278. Use of Fixed Ladders.

- (a) Employees shall:
- (1) be prohibited from carrying equipment or materials which prevent the safe use of ladders; [to 3276(e)(15)(B)]
 - (2) be required to face the ladder when ascending and descending; [to 3276(e)(15)(C)]
 - (3) always use both hands when climbing up or down the ladder; and [to 3276(e)(15)(D)]
 - (4) be prohibited from using single-rail ladders.

~~(b) Employees shall not stand on the topcap or the step below the topcap of a stepladder.~~

Note: For the purposes of subsection (b) the topcap is not a step. [to 3276(e)(15)(F)]

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3277. Fixed Ladders.

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(c) Design Considerations. All ladders, appurtenances, and fastenings shall be designed to meet the following load requirements:

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(5) All wood parts of fixed ladders shall meet the design and construction requirements of for portable wood ladders in Section 3278 3276(c).

(6) For fixed ladders consisting of wood side rails and wood rungs or cleats, used at a pitch in the range 75 degrees to 90 degrees, and intended for use by no more than one person per section, single ladders or cleat ladders as described in Section 3278 3276 are acceptable.

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§3278 §3276. Portable Wood Ladders

~~Safety requirements for portable wood ladders placed in service after April 18, 1999, shall meet the requirements of ANSI A14.1-1994, which is hereby incorporated by reference. Safety requirements of portable wood ladders placed in service on or before April 18, 1999, shall be based on the ANSI A14.1 provisions in effect at the time such ladders were placed in service. [to 3276(c)(1)]~~

(a) Scope. This section is intended to prescribe rules and establish minimum requirements for the design, construction, selection, care, and use of the common types of all self-supporting and non-self-supporting portable wood ladders, in order to insure safety under normal conditions of usage.

(b) Definitions. [from 3278(b)]

~~Extension Ladder. An extension ladder is a non-self-supporting portable ladder adjustable in length. It consists of two or more sections traveling in guides or brackets so arranged as to permit length adjustment. Its size is designated by the sum of the lengths of the sections measured along the side rails.~~

~~Extension Trestle Ladder. An extension trestle ladder is a self-supporting portable ladder, adjustable in length, consisting of a trestle ladder base and a vertically adjustable single ladder, with suitable means for locking the ladders together. The size is designated by the length of the trestle ladder base.~~

Extension Trestle Ladder. An extension trestle ladder is a self-supporting portable ladder, adjustable in length, consisting of a trestle ladder base and a vertically adjustable single ladder, with suitable means for locking the ladders together. The size is designated by the length of the trestle ladder base.

~~Ladders. A ladder is an appliance usually consisting of two side rails joined at regular intervals by crosspieces called steps, rungs, or cleats, on which a person may step in ascending or descending.~~

~~Sectional Ladder. A sectional ladder is a non-self-supporting portable ladder, nonadjustable in length, consisting of two or more sections of ladder so constructed that the sections may be combined to function as a single ladder. Its size is designated by the overall length of the assembled sections.~~

~~Side-Rolling Ladder. A side-rolling ladder is a semifixed ladder, nonadjustable in length, supported by attachments to a guide rail, which is generally fastened to shelving, the plane of the ladder being also its plane of motion.~~

Side-Rolling Ladder. A side-rolling ladder is a semifixed ladder, nonadjustable in length, supported by attachments to a guide rail, which is generally fastened to shelving, the plane of the ladder being also its plane of motion.

~~Single Ladder. A single ladder is a non-self-supporting portable ladder, nonadjustable in length, consisting of but one section. Its size is designated by the overall length of the side rail. [from 3278(b)]~~

Special Purpose Ladder. A special purpose ladder is a portable ladder which represents either a modification or a combination of design or construction features in one of the general purpose types of ladders previously defined, in order to adapt the ladder to special or specific uses.

Special-Purpose Ladder. A special-purpose ladder is a portable ladder which represents either a modification or a combination of design or construction features in one of the general-purpose types of ladders previously defined, in order to adapt the ladder to special or specific uses.

