

4123:1-5-03 Ladders and scaffolds.

(A) Reserved.

(B) Reserved.

(C) Ladders.

(1) Construction.

All ladders shall be substantially constructed of wood, metal or other equivalent material ~~and shall have a safety factor of not less than four.~~ Ladders must be able to support at least four times the maximum intended load, except extra-heavy-duty type one "A" metal or plastic ladders, which must be able to sustain 3.3 times the maximum intended load.

(a) Side rails.

(i) Wood.

~~Wood side rails shall be of sound material. All wood parts shall be free from shakes, cross grain, checks or decay. Knots shall not exceed one-half inch diameter and shall not be nearer than one-half inch to the edge of the rail or within three inches of the rung, step or tread. sharp edges and splinters; sound and free from accepted visual inspection from shake, wane, compression failures, decay, or other irregularities. Low density wood shall not be used.~~

(ii) Metal.

Metal side rails shall be parallel or shall vary uniformly in separation along the length (tapered) of the ladder or shall flare at the base. The design of the side rails shall be such that the ladder will conform to the specific safety requirements of this code.

(b) Rungs, steps or treads.

(i) Wood.

Wood rungs, steps or treads shall be sound material free from knots, shakes, cross grain, large checks or decay. All rungs, steps or treads shall have a uniform spacing which shall not exceed twelve inches on center.

(ii) Metal.

Metal rungs, steps or treads shall have a uniform spacing which shall not exceed twelve inches on center. Metal rungs, steps or treads to side rail connections shall be so constructed as to conform to the factor of safety specified in paragraph (C)(1) of this rule.

(2) Portable ladders.

(a) Metal rungs, steps or treads.

All metal rungs, steps or treads shall be corrugated, knurled, dimpled, or coated with skid-resistant material.

(b) Safety shoes, spikes or spurs.

(i) All portable ladders shall be equipped with safety shoes, metal spikes or spurs. Safety shoes shall be surfaced with cork, carborundum, rubber or other material with equivalent coefficient of friction.

(ii) This does not apply to step ladders, lashed ladder or hook ladders.

(c) Hook ladders.

Ladders designed for use by hooking shall be equipped with two or more substantial metal hooks at the top of the ladder.

(d) Portable metal or conductive ladders.

Portable metal or conductive ladders shall not be used near energized conductors or equipment except as may be necessary in specialized work, such as in high voltage substations where non-conductive ladders might present a greater hazard than conductive ladders. Conductive or metal ladders shall be prominently marked as "Conductive."

(3) Extension ladders.

(a) Automatic locks.

Extension ladders shall be equipped with two automatic locks of malleable iron or equivalent material attached to the side rails of the upper extension and of such construction as to make the extension ladder equal in strength to a ladder constructed of continuous side rails.

(b) Where a single rung support holds an entire rung of the upper extension and the support is attached to both side rails of the lower section, two automatic locks shall not be required.

(4) Step ladders.

(a) Height.

Step ladders shall not exceed twenty feet in length.

(b) Spreader.

A metal spreader shall be provided on step ladders to securely hold the front and back sections in open position.

(5) Sectional ladders.

When sectional ladders are used they shall conform to the following:

(a) Length.

Sectional ladders shall not exceed sixty feet in extended length.

(b) Connection joint.

(i) Adjacent sections shall be jointed by means of a groove in the bottom end of each rail of the upper of the two sections setting firmly over extensions outside the side rails, of the topmost rung of the next lower section and, at the same time, a groove in the top end of each rail of the lower of the two sections setting firmly over the bottom rung, inside the side rails, of the section next above.

(ii) The distance between the two rungs (topmost rung of one section, bottom rung of the section next above) mentioned in paragraph (C)(5)(b)(i) of this rule shall not be less than one foot.

(iii) The fit between rail grooves and rungs mentioned in paragraph (C)(5)(b)(i) of this rule shall be such as to provide a good fit without binding or unnecessary play.

(iv) The grooved ends of the sections shall be reinforced with a metal plate of not less than eighteen-gauge (manufacturing standard) material properly secured thereto, and a rivet adjacent to the groove, extending through the depth of the rail, or the equivalent thereof.

(c) Structural dimensions and requirements.

(i) The minimum dressed cross section and distance between side rails of wood shall be as follows:

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Number of Sections	Thickness (inches)	Side Rails Cross Section Depth (inches)	Distance Base (inches)
Up to & inc. 4 sections	1-1/8	2-3/4	13
Over 4 sections, up to & inc. 6 sections	1-1/8	3-1/8	20

(ii) If the length exceeds six feet, the side rail cross sections shall be correspondingly increased.

(6) Fixed ladders.

All fixed ladders more than twenty feet in length shall be equipped with a ladder cage or ladder well. This requirement does not apply to chimney ladders.

