



# ***OSHA Subpart X: Stairways and Ladders***



**1926.1050(b) Definitions.**

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

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

**"Extension trestle ladder"** means a self-supporting portable ladder, adjustable in length consisting of a trestle ladder base and a vertically adjustable extension section, with a suitable means for locking the ladders together.



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

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

**"Job-made ladder"** means a ladder that is fabricated by employees, typically at the construction site, and is not commercially manufactured. This definition does not apply to any individual-rung/step ladders.

**"Ladder stand."** A mobile fixed size self-supporting ladder consisting of a wide flat tread ladder in the form of stairs. The assembly may include handrails.



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

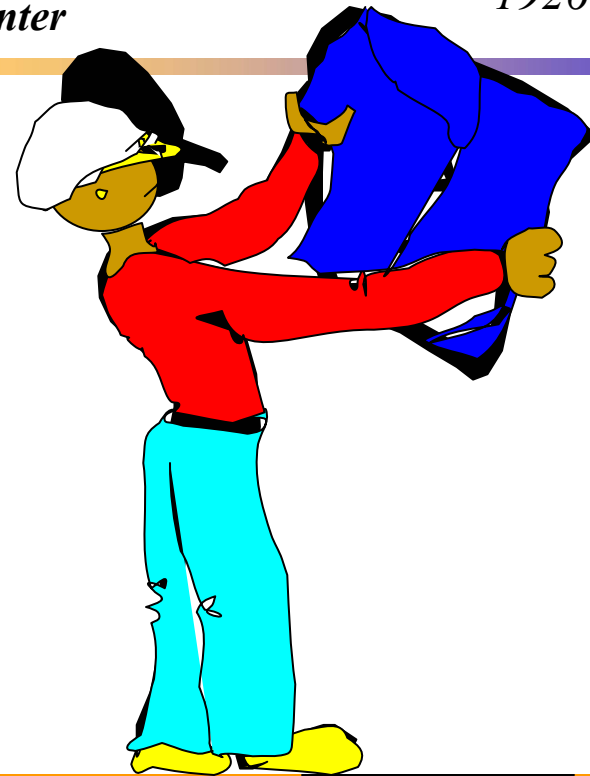
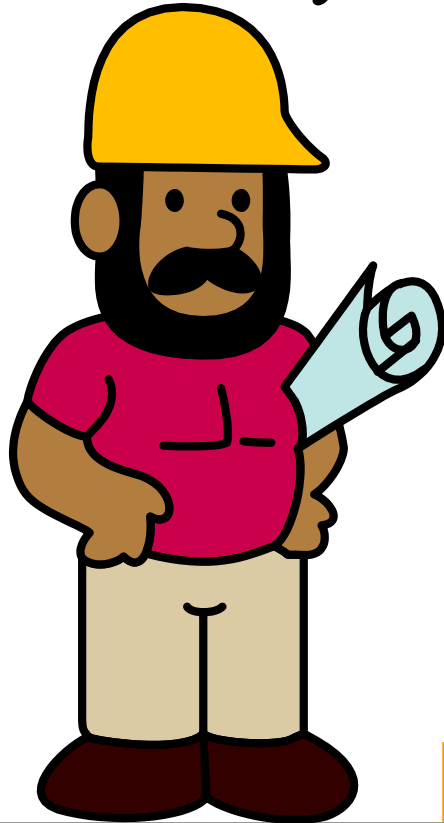
**"Nosing"** means that portion of a tread projecting beyond the face of the riser immediately below.

**"Riser height"** means the vertical distance from the top of a tread to the top of the next higher tread or platform/landing or the distance from the top of a platform/landing to the top of the next higher tread or platform/landing.

**"Single-cleat ladder"** means a ladder consisting of a pair of side rails, connected together by cleats, rungs, or steps.

**"Stair rail system"** means a vertical barrier erected along the unprotected sides and edges of a stairway to prevent employees from falling to lower levels. The top surface of a stair rail system may also be a "handrail."