Step Ladder. A step ladder is a self-supporting portable ladder, nonadjustable in length, having flat steps and a hinged back. Its size is designated by the overall length of the ladder measured along the front edge of the side rails.

Trestle Ladder. A trestle ladder is 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.

Trestle Ladder. A trestle ladder is 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.

Trolley Ladder. A trolley ladder is a semifixed ladder, nonadjustable in length, supported by attachments to an overhead track, the plane of the ladder being at right angles to the plane of motion.

Trolley Ladder. A trolley ladder is a semifixed ladder, nonadjustable in length, supported by attachments to an overhead track, the plane of the ladder being at right angles to the plane of motion.

(c) Materials. General Requirements. All wood parts shall be free from sharp edges, splinters, irregularities and defects which affect the ladder's structural integrity.

Design and Construction Requirements. [from 3278(d)]

(1) Portable wood ladders placed in service after [effective date] shall meet the design and construction requirements of ANSI A14.1 – ~~2000~~ 2007, which is hereby incorporated by reference. Portable wood ladders placed in service on or before [effective date], shall meet the design and construction requirements of the ANSI A14.1 standard in effect at the time such ladders were placed in service. [from 3278 first paragraph]

EXCEPTION: Portable job-made cleat ladders that are designed and constructed in accordance with the requirements of Article 25, Section 1676 of the Construction Safety Orders.

(2) Portable metal ladders placed in service after [effective date], shall meet the design and construction requirements of ANSI ~~A14.10-2000~~ A14.2-2007, which is hereby incorporated by reference. Portable metal ladders placed in service on or before [effective date], shall meet the design and construction requirements of either the ANSI A14.2 standard or the ANSI A14.10 standard in effect at the time such ladders were placed in service. [from 3279 first paragraph]

(3) Portable reinforced plastic ladders placed in service after [effective date], shall meet the design and construction requirements of ANSI ~~A14.10-2000~~ A14.5-2007, which is hereby incorporated by reference. Portable reinforced plastic ladders placed in service

on or before [effective date], shall meet the design and construction requirements of either the ANSI A14.5 standard or the ANSI A14.10 standard in effect at the time such ladders were placed in service. [from 3280]

~~**EXCEPTION No. 1: Portable job-made cleat ladders that are designed and constructed in accordance with the requirements of Article 25, Section 1676 of the Construction Safety Orders.**~~ [to 3276(c)(1)]

~~**EXCEPTION No. 2:**~~ (4) **Other types of Portable** special purpose ladders **which that** are not covered by one of the ANSI A14 standards referenced in this section, **provided that the ladder is shall be** designed and constructed in accordance with sound engineering principles and approved per Section 3206.

~~(d) Construction Requirements~~ [to 3276(c)]

~~(1) Portable Step Ladders.~~

~~(A) Step ladders longer than 20 feet shall not be used. Step ladders as hereinafter specified shall be of three types, as follows: [to 3276(e)(16)(D)]~~

~~Type I—Industrial step ladder, 3 to 20 feet for heavy duty, such as utilities, contractors, and industrial use~~

~~Type II—Commercial step ladder, 3 to 12 feet for medium duty, such as painters, offices, and light industrial use~~

~~Type III—Household step ladder, 3 to 6 feet for light duty, such as light household use.~~

~~(B) Step Spacing. A uniform step spacing shall be employed which shall be not more than 12 inches. Steps shall be parallel and level when the ladder is in position for use.~~

~~(C) Width and Spread. The minimum width between side rails at the top, inside to inside, shall be not less than 11 1/2 inches. From top to bottom, the side rails shall spread at least 1 inch for each foot of length of step ladder. Rungs shall be continuous members between rails.~~

~~(D) Spreader. A metal spreader or locking device of sufficient size and strength to securely hold the front and back sections in open position shall be a component of each step ladder. The spreader shall have all sharp points covered or removed to protect the user. For Type III ladder, the pail shelf and spreader may be combined in one unit (the so-called shelf-lock ladder).~~