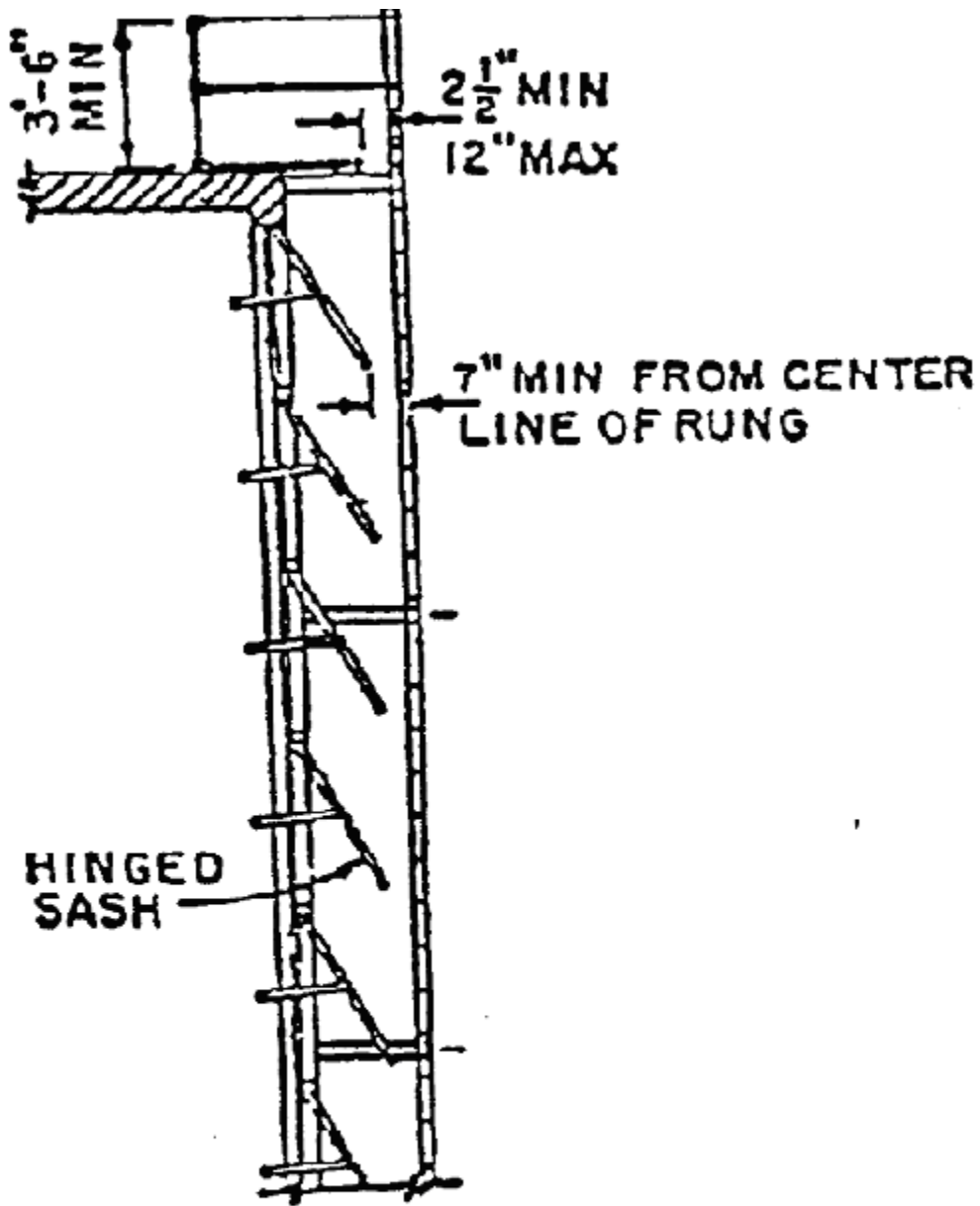
(a) Landing platforms.

When ladders are used to ascend to heights exceeding twenty feet, landing platforms shall be provided for each thirty feet of height or fraction thereof, except that where no cage, well, or ladder safety device is provided, landing platforms shall be provided for each twenty feet of height or fraction thereof. Each ladder section shall be offset from adjacent sections. Where installation conditions (even for a short, unbroken length) require that adjacent sections be offset, landing platforms shall be provided at each offset.

(i) Where an employee must step a distance greater than twelve inches from the centerline of the rung of a ladder to the nearest edge of structure or equipment, a landing platform shall be provided. The minimum step-across distance shall be two and one-half inches. (See figure 4123:1-5-03 (C)(6)(a)(i) to this rule.)

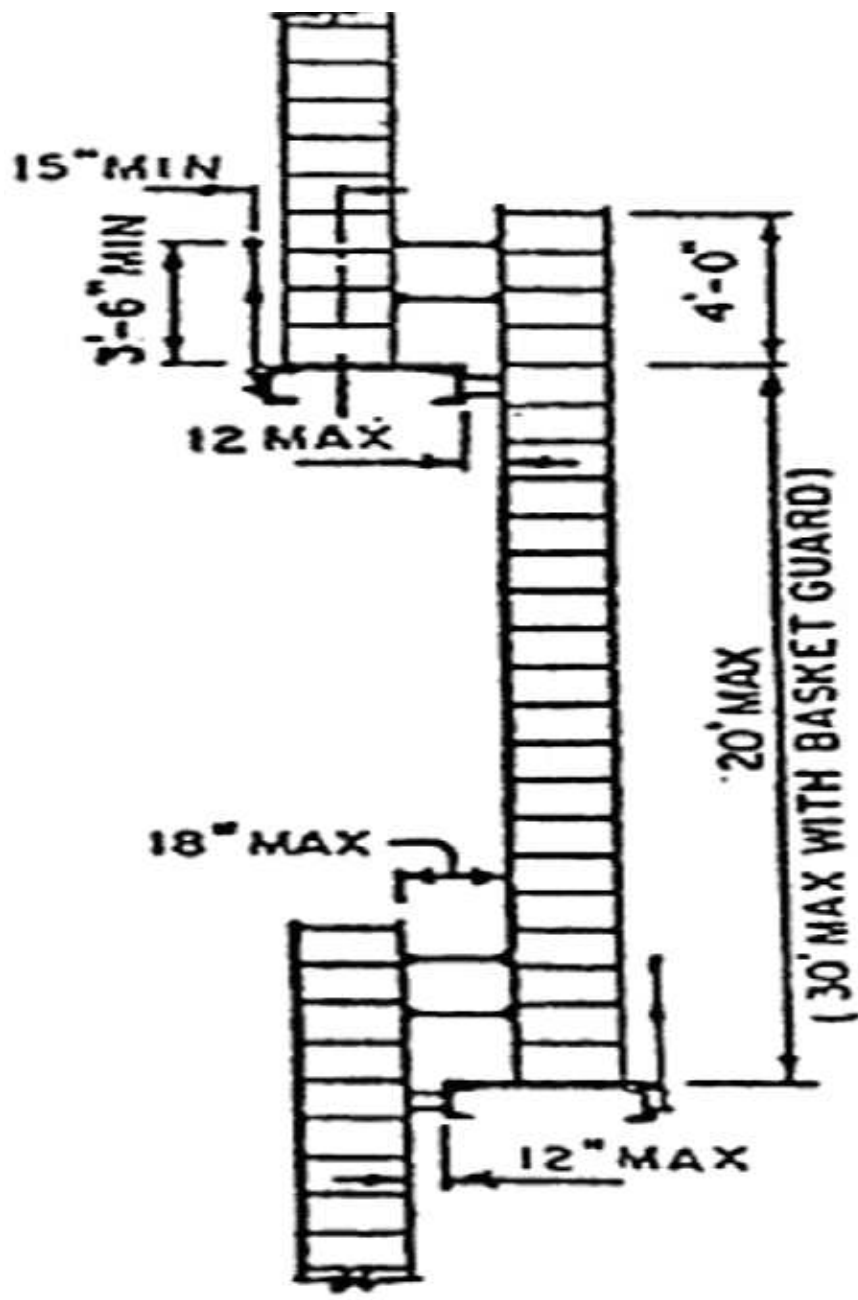
(ii) All landing platforms shall be equipped with standard guard railings and toeboards, so arranged as to give safe access to the ladder. Platforms shall be no less than twenty-four inches in width and thirty inches in length.