## Stairways and Ladders

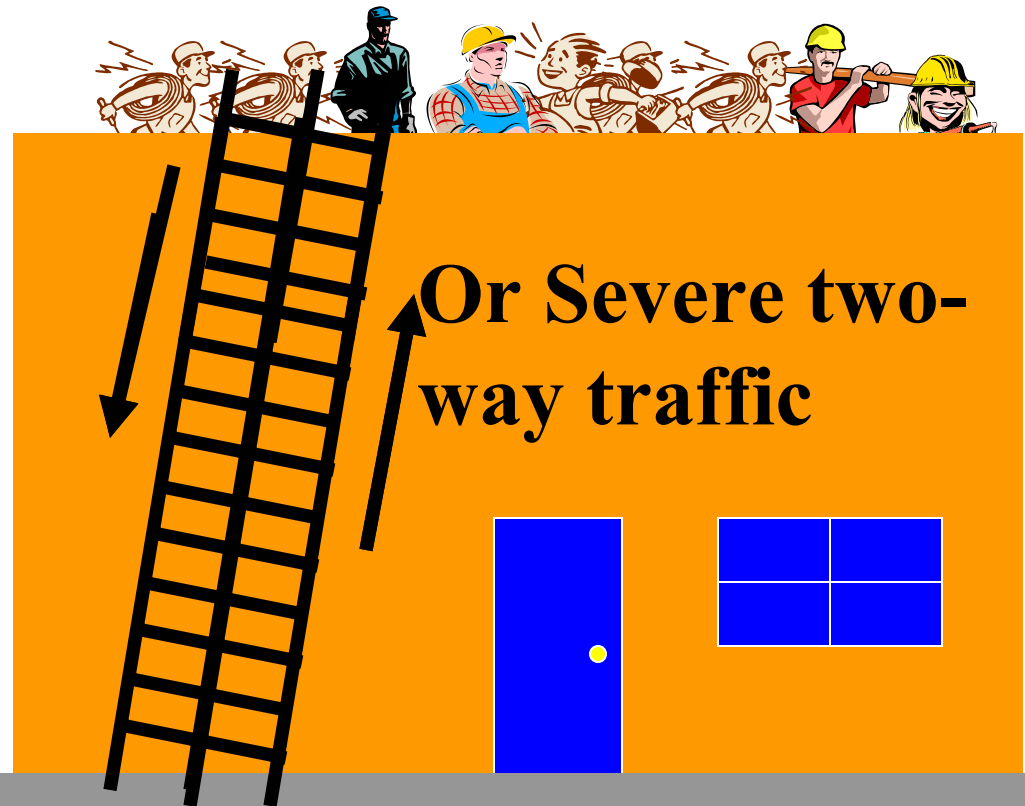


19" and over

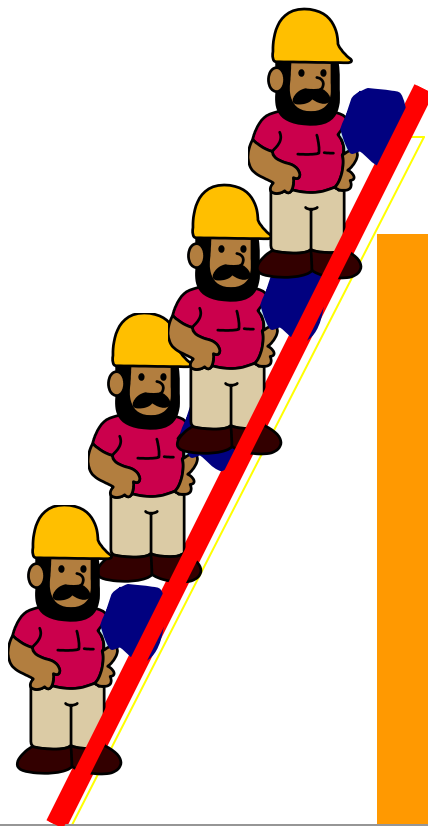
**1926.1051(a)** A stairway or ladder shall be provided at all personnel points of access where there is a break in elevation of 19 inches (48 cm) or more, and no ramp, runway, sloped embankment, or personnel hoist is provided.



**1926.1051(a)(2)** A double-cleated ladder or two or more separate ladders shall be provided when ladders are the only mean of access or exit from a working area for 25 or more employees, or when a ladder is to serve simultaneous two-way traffic.



**1926.1053(a)(1)(i)** Each self-supporting portable ladder: At least four times the maximum intended load, except that each extra-heavy-duty type 1A metal or plastic ladder shall sustain at least 3.3 time the maximum intended load. The ability of a ladder to sustain the loads indicated in this paragraph shall be determined by applying or transmitting the requisite load to the ladder in a downward vertical direction. Ladders built and tested in conformance with the applicable provisions of appendix A of this subpart will be deemed to meet this requirement.





1926.1053(a)(3)(i) Rungs, cleats, and steps of portable ladders (except as provided below) and fixed ladders (including individual-rung/step ladders) shall be spaced not less than 10 inches (25 cm) apart, nor more than 14 inches (36 cm) apart, as measured between center lines of the rungs, cleats and steps.

1926.1053(a)(3)(ii) Rungs, cleats, and steps of step stools shall be not less than 8 inches (20 cm) apart, nor more than 12 inches (31 cm) apart, as measured between center lines of the rungs, cleats, and steps.