~~(d) Selection.~~

~~(1) Ladders shall be selected **for**, and their use restricted to, the purpose **for** which the ladder is designed. **by the manufacturer.**~~ [from ANSI A14.2 – 2000, Sections 8.1.4 and 8.3.1.1]

~~**NOTE No. 1: When work cannot be safely done from ladders, scaffolds or other worker positioning equipment shall be used.**~~ [from 1637]

~~**NOTE No. 2: Portable ladders are generally designed for one-person use to meet the requirements of the person, the task, and the environment. **When selecting a ladder for use**, consideration shall be given to the ladder length or height required, the working load, the duty rating, worker position to the task to be performed, and, the frequency of use to which the ladder will be subjected.**~~ [from ANSI A14.2 – 2000, Section 8.2.1]

NOTE No. 3: Subsection (e)(16)(D) prohibits the use of ladders that exceed specified maximum lengths.

(2) ~~Single Ladder Length. Single ladders longer than 30 feet shall not be used. [to 3276(c)(5)(H)]~~

Ladders shall be used according to the following duty classifications: [from ANSI A14.2 – 2000, Section 8.2.1.1]

<u>Duty Rating</u>	<u>Ladder Type</u>	<u>Working Load (pounds)</u>
Special Duty	IAA	375
Extra Heavy-Duty	IA	300
Heavy-Duty	I	250
Medium-Duty	II	225
Light-Duty	III	200

(3) ~~Two Section Ladder Length. Two section extension ladders longer than 60 feet shall not be used. All ladders of this type shall consist of two sections, one to fit within the side rails of the other, and arranged in such a manner that the upper section can be raised and lowered. [to 3276(e)(16)(D)]~~

Ladders used in connection with ladder jack scaffolds shall be **at least heavy-duty type I, IA, or IAA duty rated** ladders and shall be installed and used in accordance with the Construction Safety Orders, Section 1648. [from 1648]

(4) ~~Trestle and Extension Trestle Ladder Length. Trestle ladders, or extension sections or base sections of extension trestle ladders longer than 20 feet shall not be used. [to 3276(e)(16)(D)]~~

~~When work cannot be safely done from ladders or permanent solid construction at least 20 inches wide, scaffolds or other worker positioning equipment shall be used. [from 1637] [to 3276(d)(1) NOTE No. 1]~~

~~Note: Portable ladders are generally designed for one person use to meet the requirements of the person, the task, and the environment. Users shall give consideration to the ladder length or height required, the working load, the duty rating, worker position to the task to be performed, and, the frequency of use to which the ladder will be subjected. [from ANSI A14.2 – 2000, Section 8.2.1] [to 3276(d)(1) NOTE No. 2]~~

(5) ~~Painter's Step Ladder. Painter's step ladders longer than 12 feet shall not be used. [to 3276(e)(16)(D)]~~

(6) ~~Mason's Ladder. A mason's ladder is a special type of single ladder intended for use in heavy construction work. Mason's ladders longer than 40 feet shall not be used. [to 3276(e)(16)(D)]~~

(7) ~~Cleat Ladder. A cleat ladder is a special type of single ladder intended for general use in construction work.~~

~~(A) Cleat ladders longer than 30 feet shall not be used. [to 3276(e)(16)(D)]~~

~~(B) Wood side rails of ladders having cleat steps shall not be less than 1 1/2 inches thick and 3 1/2 inches deep (2 by 4 inches nominal).~~

~~(C) Wood cleats shall be inset into side rails not less than 1/2 inch or shall be attached directly to the edge of the side rails, in which case filler blocks of the thickness of the cleats shall be securely attached to the edge of the rail for the full length between cleats, or equivalent construction. The cleats shall be fastened to each rail by three 10 d wire nails or the equivalent thereof.~~

~~(8) Double Cleat Ladder. A double cleat ladder is similar to a single cleat ladder, but is wider, with an additional center rail which will allow for two way traffic for workers in ascending and descending. The cleats shall extend the full width of the ladder.~~

~~(9) Other Types of Special Ladders. Other types of special ladders such as three-section extension ladders, fruitpicker's ladders, combination step and extension ladders, stockroom step ladders, aisle way step ladders, shelf ladders, and library ladders are not specifically covered by this code.~~