(iii) One rung of any section of ladder shall be located at the level of the landing laterally served by the ladder. Where access to the landing is through the ladder, the same rung spacing as used on the ladder shall be used from the landing platform to the first rung below the landing.



(b) Ladder extensions.

The side rails of through or side-step ladder extensions shall extend three and one-half feet above any landing or other walking surface. For through ladder extensions, the rungs shall be omitted from the extension and shall have not less than eighteen nor more than twenty-four inches clearance between rails. For side-step or offset fixed ladder sections at landings, the side rails and rungs shall be carried to the next regular rung beyond or above the three-and-one-half-foot minimum. (See figure 4123:1-5-03(C)(6)(b) to this rule.)



(c) Grab bars.

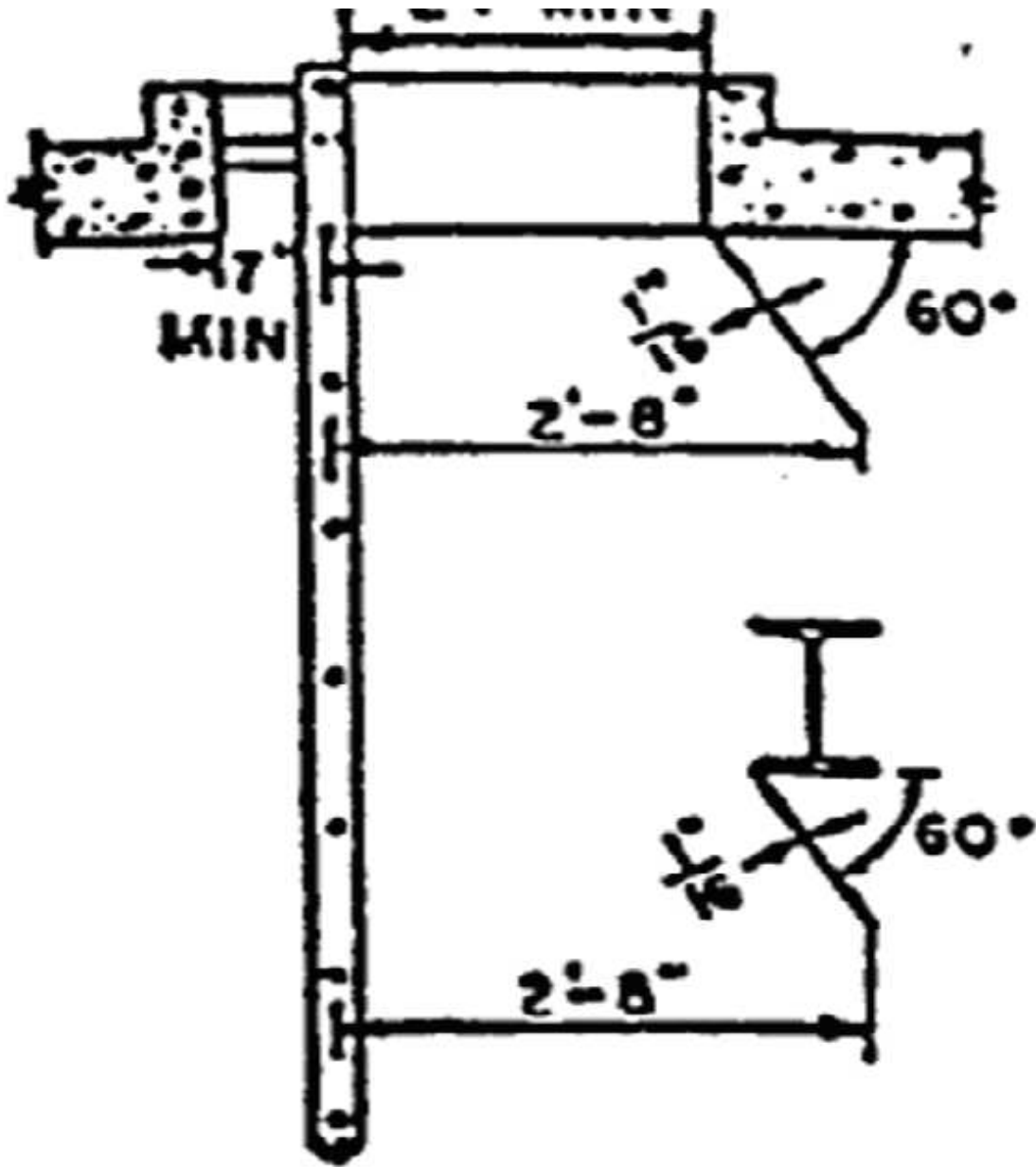
Grab bars shall be spaced by a continuation of the rung spacing when they are located in the horizontal position. Vertical grab bars shall have the same spacing as the ladder side rails. Grab bars' diameters shall be the equivalent of the round-rung diameters.

(d) Ladder safety devices.

Ladder safety devices may be used on ladders in lieu of cage protection. No landing platform is required in these cases. All ladder safety devices such as those that incorporate life belts, friction brakes, and sliding attachments shall meet the design requirements of the ladder which they serve.