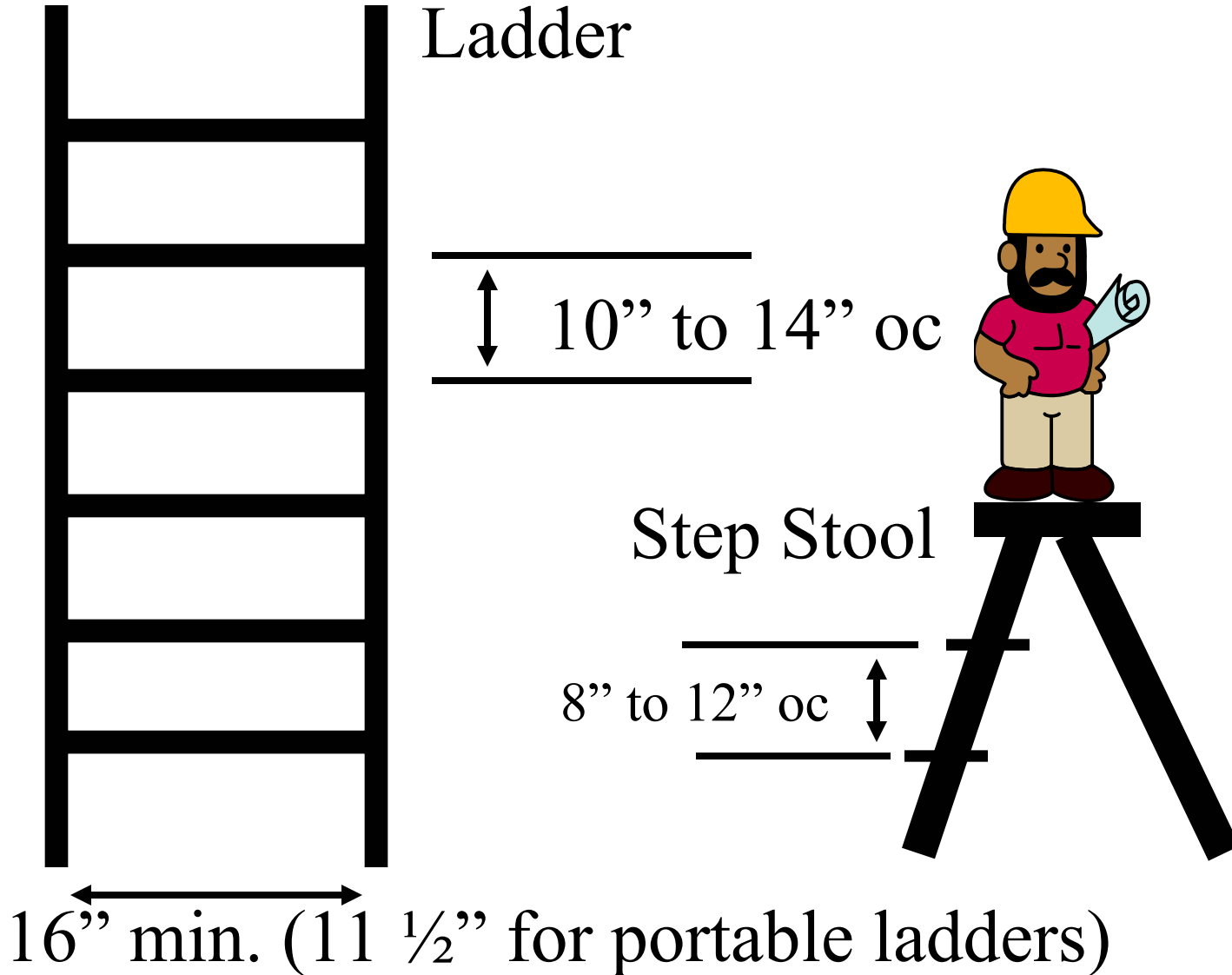




**1926.1053(a)(3)(iii)** Rungs, cleats, and steps of the base section of extension trestle ladders shall be not less than 8 inches (20 cm) nor more than 18 inches (46 cm) apart, as measured between center lines of the rungs, cleats, and steps. The rung spacing on the extension section of the extension trestle ladder shall be not less than 6 inches (15 cm) nor more than 12 inches (31 cm), as measured between center lines of the rungs, cleats, and steps.

**1926.1053(a)(4)(i)** The minimum clear distance between the sides of individual-rung/step ladders and the minimum clear distance between the side rails of other fixed ladders shall be 16 inches (41 cm).

**1926.1053(a)(4)(ii)** The minimum clear distance between side rails for all portable ladders shall be 11 1/2 inches (29 cm).





**1926.1053(a)(17)** Fixed ladders without cages or wells shall have a clear width to the nearest permanent object of at least 15 inches (30 cm) on each side of the centerline of the ladder.

**1926.1053(a)(18)** Fixed ladders shall be provided with cages, wells, ladder safety devices, or self-retracting lifelines where the length of climb is less than 24 feet (7.3 m) but the top of the ladder is at a distance greater than 24 feet (7.3 m) above lower levels.

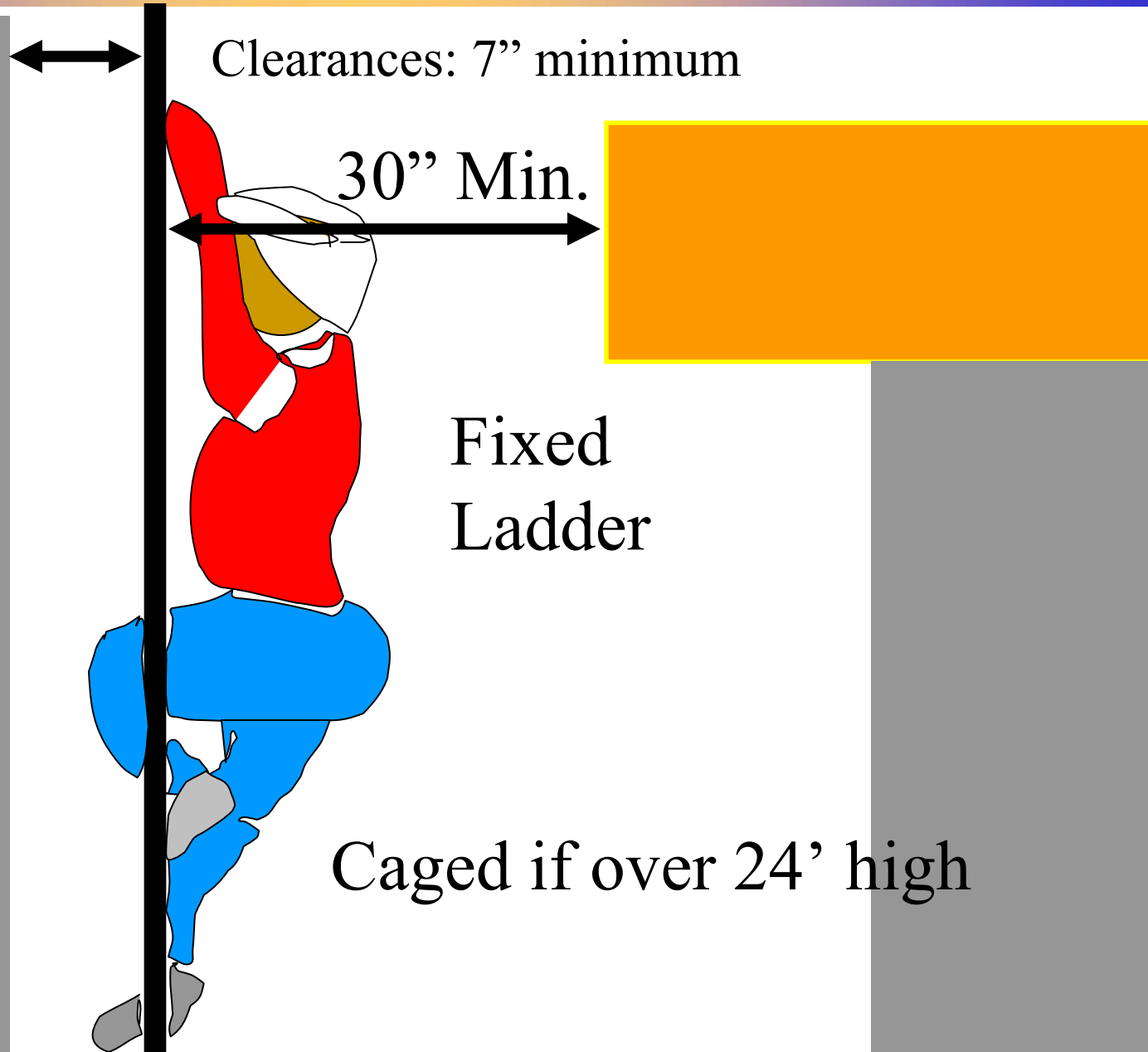


**1926.1053(a)(19)** Where the total length of a climb equals or exceeds 24 feet (7.3 m), fixed ladders shall be equipped with one of the following:

**1926.1053(a)(19)(i)** Ladder safety devices; or

**1926.1053(a)(19)(ii)** Self-retracting lifelines, and rest platforms at intervals not to exceed 150 feet (45.7 m); or

**1926.1053(a)(19)(iii)** A cage or well, and multiple ladder sections, each ladder section not to exceed 50 feet (15.2 m) in length. Ladder sections shall be offset from adjacent sections, and landing platforms shall be provided at maximum intervals of 50 feet (15.2 m).



