

WALKING AND WORKING SURFACES

Program Statement

Walking and working surfaces will be designed and maintained to minimize the risk of falls and impact by stationary or moving objects.

Objectives

The objectives of this chapter are to ensure that:

- ! walking and working surfaces are maintained unobstructed and free of recognized fall and impact hazards,
- ! temporary hazardous conditions of walkways and working surfaces are brought to the attention of users,
- ! fall protection systems are provided for work at high locations,
- ! the design and use of temporary elevated platforms comply with Federal and State regulations,
- ! UNA employees are able to recognize fall hazards and adopt proper preventive measures.

General Procedures

All permanent walking and working areas will be maintained clean, orderly, and in sanitary condition.

All floors will be kept free of protruding objects.

Aisles and passageways will be unobstructed and appropriately marked with yellow lines whenever these lines are considered necessary to facilitate circulation and protect users.

Signs will be posted to warn UNA employees and general public about temporary hazardous conditions such as wet and slippery floors, uneven or damaged flooring surfaces, the presence of unusual objects, wall and floor openings and holes, and falling objects. Access to areas with hazardous conditions will be restricted by using barrier tape, guards, or fences.

Guardrails and covers

The following locations will be guarded with standard or equivalent railing:

The ladder inspection will consider all ladder components, with emphasis on those parts that are more susceptible to damage. At a minimum, inspection will verify that:

- √ joint between the steps and side rails are tight
- √ all hardware and fittings are securely attached
- √ all movable parts operate freely without binding or undue play
- √ rope is not worn out or frayed
- √ safety feet are in good condition
- √ rungs and steps are free of grease and oil
- √ wood parts are free from sharp edges, splinters, shake, wane, decay, and other irregularities.

When using portable ladders the following safe practices will be adopted:

- √# portable rung and cleat ladders will be positioned at a pitch that prevents slippage and tipping

See diagram of the ladder preferred pitch on Appendix D of this chapter.

- √# extension ladders will be tied in place or have lateral outriggers to prevent side slip
- √# tops of self-supporting ladders will not be used as steps
- √# when climbing a ladder, the three-point contact principle will be followed (two hands and a foot or two feet and a hand)
- √# when climbing a ladder, tools will be carried in a tool belt or raised with a hand line attached to the top of the ladder
- √# ladders will not be tied or fastened together to provide longer sections unless specifically designed for such purpose
- √# when used to gain access to elevated platforms or roof, the ladder will extend at least three feet beyond the top edge of support
- √# ladders will be capable of supporting an actual load of at least four times the maximum intended load
- √# ladders will not be placed on boxes, barrels, or other unstable bases to obtain additional height
- √# ladders will not be placed in front of doors, unless the door is blocked upon, locked, or guarded
- √# ladders used near electrical equipment will be made of electrically non-conductive materials

All portable metal ladders will be marked with a sign that reads:
“CAUTION—Do Not Use Around Electrical Equipment.”

Scaffolds

- √ procedures for safe handling and storage of fall protection equipment
- √ the content of the fall protection standard.

Retraining will be offered when any of the following conditions occur:

- √ changes in the workplace make the previous training obsolete
- √ different fall protection systems are adopted
- √ inadequacies in employee knowledge and performance are detected.

APPENDIX A
GUARDRAIL SYSTEMS

Standard guardrails 29 CFR 1910.23 (e).

A standard railing consists of top rail, mid rail, and posts. The characteristics of this system are:

- √ a vertical height of 42 inches measured from the top of rail to floor
- √ mid-rails installed approximately halfway between the top rail and the floor
- √ a guardrail designed to withstand a force of at least 200 pounds, applied within 2 inches of the top edge, in any direction, without failure
- √ the surface of the top rail smooth and continuous to prevent punctures, lacerations, or snagging of clothing
- √ for pipe railings, posts and top and intermediate railings of at least 1.5 inches nominal diameter with posts spaced not more than 8 feet on centers
- √ for structural steel railings, posts and top and intermediate rails of at least 2-inch by 2 inch with posts spaced not more than 8 feet on centers.

Stair railing

Portable wood ladders

Self supporting stepladders will:

- √ not be longer than 20 feet
- √ have uniform step spacing, which will be no more than 12 inches
- √ have a metal spreader or locking device to securely hold the front and back sections in open position.

Single ladders (non-self-supporting portable ladder) will:

- √ not be longer than 30 feet
- √ not be longer than 60 feet for two section extension ladders
- √ have a secure footing.

Portable metal ladders

Rungs and steps shall be fabricated or treated to minimize the possibility of slipping.