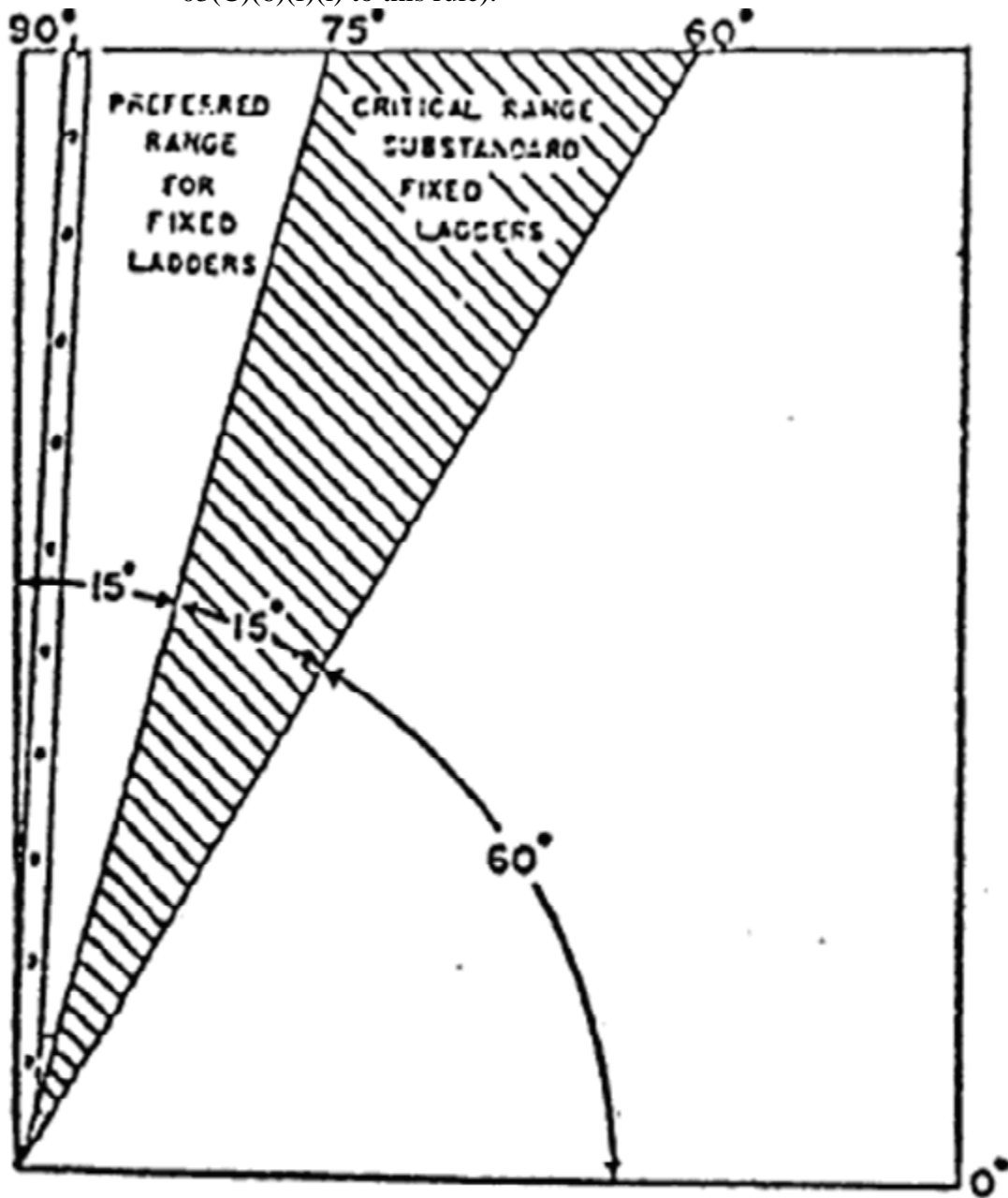
(e) Counterweighted hatch covers.

Where counterweighted hatch covers are provided they shall open a minimum of sixty degrees from the horizontal. The distance from centerline of rungs or cleats to the edge of the hatch opening on the climbing side shall be not less than twenty-four inches from offset wells or thirty inches for straight wells. There shall be no protruding potential hazards within twenty-four inches of the centerline of rungs or cleats; any such hazards within thirty inches of the centerline of the rungs or cleats shall be fitted with deflector plates placed at an angle of sixty degrees from the horizontal as indicated in figure 4123:1-5-03(C)(6)(e) to this rule.



(f) Pitch of fixed ladders.

- (i) The pitch of fixed ladders shall come in the range of seventy-five degrees and ninety degrees with the horizontal. (See figure 4123:1-5-03(C)(6)(f)(i) to this rule).



(ii) Fixed ladders within the pitch range of sixty to seventy-five degrees with the horizontal are permitted only where it is found necessary to meet conditions of installation. Lesser pitch ranges are not permissible.

(iii) Ladders having a pitch in excess of ninety degrees with the horizontal are prohibited.

(g) Manhole steps and ladders.

(i) Entrance into a manhole shall be by steps that are cast or mortared into the walls of riser or conical top sections or by portable ladder. Portable ladders shall conform to the requirements of paragraphs (C)(1) and (C)(2) of this rule.

(ii) Manhole steps that are cast or mortared into the walls of riser or conical top sections shall meet the following requirements:

(a) For steps, appurtenances and fastenings, the minimum design live load shall be a single concentrated load of ~~three~~ two hundred pounds.

(b) ~~Steps in riser and conical top sections shall be aligned in each section so as to form a continuous ladder with steps equally spaced vertically in the assembled manhole at the maximum design distance of sixteen inches apart. Steps shall be so designed that the foot cannot slide off the end~~ The distance between rungs, cleats, and steps shall not exceed twelve inches and shall be uniform throughout the length of the ladder. Rungs on an individual rung ladder shall be so designed that the foot cannot slide off the end.

(c) When dissimilar types of materials are used in the steps, appurtenances and fastenings, the materials shall be treated to prevent deleterious effects.

(d) The portion of the step projecting into the riser or cone opening shall be free of any hazardous sharp edges, burrs, or projections.