~~(10) Trolley and Side Rolling Ladders. Trolley ladders and side rolling ladders longer than 20 feet shall not be used. [to 3276(e)(16)(D)]~~

~~(e) Care, and Use and Maintenance of Ladders.~~

~~(1) Maintenance. Ladders shall be maintained in good condition at all times, the joint between the steps and side rails shall be tight, all hardware and fittings securely attached, and the movable parts shall operate freely without binding or undue play.~~

~~(2) Metal bearings of locks, wheels, pulleys, etc., shall be frequently lubricated.~~

~~Transporting. Ladders transported on ~~road, street and highway~~ motor vehicles shall be properly supported and secured to prevent falling ~~or damage~~. [from ANSI A14.2 - 2000, Section 8.4.4]~~

~~(3) Frayed or badly worn rope shall be replaced. Protective coatings.~~

~~(A) When metal ladders are to be subjected to deteriorating agents, a protective coating shall be applied ~~to the equipment in accordance with the manufacturer's guidelines.~~~~

~~(B) Wood ladders shall not be painted with other than a transparent material. [see 3287(b)(1)]~~

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THE 12/03/08 MEETING ADJOURNED WITHOUT COMPLETING DISCUSSION OF THE FOLLOWING PROPOSED TEXT EXCEPT FOR THE ADDITION OF SUBSECTION (e)(16)(D)

~~(4) Safety feet and other auxiliary equipment shall be kept in good condition to insure proper performance.~~

~~Oil and Grease. Equipment Ladders shall be cleaned of oil, grease, or slippery materials.~~

~~(5) Damaged Ladders. [from ANSI A14.1-2000 Section 8.4.2] Proper ladder maintenance ensures the safe condition of the ladder. [from ANSI A14.1-2000 Section 8.4.6] Ladders shall be inspected frequently daily prior to immediate use and those which have developed defects shall be withdrawn from service for repair or destruction and tagged or marked as "Dangerous, Do Not Use." Ladders with broken or missing steps, rungs, or cleats, broken side rails, or other defects shall not be used. [from 3278(e)(12)]~~

~~(6) Rungs shall be kept free of grease and oil. [to 3276(e)(4)]~~

~~Loading. Portable ladders shall not be overloaded when used. [from ANSI A14.1-2000, Section 8.2.2]~~

~~(7) Portable rung and cleat ladders shall, where possible, be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is one quarter of the working length of the ladder (the length along the ladder between the foot and the top~~

~~support). The ladder shall be so placed as to prevent slipping, or it shall be lashed, or held in position. Ladders shall not be used in a horizontal position as platforms, runways, or scaffolds. [to 3276(e)(10)]~~

Footing Support. The ladder base section shall be placed on secure and level footing. Safety shoes of good substantial design shall be installed on all ladders. [from 3279(d)(7) and ANSI 14.1-2000, Section 8.3.4] When necessary, ladder levelers may shall be used to achieve equal rail support on uneven surfaces. [from ANSI 14.1-2000, Section 8.3.4] Ladders shall not be placed on boxes barrels or other unstable bases to obtain additional height. [from 3278(e)(11)] Ladders shall not be used on ice, snow or slippery surfaces unless suitable means to prevent slippage have been employed. [from ANSI 14.1-2000, Section 8.3.4]

~~(8) Ladders for which dimensions are specified herein should not be used by more than one man at a time nor with ladder jacks and scaffold planks where use by more than one man is anticipated. In such cases, specially designed ladders with larger dimensions of the parts shall be procured.~~

Top Support. The top of single and extension ladders must be placed with the two rails supported, unless equipped with a single support attachment.