Clearances: 7" minimum

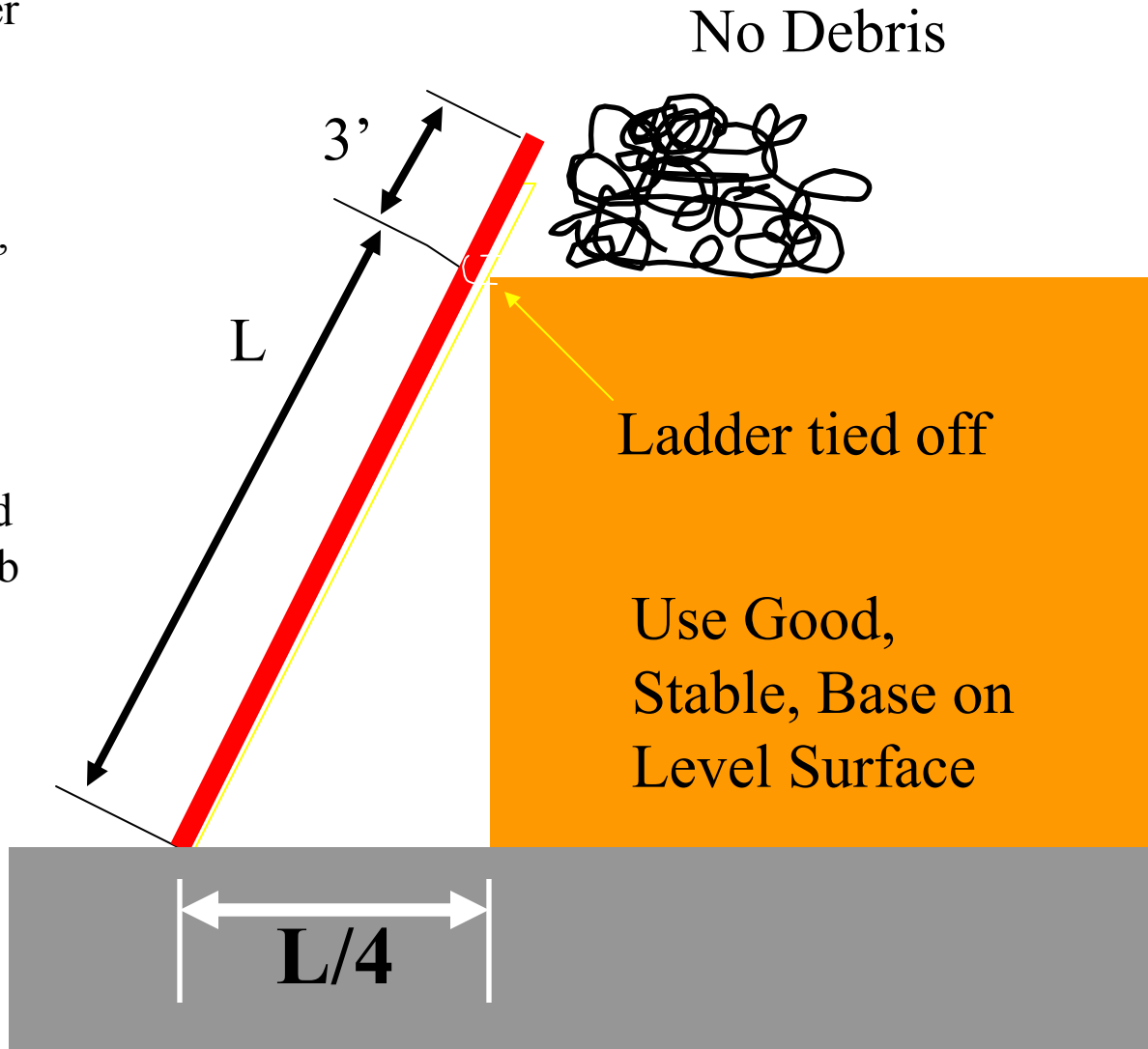
30" Min.

Fixed  
Ladder

Caged if over 24' high



**1926.1053(b)(1)** When portable ladders are used for access to an upper landing surface, the ladder side rails shall extend at least 3 feet (.9 m) above the upper landing surface to which the ladder is used to gain access; or, when such an extension is not possible because of the ladder's length, then the ladder shall be secured at its top to a rigid support that will not deflect, and a grasping device, such as a grab rail, shall be provided to assist employees in mounting and dismounting the ladder. In no case shall the extension be such that ladder deflection under a load would, by itself, cause the ladder to slip off its support.





**1926.1053(b)(5)(i)** Non-self-supporting ladders shall be used at an angle such that the horizontal distance from the top support to the foot of the ladder is approximately one-quarter of the working length of the ladder (the distance along the ladder between the foot and the top support).

**1926.1053(b)(5)(ii)** Wood job-made ladders with spliced side rails shall be used at an angle such that the horizontal distance is one-eighth the working length of the ladder.

**1926.1053(b)(5)(iii)** Fixed ladders shall be used at a pitch no greater than 90 degrees from the horizontal, as measured to the back side of the ladder.