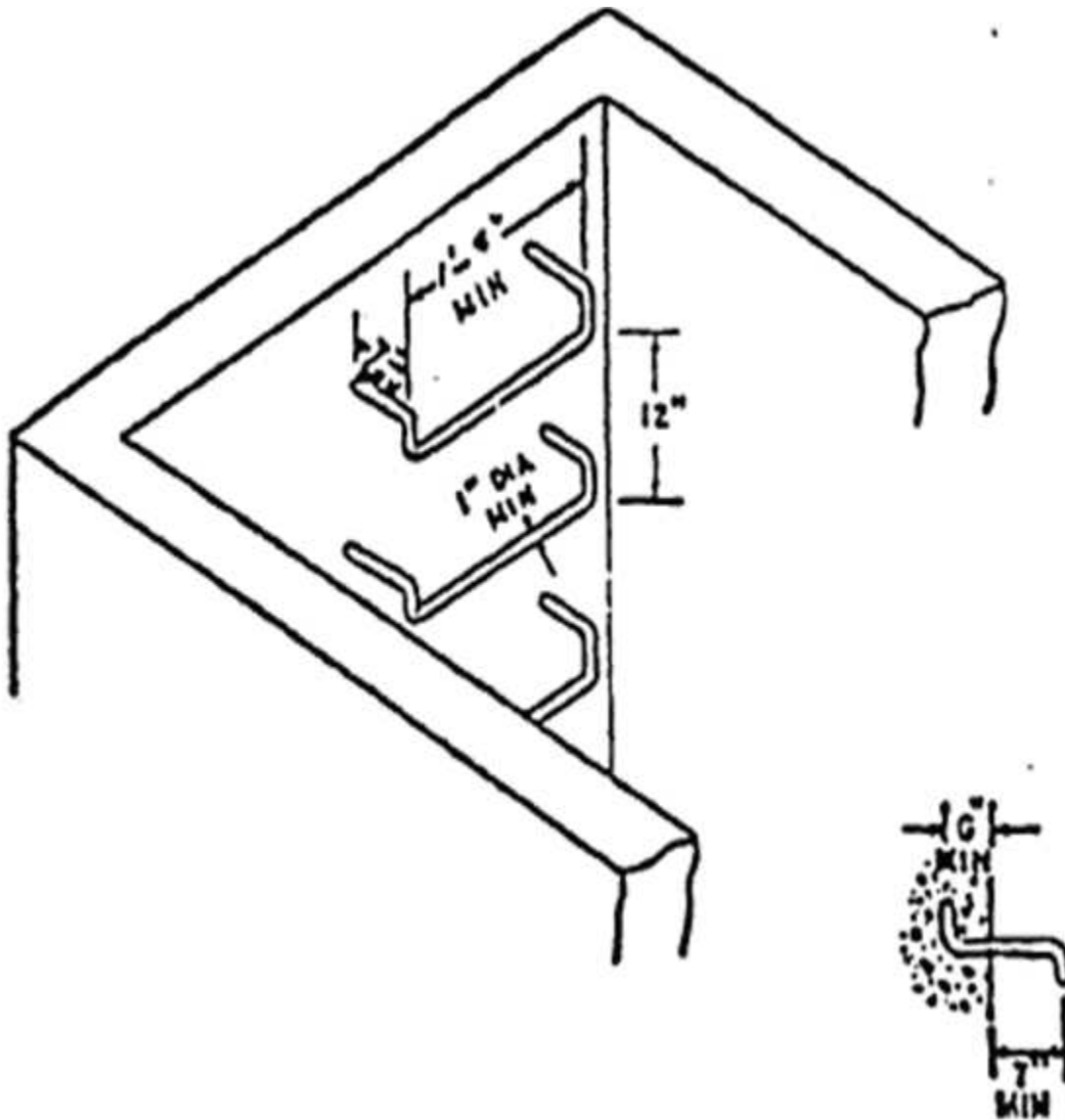
(e) Ferrous metal steps not painted or treated to resist corrosion shall have a minimum cross-sectional dimension of one inch.

(f) The minimum clear length of ~~steps~~ rungs or cleats shall be ~~ten~~ sixteen inches.

(g) The step shall project a minimum clear distance of ~~four~~ seven inches from the wall of the rise or cone section measured from the point of embedment.

(h) Rungs and cleats.

- (i) All rungs shall have a minimum diameter of three-fourths inch for metal ladders or material of equivalent strength, and minimum diameter of one and one-eighth inches for wood ladders.
- (ii) The distance between rungs, cleats, and steps shall not exceed ~~sixteen~~ twelve inches and shall be uniform throughout the length of the ladder.
- (iii) The minimum clear length of rungs or cleats shall be ~~twelve~~ sixteen inches.
- (iv) Rungs, cleats, and steps shall be free of splinters, sharp edges, burrs, or projections which may be a hazard.
- (v) The rungs of an individual-rung ladder shall be so designed that the foot cannot slide off the end. A suggested design is shown in figure 4123:1-5-03 (C)(6)(h)(v) to this rule.



(i) Fastenings.

Fastenings shall be an integral part of fixed ladder design.

(j) Ladder cage.

A ladder cage which encircles the climbing space and is securely fastened to the side rails of the fixed ladder or to the structure shall be provided.

(i) Size of cage.

The cage shall not extend less than twenty-seven or more than twenty-eight inches from the centerline of the rungs of the ladder and shall not be less than twenty-seven inches in width. Vertical bars shall be at a minimum spacing of forty degrees around the circumference of the cage. This will give a maximum spacing of approximately nine and one-half inches, center to center. The inside of the cage shall be clear of projections.

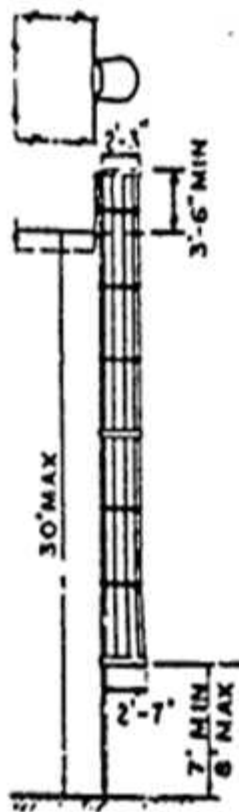
(ii) Top of cage.

The top of the cage shall extend a minimum of forty-two inches above the top of the landing.

(iii) Bottom of cage.