~~(9) Portable ladders shall be so placed that the side rails have a secure footing. The top rest for portable rung and cleat ladders shall be reasonably rigid and shall have ample strength to support the applied load.~~

When in use, ladders shall be tied, blocked or otherwise secured to prevent displacement. [from 1675(j)]

~~(10) Ladders shall not be placed in front of doors opening toward the ladder unless the door is blocked open, locked, or guarded.~~

Angle of Inclination. Single and extension ladders shall, where possible, be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is one-quarter of the working length of the ladder (the length along the ladder between the foot and the top support). The ladder shall be so placed as to prevent slipping, or it shall be lashed, or held in position. Ladders shall not be used in a horizontal position as platforms, runways, or scaffolds. [from 3278(e)(7)]

~~(11) Ladders shall not be placed on boxes, barrels, or other unstable bases to obtain additional height. [to 3276(e)(7)]~~

Side Rails. The side rails of single or extension ladders shall extend not less than 36 inches above the landing. When this is not practical, grab rails extending not less than 36 inches, which provide a secure grip for an employee moving to or from the point of access, shall be installed. [from 1675(i)]

~~(12) Ladders with broken or missing steps, rungs, or cleats, broken side rails, or other faulty equipment shall not be used. [to 3276(e)(5)]~~

Fastening together. Ladders shall not be tied or fastened together to provide longer sections. They must be equipped with the hardware fittings necessary if the manufacturer endorses extended uses. [from 3279(d)(9)]

~~(13) Short ladders shall not be spliced together to provide long sections. (see 3276(e)(12))~~

Erection of Extension Ladders. Extension ladders shall always be erected so that the top section (fly section) is above and resting on the bottom section (base section) with the rung locks engaged. [from ANSI A14.2 – 2000, Section 8.3.14]

~~(14) Ladders made by fastening cleats across a single rail shall not be used.~~

Doorways. Ladders shall not be placed in front of doors opening toward the ladder unless the door is blocked open, locked, or guarded. [from 3278(e)(10)]

~~(15) Ladders shall not be used as guys, braces, or skids, or for other than their intended purposes.~~

Climbing and Working Locations. [from ANSI A14.1-2000, Section 8.3.2]

(A) The employee shall climb or work with the body near the middle of the step or rung and shall not overreach from this position. [from ANSI A14.1-2000, Section 8.3.2] When necessary, the employee shall descend and reposition the ladder to climb or work safely. [from ANSI A14.1-2000, Section 8.3.6]

(B) Employees shall be prohibited from carrying equipment or materials which prevent the safe use of ladders. [from 3276(a)(1)]

(C) Employees shall face the ladder when ascending and descending. [from 3276(a)(2)]

(D) Employees shall always use both hands when climbing up or down the ladder. [from 3276(a)(3)]

(E) Employees shall not be permitted to stand and work on the top 3 rungs of a single or extension ladder unless there are members of the structure that provide a firm handhold or the employee is protected by a personal fall protection system in accordance Article 24 of the Construction Safety Orders. [from 1675(k)]

(F) Employees shall not stand on the topcap or the step below the topcap of a step ladder. [from 3276(b)]

(G) Planks shall not be used on the top step or topcap of step ladders. [from 1675(f)]

(H) Step ladders shall not be used as single ladders or in the partially closed position.

Note: Proper use of a ladder will contribute significantly to safety. Factors contributing to falls include: haste, sudden movements, lack of attention during use, ladder condition (worn or damaged), user’s physical condition, and the user’s footwear. [from ANSI A14.2 – 2000, Section 8.1.5]

~~(16) On two-section extension ladders the minimum overlap for the two sections in use shall be as follows: [to ?]~~

<u>Size of Ladder(feet)</u>	<u>Overlap(feet)</u>
<u>Up to and including 36.....</u>	<u>3</u>
<u>Over 36 up to and including 48.....</u>	<u>4</u>
<u>Over 48 up to and including 60.....</u>	<u>5</u>

(16) Prohibited Uses. [from 3279(d)(10)]

(A) Ladders shall not be used as a brace skid, guy or gin pole, gang-way, or for other uses than that for which they were intended, unless specifically recommended for use by the manufacturer. [from 3279(d)(10)(A)]

(B) Cross-bracing on the rear section of step ladders shall not be used for climbing unless the ladders are designed and provided with steps for climbing on both front and rear sections. [from 3279(d)(10)(B)]