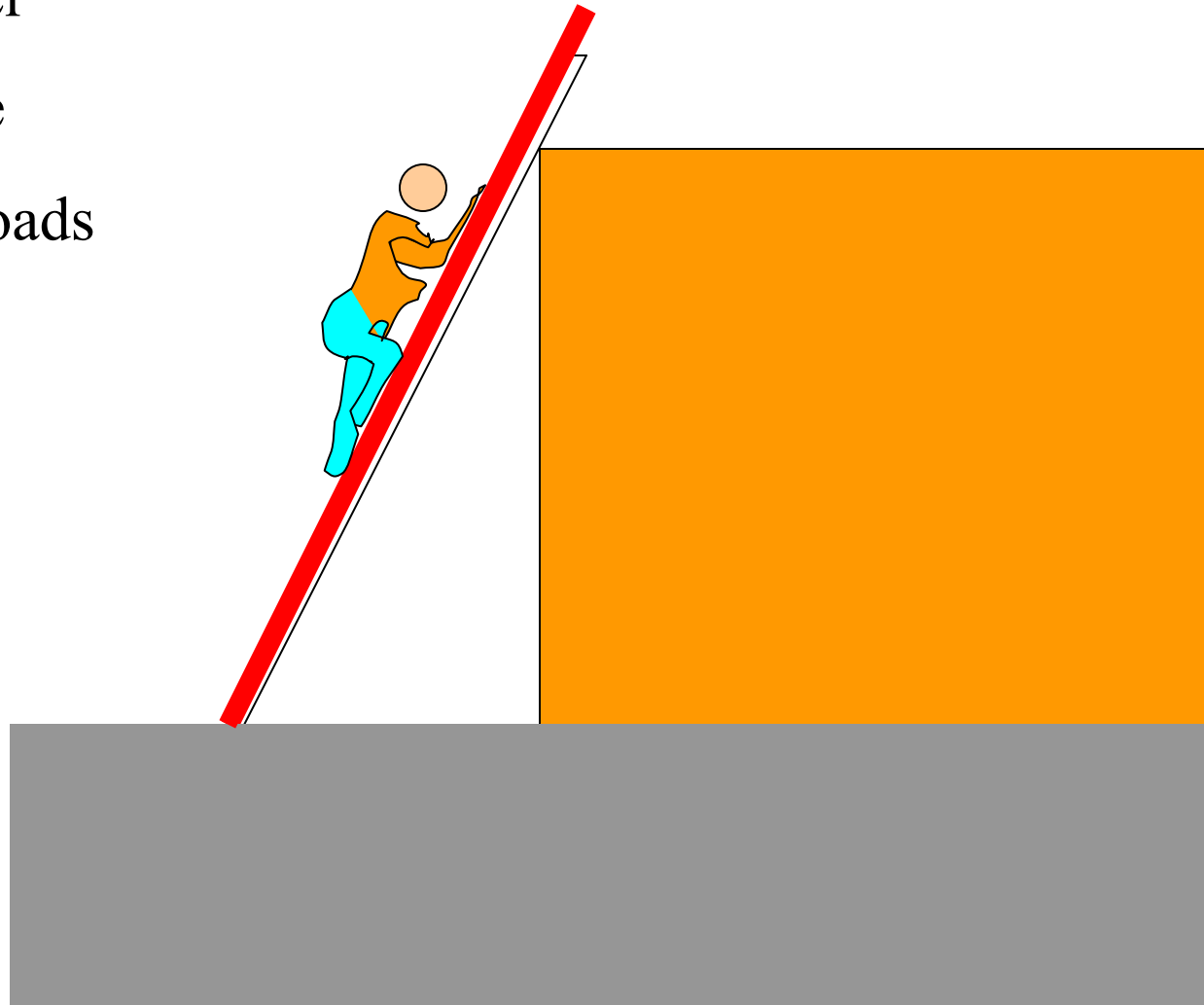


# When Ascending or Descending:

Face the Ladder

One Hand Free

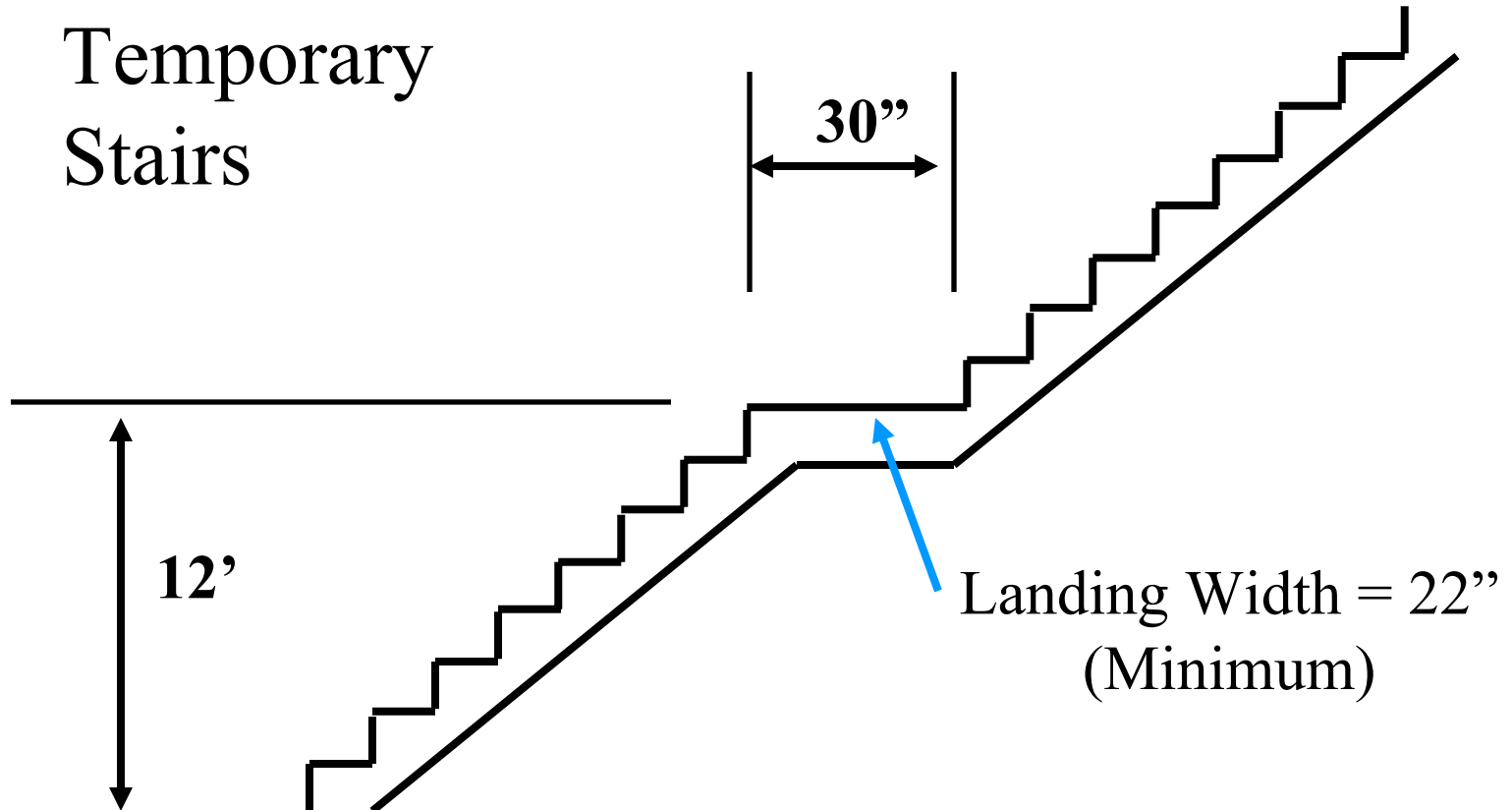
Don't Carry Loads







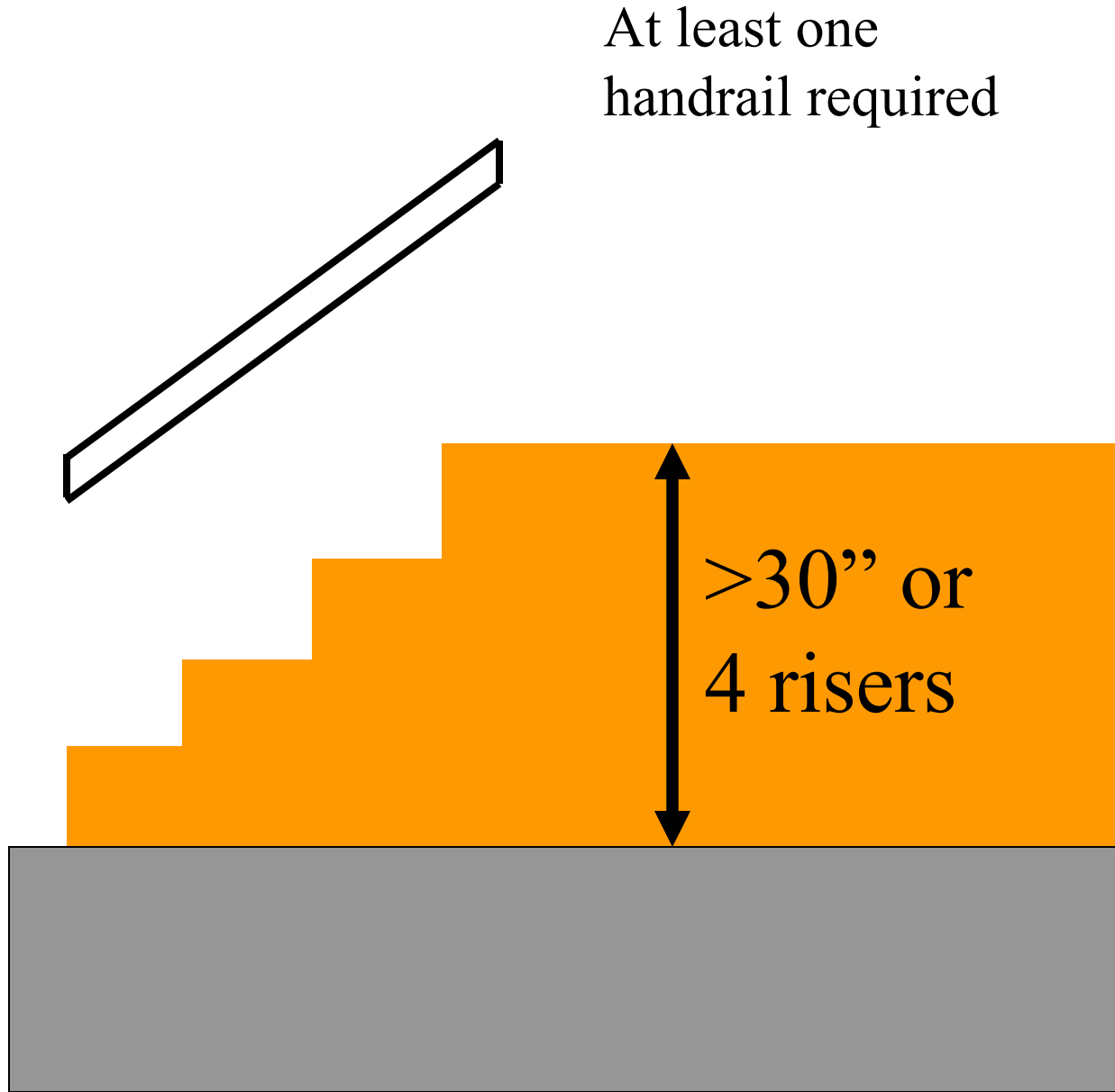