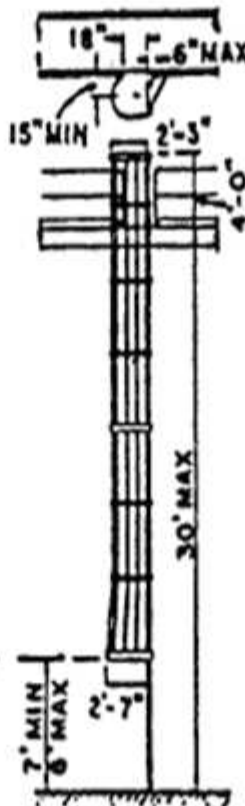
The bottom of the cage shall extend down the ladder to a point not less than seven nor more than eight feet above the base of the ladder, with bottom flared not less than four inches, or the portion of the cage opposite the ladder shall be carried to the base. (See figure 4123:1-5-03(C)(6)(j)(iii) to this rule.)

THROUGH LADDER



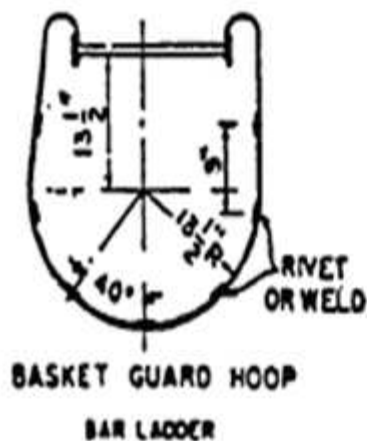
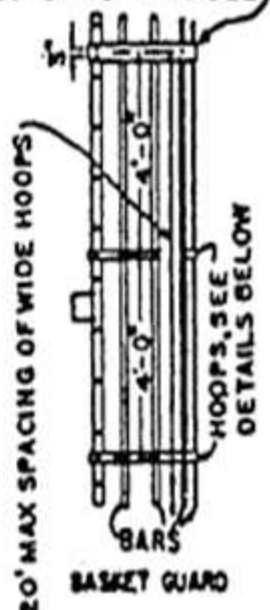
ACCESS TO LANDING PLATFORM THROUGH LADDER

SIDE-STEP LADDER

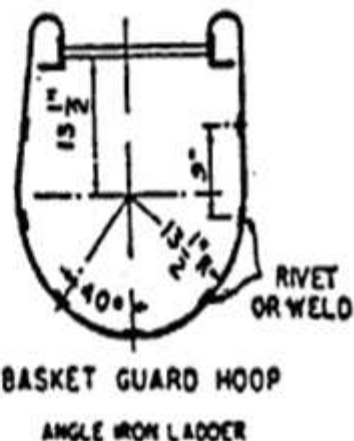


ACCESS Laterally FROM LADDER

TOP AND BOTTOM HOOPS ALSO THIS SIZE



BASKET GUARD HOOP
BAR LADDER



BASKET GUARD HOOP
ANGLE IRON LADDER

(k) Ladder well.

(i) If a ladder well is provided, it shall permanently and completely enclose the climbing space and the ladder shall be securely fastened to the walls of the well.

(ii) Minimum clearance.

Ladder wells shall have a minimum clear width of fifteen inches measured each way from the center-line of the ladder. Smooth-walled wells shall be a minimum of twenty-seven inches from the centerline of the rungs, steps or treads to the well wall on the climbing side of the ladder. Where obstructions on the ~~limb~~side climbing side of the ladder exist, there shall be a minimum clearance of thirty inches from the centerline of the rungs, steps or treads.

(7) Trolley and side-rolling ladders.

(a) Length.

Trolley ladders and side-rolling ladders longer than twenty feet shall not be provided.

(b) Width.

The width between the side rails, inside to inside, shall be not less than twelve inches.

(c) Step attachment.

Flat steps shall be inset in the side rails one-eighth inch and secured with not less than two 6-d nails at each end, or the equivalent thereof. They shall be reinforced with angle braces or a three-sixteenths-inch steel rod.

(d) Locking device.

Locking devices shall be provided on all trolley ladders.

(e) Tracks.

(i) Tracks shall be wood or metal (excluding cast iron) or a combination of these materials.

(ii) Tracks for the top end of ladders shall be fastened securely and shall be so constructed that the wheels will not jump the track.

(iii) Tracks for side-rolling ladders shall be supported by metal or wood brackets securely screwed or bolted to shelving or other permanent structure at intervals of not more than three feet.

(f) Wheel carriages.

(i) The wheel carriage shall be so designed that a loose or broken wheel will not allow the ladder to drop or become detached from the track.

(ii) The wheel carriage for the bottom of the ladder shall be securely fastened to the bottom of the ladder.

(iii) The wheels at the upper end of the ladder shall have a minimum wheel base of eight inches.

(8) Trestle and extension trestle ladders.

(a) The width between the side rails at the base of the trestle ladder and base sections of the extension trestle ladder shall be not less than twenty-one inches for all ladders and sections up to and including six feet. Longer lengths shall be increased at least one inch for each additional foot of length. The width between the side rails of the extension sections of the trestle ladder shall be not less than twelve inches.

(b) The tops of the side rails of the trestle ladder and of the base section of the extension trestle ladder shall be beveled, or of equivalent construction and shall be provided further with a metal hinge to prevent spreading.

(c) A metal spreader or locking device to hold the front and back sections in an open position, and to hold the extension section securely in the elevated position shall be a component of all extension trestle ladders and all trestle ladders over twelve feet in length.

(d) Rungs shall be parallel and level. On the trestle ladder, or on the base sections of the extension trestle ladder, rungs shall be spaced not less than eight inches or more than eighteen inches apart; on the extension section of the extension trestle ladder, rungs shall be spaced not less than six inches or more than twelve inches apart.

(e) General specifications - trestle and extension trestle ladders.

(i) Trestle ladders or extension sections or base sections of extension trestle ladders shall be not more than twenty feet in length.

(ii) The minimum distance between side rails of the trestle or extension sections or base sections at the narrowest point shall be not less than

twelve inches. The width spread shall be not less than one inch per foot of length of side rail.

(9) Platform stepladder.

- (a) The minimum width between side rails at the platform shall not be less than fifteen inches.
- (b) The back legs and side rails shall extend at least twenty-four inches above the platform and shall be connected with a top member to form a three-sided rail, or equivalent construction shall be provided.
- (c) The wood parts of a combined wood and metal platform functioning as a spreader shall not be depended upon to contribute to the spreading or locking action.