(C) No ladder shall be used to gain access to a roof unless the top of the ladder extends at least 3 feet above the point of support at the eave, gutter, or roof line and the ladder has been secured to prevent slipping or sliding when ascending or descending from ladder to roof. [from 3278(e)(18)]

(D) Ladders that exceed the following maximum lengths shall not be used:

<u>Ladder Type</u>	<u>Maximum Length (feet)</u>
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Step ladder	20
Two-section extension ladder	60
Trestle ladder	20
Extension trestle ladder base section	20
Extension trestle ladder extension section	20
Painter's step ladder	12
Mason's ladder	40
Cleat ladder	30
Trolley ladder or side-rolling ladder	20
Single ladder	30

(17) Portable rung ladders with reinforced rails shall be used only with the metal reinforcement on the under side.

Electrical Hazards. Non-conductive ladders shall be used in the vicinity of energized electrical circuits in places where they may come in contact with them. Conductive ladders shall be legibly marked with signs reading "CAUTION--Do Not Use Around Electrical Equipment," or equivalent wording. [from 3279(d)(11)]

Note:

- (1) Additional requirements for working in proximity to energized electrical equipment can be found in Article 37 of the Electrical Safety Orders.
- (2) Additional requirements for ladder usage during construction work can be found in Article 25 of the Construction Safety Orders.

~~(18) No ladder shall be used to gain access to a roof unless the top of the ladder extends at least 3 feet above the point of support at eave, gutter, or roof line. [to 3276(e)(16)(C)]~~

~~(19) The employer shall equip all portable rung ladders with non-slip bases when there is a hazard of slipping. Non-slip bases are not intended as a substitute for care in safely placing, lashing, or holding a ladder that is being used upon oily metal, concrete, or slippery surfaces.~~

~~(20) Cross bracing on the rear section of stepladders shall not be used for climbing unless the ladders are designed and provided with steps for climbing on both front and rear sections. (see 3276(e)(16)(B))~~

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§3279. Portable Metal Ladders.

Safety requirements for portable metal ladders placed in service after April 18, 1999, shall meet the requirements of ANSI A14.2 1990 or ANSI A14.10 2000, which are hereby incorporated by reference. Safety requirements for portable metal ladders placed in service on or before April 18, 1999, shall be based on the ANSI A14.2 provisions in effect at the time such ladders were placed in service.

(a) Scope. This section is intended to prescribe rules and requirements for the construction, care, and use of the common types of portable metal ladders, in order to insure safety under normal conditions of usage. It does not cover special-purpose ladders which do not meet the general requirements of this code.

(b) Definitions. For definitions of terms associated with metal ladders, see Section 3278(b).

(c) Requirements.

(1) General. Specific design and construction requirements are not a part of this section because of the wide variety of metals and design possibilities. However, the design shall be such as to produce a ladder without structural defects or accident hazards such as sharp edges, burrs, etc. The metal selected shall be of sufficient strength to meet the test requirements, and shall be protected against corrosion unless inherently corrosion resistant.

(A) Rung Spacing. The spacing of rungs or steps shall be on 12 inch centers.

(B) Rungs and Steps. Rungs and steps shall be corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize the possibility of slipping.

(2) General Specifications—Straight and Extension Ladders.

(A) Ladder Width. The minimum width between side rails of a straight ladder or any section of an extension ladder shall be 12 inches.

(B) Ladder Length. The length of single ladders or individual sections of ladders shall not exceed 30 feet. Two section ladders shall not exceed 48 feet in length and over two section ladders shall not exceed 60 feet in length.

(C) Overlap. Based on the nominal length of the ladder, each section of a multi-section ladder shall overlap the adjacent section by at least the number of feet stated in the following:

(Feet)	(Feet)	Nominal Length of Ladder	Overlap
Up to and including 36	-	3	-
Over 36, up to and including 48	-	4	-
Over 48, up to 60	-	5	-

(D) Extension ladders shall be equipped with positive stops which will insure the overlaps specified in the table above.

(3) General Specifications—Step Ladders.