# Temporary Stairs





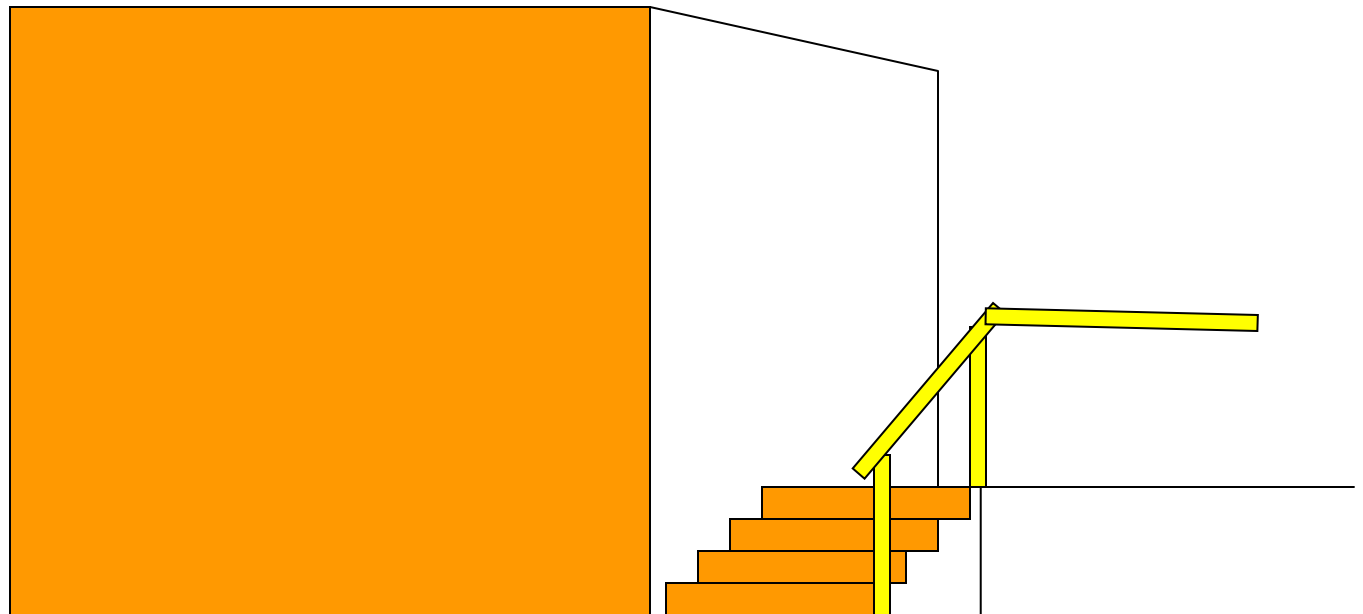
**1926.1052(c)(1)** Stairways having four or more risers or rising more than 30 inches (76 cm), whichever is less, shall be equipped with:

**1926.1052(c)(1)(i)** At least one handrail; and





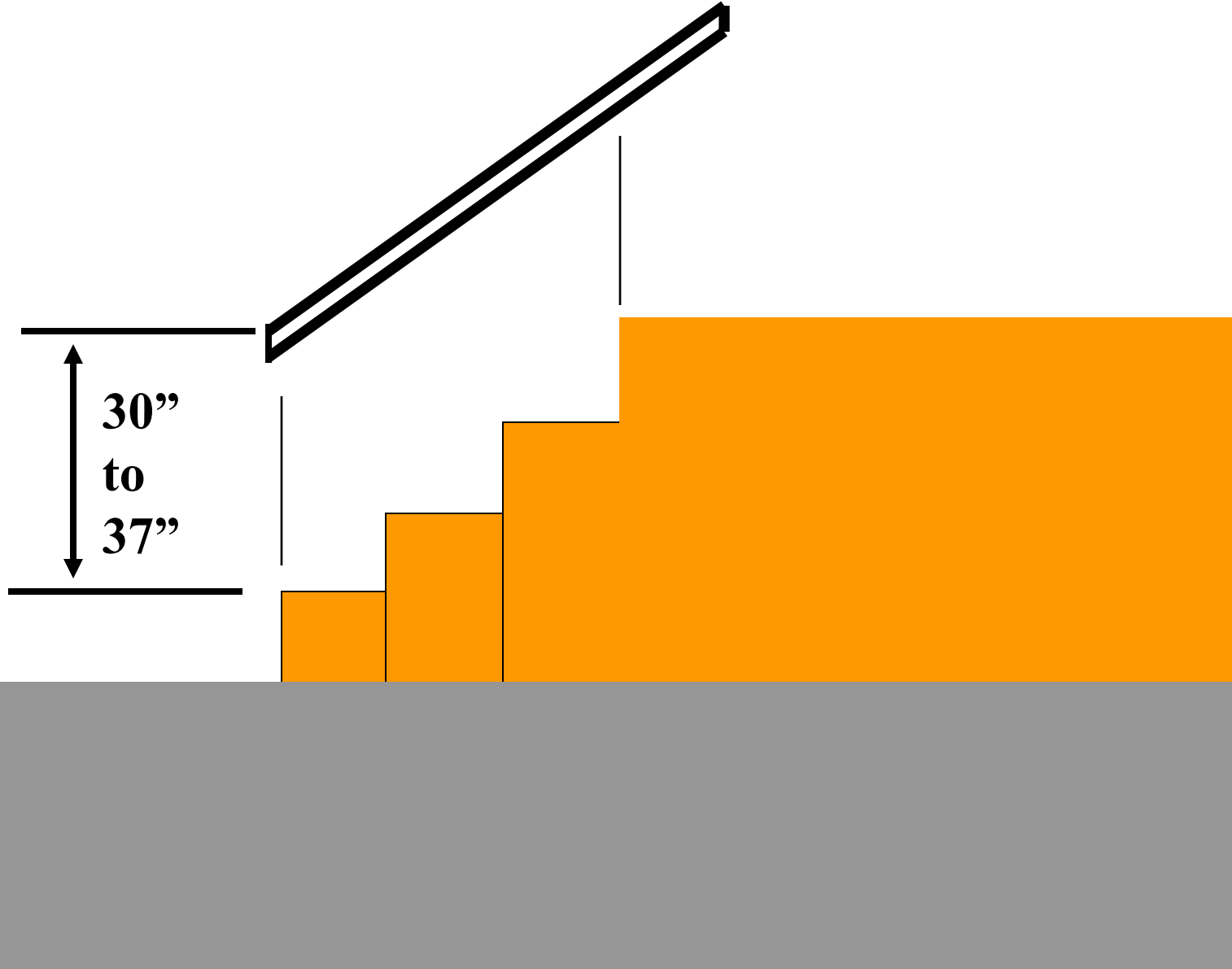
**1926.1052(c)(1)(ii)** One stair rail system along each unprotected side or edge.