(D) Scaffolds.

(1) ~~Stationery~~ Stationary scaffolds.

(a) Construction.

- (i) Stationary scaffolds shall be substantially constructed of wood, metal or other equivalent material and shall be securely fastened.
- (ii) Dimensions, structural.

Planks used in scaffolds shall be a minimum width of nine inches and a minimum thickness of two inches, scaffold grade, and shall be straight, close grained and free of visible defects, such as large knots, decay and shakes. Wooden materials of different sectional dimensions of equal strength or other material of equal strength may be used.

(b) Factor of safety.

Stationary scaffolds and their load-bearing members shall have a designed factor of safety of not less than four.

(c) Guarding.

- (i) Standard guard railing and toeboards shall be provided on the unprotected sides of all stationary scaffolds which are ten feet or more above the ground or supporting area, or that are over or immediately adjacent to water, machinery or sources of danger.

(ii) Standard guard railing and toeboards shall not be required on ladder scaffolds.

(iii) When it is not practicable to install and use standard guard railing for employee protection on a scaffold, as required by this paragraph, safety harness which are properly secured to a lanyard and lifeline or a safety net properly installed, may be used instead of standard guard railings.

(d) Side screens.

Scaffolds shall be provided with a screen between the toeboard and the guardrail, extending along the entire opening, consisting of no. eighteen gauge U.S. standard wire one-half inch mesh or the equivalent, where persons are required to work or pass under the scaffolds. At a minimum, side screens shall be as high as the maximum height of material to be stored or piled on the scaffold. Side screens on scaffolds shall consist of no. eighteen gauge U.S. standard wire one-half inch mesh or the equivalent.

(e) Ladder or ramp access.

An access ladder or equivalent safe access shall be provided.

(f) Footings.

The footing or anchorage for scaffolds shall be sound, rigid, and capable of carrying the maximum intended load without settling or displacement.

(g) Overlap.

All planking on platforms shall be overlapped (minimum twelve inches) or shall be securely fashioned in place.

(h) End supports.

Scaffold planks shall extend over their end supports not less than six inches nor more than eighteen inches extending across the entire bearer from pole to pole. The scaffold planks shall be laid tightly with no opening greater than one inch, through which tools or materials can fall.

(i) Overhead protection.

Overhead protection shall be provided for employees on a scaffold exposed to overhead hazards.

(j) Rope.

(i) Rope (wire, fire, or equivalent) used for scaffold suspension shall have a factor of safety of not less than six.

(ii) Only treated or protected fiber rope or its equivalent shall be used on or near any work involving the use of corrosive substances or chemicals.

(k) Shore or lean-to scaffolds.

The use of shore scaffolds or lean-to scaffolds is prohibited.

(l) Lumber sizes.

Lumber sizes, when used in this paragraph, refer to nominal sizes except where otherwise stated.

(m) Securing.

Scaffolds shall be secured to permanent structures, through use of anchor bolts, reveal bolts, or other equivalent means. Window cleaners' anchor - bolts shall not be used.

(2) Manually propelled mobile work platforms (ladder stands) and rolling scaffolds (towers).

Manually propelled mobile work platforms (ladder stands) and rolling platforms (towers) shall support at least four times the designed working load. The assembled components of all mobile work platforms (ladder stands) and rolling platforms (towers) shall provide a factor of safety of not less than four. Exposed surfaces shall be free from sharp edges, burrs, or other projecting parts.

(a) Work platform levels.

(i) The maximum work platform height shall not exceed four times the minimum or least base dimension of any mobile work platform (ladder stand) or rolling scaffold (tower). Where the basic mobile unit does not meet this requirement, outrigger frames shall be provided to meet this least base dimension, or it shall be securely fastened to prevent tipping.

(ii) The minimum work platform width for any work level shall not be less than twenty inches for mobile scaffolds (towers). Ladder stands shall have a minimum step width of sixteen inches.

(iii) The supporting structure for the work platform shall be rigidly braced, using substantial cross bracing or diagonal bracing with rigid platforms at each work level.

- (iv) The steps of ladder stands shall have slip resistant treads.
- (v) The work platform of rolling scaffolds (towers) shall be the full width of the scaffold, except for necessary openings. Work platforms shall be securely fastened in place. All planking shall be two-inch scaffold grade lumber or equivalent.
- (vi) Work platforms ten feet or more above the ground or floor shall have a standard guardrail with an intermediate rail and toeboard.
- (vii) A climbing ladder or stairway shall be provided for access and egress, and shall be secured safely to or built into the scaffold and so located that its use will not tip the scaffold. A landing platform shall be provided at intervals not to exceed thirty feet.

(b) Wheels or casters.

- (i) Wheels or casters shall support four times the designed working load.
- (ii) Scaffold casters shall be provided with a positive wheel lock and/or swivel lock to prevent movement. Ladder stands shall have at least two of the four casters of the swivel type.
- (iii) Where leveling of the elevated work platform is required, screw jacks or equivalent means for adjusting the height shall be provided in the base section of each mobile unit.

(c) Mobile tubular welded frame scaffolds.

(i) Bracing.

Scaffolds shall be braced by cross braces and/or diagonal braces for securely fastening vertical members together laterally. The cross braces shall be of a length that will automatically square and align vertical members so the erected scaffold is always plumb, square, and rigid.

(ii) Spacing.

Spacing of panels or frames shall provide a factor of safety of not less than four. The frames shall be placed one on top of the other with coupling or stacking pins which shall provide positive vertical alignment of the legs.

(iii) Locking.

Panels Where uplift may occur, panels shall be locked together vertically by pins or be securely fastened in place by other means which shall provide equivalent rigidity.

(d) Mobile tubular welded sectional folding scaffolds.

(i) Stairway.

A stairway and work platform shall be an integral part of the structure of each sectional folding stairway scaffold.

(ii) Bracing.

A set of pivoting and hinged folding diagonal and horizontal braces and a detachable work platform shall be an integral part of the structure of each sectional folding ladder scaffold.

(iii) Sectional folding stairway scaffolds.