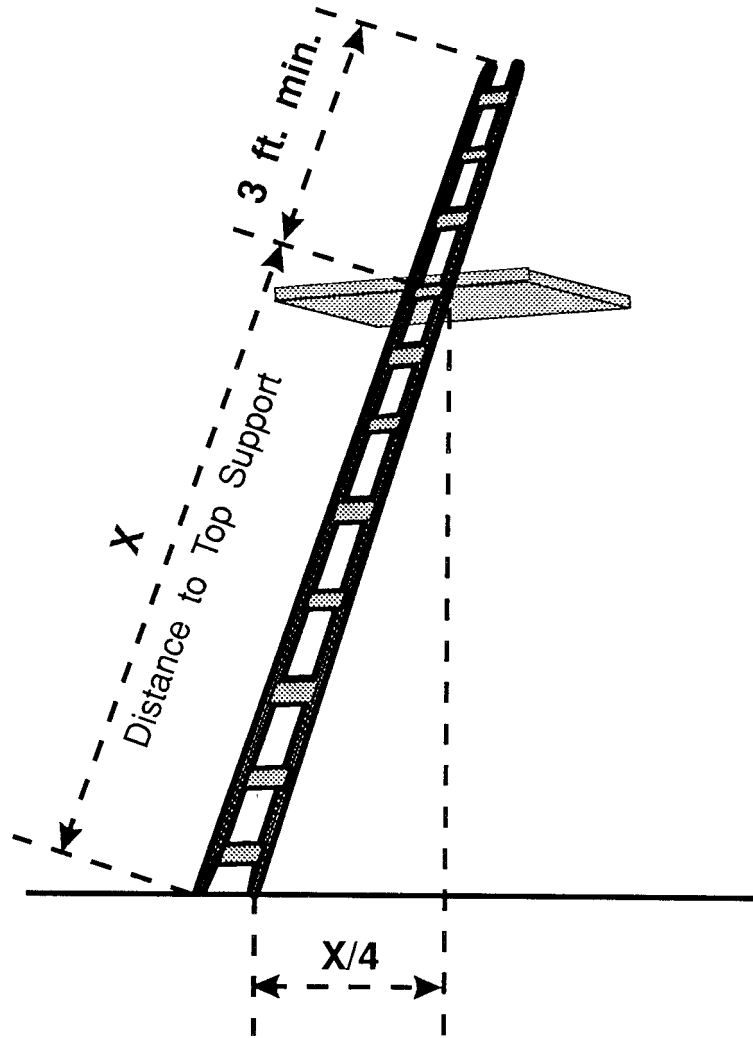
Self supporting stepladders will:

- √ not be longer than 20 feet
- √ have the bottom of the four rails treated with a non-slip material.

Single ladders (non-self supporting, portable ladder) will:

- √ not have individual sections exceeding 30 feet
- √ not be longer than 48 feet (two section ladders)
- √ not be longer than 60 feet (three section ladders).

**APPENDIX C
LADDER POSITIONING**



**APPENDIX D
LADDER INSPECTION CHECKLIST**

General

| Item to be Checked | Needs Repair | Condition Acceptable |
|--|--------------|----------------------|
| Loose steps or rungs (considered loose if they can be moved at all with hands) | | |
| Loose nails, screws, bolts, or other metal parts | | |
| Cracked, split, or broken uprights, braces, steps, or rungs | | |
| Slivers on uprights, rungs or steps | | |
| Damaged or worn nonslip bases | | |

Stepladders

| Item to be Checked | Needs Repair | Condition Acceptable |
|-------------------------------|--------------|----------------------|
| Wobbly (from side strain) | | |
| Stop on hinge spreader broken | | |
| Loose or bent hinge spreaders | | |
| Broken, split, or worn steps | | |
| Loose hinges | | |

Extension ladders

| Item to be Checked | Needs Repair | Condition Acceptable |
|---|--------------|----------------------|
| Loose, broken, or missing extension locks | | |
| Defective locks that do not seat properly when the ladder is extended | | |
| Deterioration of rope, from exposure to destructive agents | | |

Trestle ladders

| Item to be Checked | Needs Repair | Condition Acceptable |
|--------------------|--------------|----------------------|
| | | |

| | | |
|---|--|--|
| Loose hinges | | |
| Wobbly | | |
| Loose or bent hinge spreaders | | |
| Stop on hinge spreader broken | | |
| Center section guide for extension out of alignment | | |
| Defective locks for extension | | |

Sectional ladders

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APPENDIX E FALL PROTECTION SYSTEMS

Personal Fall Arrest Systems

Personal fall arrest systems will comply with 29 CFR 1926.502 (d). The main characteristics and conditions of use are listed below:

- √ only body harnesses acceptable for personal fall protection systems
- √ connectors, D-rings, snap-hooks, lifelines and lanyards in compliance with 29 CFR 1926.502 (d)(1)-(9).
- √ each employee attached to a separate vertical lifeline
- √ ropes and straps used in lanyards, lifelines, and body harnesses made of synthetic fibers
- √ anchorage of lifeline attachments independent of support devices used to suspend platforms and other working surfaces
- √ units limiting arrest force to less than 1800 pounds and travel distance to less than 6 feet
- √ when subjected to impact, fall arrest system removed from service and not used until an inspection by a competent person assures that are safe for re-use.

Safety Net Systems

Safety net systems used for fall protection will comply with 29 CFR 1926.502 (c). The main characteristics and conditions of use are listed below:

- √ safety nets installed as close as practicable to the working/walking surface, with a limit distance of 30 feet
- √ surface area of net exceeding working platform area by a length of an edge that is a function of the vertical distance between these two components (see Table 29 CFR 1926.502 (c)(2))

- √ nets able to absorb a force specified by a drop test (29 CFR 1926.502 (c)(4) gives the test protocol). The drop test will be applied following initial installation, net relocation, major net repair, and at 6 months intervals if the net is left in place for extended periods of time.

Warning Line Systems

Warning line systems will comply with 29 CFR 1926.502 (f). The main characteristics and conditions of use of these systems are given below:

- √ warning systems used for roof work if other fall protection systems are not possible
- √ warning systems used in combination with some other fall protection method
- √ A warning line established around all sides of the roof work area
- √# warning line maintained closed (by using ropes, wires, or chains) at all times, except for access paths, which will be opened only to allow the entrance of people and materials to the working area.

Safety Monitoring Systems

Safety monitoring systems will comply with 29 CFR 1926.251 (h). The main characteristics and conditions of use of these systems are given below.

A person will be designated for safety monitoring. This person will:

- √ be able to recognize fall hazards
- √ warn others when he/she detects unsafe actions
- √ stay in the work area during operations
- √ not have other responsibilities besides monitoring.

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