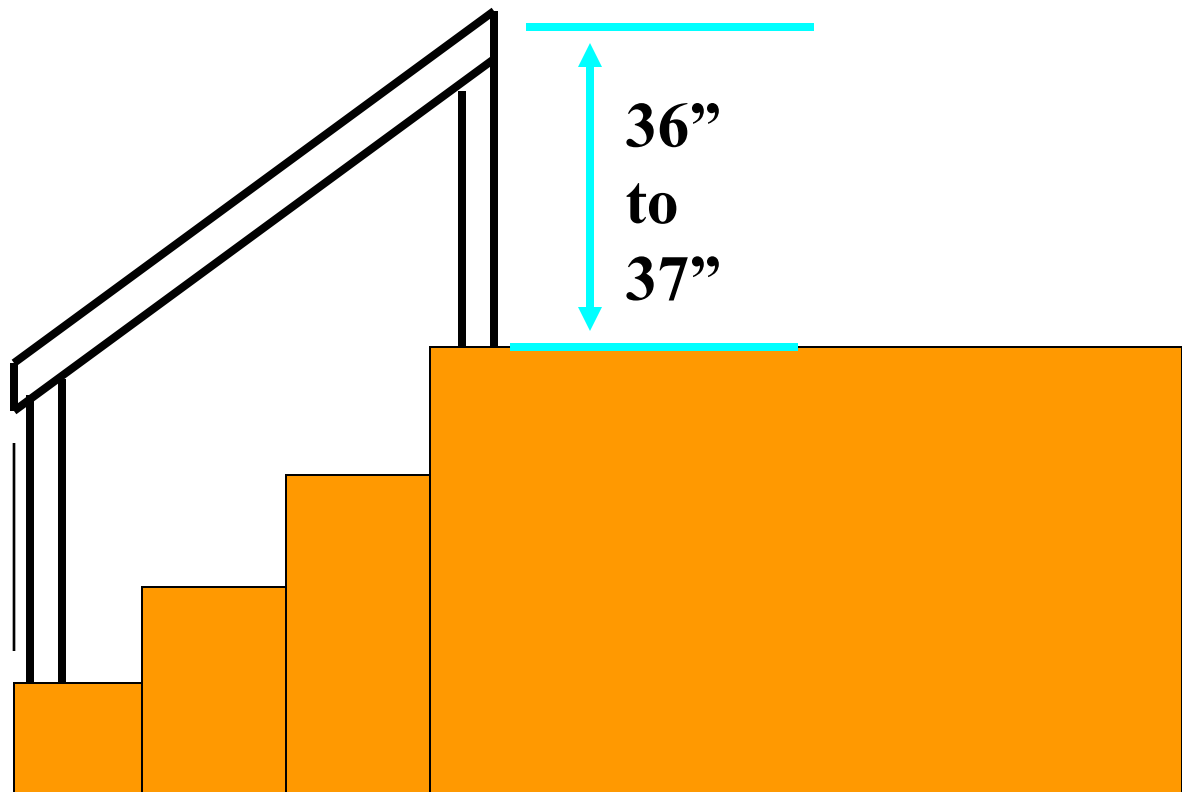


**1926.1052(c)(6)**

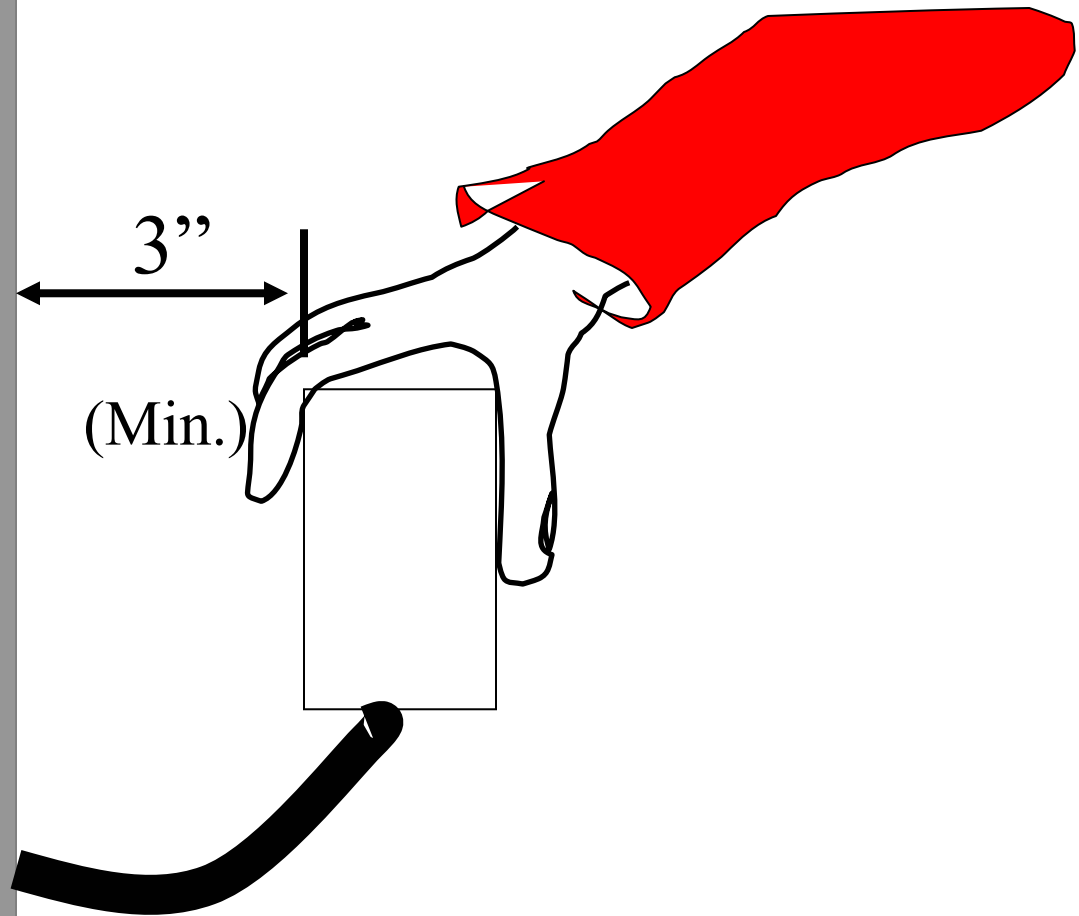
The height of handrails shall be not more than 37 inches (94 cm) nor less than 30 inches (76 cm) from the upper surface of the handrail to the surface of the tread, in line with the face of the riser at the forward edge of the tread



**1926.1052(c)(7)** When the top edge of a stair rail system also serves as a handrail, the height of the top edge shall be not more than 37 inches (94 cm) nor less than 36 inches (91.5 cm) from the upper surface of the stair rail system to the surface of the tread, in line with the face of the riser at the forward edge of the tread



When the stair rail system also serves as the handrail



Temporary Handrails



**1926.1052(c)(8)** Stair rail systems and handrails shall be so surfaced as to prevent injury to employees from punctures or lacerations, and to prevent snagging of clothing.

**1926.1052(c)(9)** Handrails shall provide an adequate handhold for employees grasping them to avoid falling.

**1926.1052(c)(10)** The ends of stair rail systems and handrails shall be constructed so as not to constitute a projection hazard.

**1926.1052(c)(11)** Handrails that will not be a permanent part of the structure being built shall have a minimum clearance of 3 inches (8 cm) between the handrail and walls, stair rail systems, and other objects.