The width of a sectional folding stairway scaffold shall not exceed four and one-half feet. The maximum length of a sectional folding stairway scaffold shall not exceed six feet.

(iv) Sectional folding ladder scaffolds.

The width of a sectional folding ladder scaffold shall not exceed four and one-half feet. The maximum length of a sectional folding ladder scaffold shall not exceed six feet six inches for a six-foot-long unit, eight feet six inches for an eight-foot-long unit or ten feet six inches for a ten-foot-long unit.

(v) End frames.

The end frames of sectional ladder and stairway scaffolds shall be designed so that the horizontal bearers provide supports for multiple planking levels.

(e) Mobile tube and coupler scaffolds.

Couplers shall be of a structural type, such as a drop-forged steel, malleable iron or structural grade aluminum. The use of grey cast iron is prohibited.

(f) Mobile work platforms.

(i) Base width.

The minimum width of the base of mobile work platforms shall not be less than twenty inches.

(ii) Bracing.

Rigid diagonal bracing to vertical members shall be provided.

(g) Mobile ladder stands.

(i) Base width.

The maximum length of the base section shall be the total length of combined steps and top assembly, measured horizontally, plus five-eighths inch per step of rise.

(ii) Steps.

Steps shall be uniformly spaced, and sloped, with a rise of not less than nine inches, nor more than ten inches and a depth of not less than seven inches. The slope of the steps section shall be a minimum of fifty-five degrees and a maximum of sixty degrees measured from the horizontal.

(iii) Handrails.

(a) Units having more than five steps or sixty inches vertical height to the top step shall be equipped with handrails.

(b) Handrails shall be a minimum of twenty-nine inches high. Measurements shall be taken vertically from the center of the step.

(h) Erection.

Only the manufacturer of the scaffold or its qualified designee shall be permitted to erect or supervise the erection of scaffolds exceeding fifty feet in height above the base, unless such a structure is approved in writing by a licensed professional engineer, or erected in accordance with instructions furnished by the manufacturer.

(E) Boatswains' chairs.

(1) When constructed of wood, the chair seat shall be no less than twelve inches by twenty-four inches by one-inch thickness, reinforced by cleats on the underside to prevent splitting. A chair of the same size may be constructed of material of equal strength.

- (2) Seat slings shall be of no less than five-eighths-inch diameter, first grade manila rope, or its equivalent, which shall be reeved through the four seat holes so as to cross each other on the underside of the seat.
- (3) Seat slings shall be of no less than three-eighths-inch wire rope when an employee is conducting a heat-producing process, such as gas or arc welding.
- (4) The employee shall be protected by a safety belt and lifeline in accordance with paragraph (I)(6) of rule 4123:1-5-17 of the Administrative Code. The attachment point of the lifeline to the structure shall be appropriately changed as the work progresses.
- (5) The tackle shall consist of correct size ball bearing or bushed blocks and properly spliced five-eighths-inch diameter, first grade manila rope, or equivalent.
- (6) The roof irons or hooks shall be of proper size and design, securely installed and anchored. Tiebacks of three-quarters-inch manila rope, or its equivalent, shall serve as an additional means of anchorage, which shall be installed as nearly as possible at right angles to the face of the building and shall be ~~secured to a structurally sound portion of the building permits installation substantially at right angles to the face of the building, two tiebacks shall be used and secured at substantially equal and opposing acute angles to the right angle. Where outrigger beams, which shall consist of structural metal, or davits are used, they shall be securely fastened or anchored to the frame or floor system of the building or~~ structure to a chimney.

(F) Swinging scaffolds.

- (1) Swinging scaffold platforms shall be no less than twenty inches and no more than thirty-six inches wide overall. The platform shall be securely fastened to the hangers by U-bolts or by other equivalent means.
- (2) The hangers of swinging scaffolds shall be capable of sustaining four times the rated load.
- (3) When hoisting machines are used on swinging scaffolds, machines shall be of an approved design.
- (4) The ~~roofirons~~ roof irons or hooks shall be of proper size and design securely installed and anchored. Tiebacks of three-quarters-inch manila rope, or the equivalent, shall serve as an additional means of anchorage, which shall be installed as nearly as possible at right angles to the face of the building and shall be secured to a structurally sound portion of the building ~~permits installation substantially at right angles to the face of the building, two tiebacks shall be used and secured at substantially equal and opposing acute angles to the right angle. Where outrigger beams, which shall consist of structural metal, or davits~~

~~are used, they shall be securely fastened or anchored to the frame or floor system of the building or structure.~~

- (5) Swinging scaffolds shall be suspended by wire, synthetic fiber, or natural fiber ropes capable of supporting no less than six times the rated load. All other components shall be capable of supporting no less than four times the rated load.
- (6) Only treated or protected fiber rope or its equivalent shall be used for or near any work involving the use of corrosive chemicals.
- (7) The sheaves of all blocks shall fit the size and type of rope used.
- (8) No more than two employees shall be required to be on a two-point suspension scaffold designed for a working load of five hundred pounds. No more than three employees shall be required to be on a two-point suspension scaffold designed for a working load of seven hundred fifty pounds.
- (9) The employer shall provide an approved safety belt or harness and lifeline for each employee working on a swinging scaffold in compliance with paragraph (I)(6) of rule 4123:1-5-17 of the Administrative Code.
- (10) ~~Employees shall not be required to use a bridge, or to move directly, between one swinging scaffold and another~~ When two or more scaffolds are used they shall not be bridged one to another unless they are designed to be bridged, the bridge connections are articulated, and the hoists are properly sized. If bridges are not used, passage may be made from one platform to another only when the platforms are at the same height and are abutting.
- (11) Each swinging scaffold shall be securely fastened to the building or structure at each work location to prevent it from swaying. Window cleaners' anchors shall not be used for this purpose. Tie-in anchors designed for the rated load of the scaffold may be used.
- (12) The platform of every swinging scaffold shall be capable of sustaining four times the rated load.
- (13) All swinging scaffolds shall have standard guardrails and toeboards on all unprotected sides of platforms more than ten feet above the ground.
- (14) The free ends of fall lines from scaffolds shall be guarded to prevent tangling or snagging.

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CERTIFIED ELECTRONICALLY

Certification

05/20/2016

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