(A) Length. The length of a step ladder is measured by the length of the front rail. Step ladders shall not exceed 20 feet in length.

(B) Feet. The bottoms of the four rails are to be supplied with insulating nonslip material for the safety of the user.

(C) Spreaders. A metal spreader or locking device of sufficient size and strength to securely hold the front and back sections in the open position shall be a component of each step ladder. The spreader shall have all sharp points or edges covered or removed to protect the user.

(4) General Specifications Trestles and Extension Trestle Ladders.

(A) Length. Trestle ladders or extension sections or base sections of extension trestle ladders shall be not more than 20 feet in length.

(5) General Specifications—Platform Ladders. The length of a platform ladder shall not exceed 20 feet. The length of a platform ladder shall be measured along the front rail from the floor to the platform.

(d) Care, Use and Maintenance of Ladders.

~~(1) General. Every employer using ladders shall enforce a maintenance program which includes the appropriate requirements listed below.~~

~~(2) Maintenance. Ladders shall be maintained in good usable condition at all times. Hardware fittings and accessories shall be checked prior to use and kept in good working condition.~~

~~(3) Deteriorating Agents. When ladders are to be subjected to deteriorating agents, a protective coating shall be applied to the equipment.~~

~~(4) Oil and Grease. Equipment shall be cleaned of oil, grease, or slippery materials.~~

~~(5) Damaged Ladders. Ladders having defects are to be marked and taken out of service.~~

~~(6) Loading. Portable ladders are designed as a one man working ladder based on a 200 pound load.~~

~~(7) Footing Support. The ladder base section shall be placed with a secure footing. Safety shoes of good substantial design shall be installed on all ladders.~~

~~(8) Top Support. The top of the ladder must be placed with the two rails supported, unless equipped with a single support attachment.~~

~~(9) Fastening Together. Ladders must not be tied or fastened together to provide longer sections. They must be equipped with the hardware fittings necessary if the manufacturer endorses extended uses.~~

~~(10) Improper Use.~~

~~(A) Ladders shall not be used as a brace, skid, guy or gin pole, gangway, or for other uses than that for which they were intended, unless specifically recommended for use by the manufacturer.~~

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

~~(11) Electrical Hazards. Portable metal ladders shall not be used in the vicinity of electrical circuits in places where they may come in contact with them. Portable metal ladders shall be legibly marked with signs reading "CAUTION--Do Not Use Around Electrical Equipment," or equivalent wording.~~

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§3280. Portable Reinforced Plastic Ladders.

~~Safety requirements for portable reinforced plastic ladders placed in service after April 18, 1999, shall meet the requirements of ANSI A14.5 1992 or ANSI A14.10 2000, which are hereby incorporated by reference. Safety requirements for portable reinforced plastic ladders placed in service on or before April 18, 1999, shall be based on the ANSI A14.5 provisions in effect at the time such ladders were placed in service.~~

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§3287. Ladders.

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~~(b) Specifications.~~

~~(1) Wood Portable ladders shall comply with the design and construction requirements for portable ladders in Section 3278 3276(c), Portable Wood Ladders of the General Industry Safety Orders and they shall not be painted with other than a transparent material.~~

~~Exception: Refer to Section 3287(a)(1) for maximum length.~~

~~(2) Metal ladders shall meet the requirements of Section 3279, Portable Metal Ladders of the General Industry Safety Order.~~

~~Exception: Refer to Section 3287(a)(1) for maximum length.~~

~~(3) Plastic reinforced ladders shall meet the requirements of Section 3280 of the General Industry Safety Orders.~~

(4) (2) All ladders shall be equipped with nonslip bases suitable to the bearing surface. Middle and top sections shall not be used as bottom sections unless the user equips them with nonslip bases.

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§3413. Ladders.

(a) All portable ladders shall be at least Type 1 industrial heavy-duty ladders, Type 1A industrial extra heavy-duty ladders or Type 1AA special duty ladders as referred to in subsection (c) of this section, and shall be designed and constructed in accordance with ~~Sections 3278 and 3279~~ 3276(c) of the General Industry Safety Orders.

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