

## Ladder Safety Program

Responsible Administrator: Safety Specialist  
Revised: June 2025

**Summary:** This section outlines the policy and procedures related to the Ladder Safety Program that is administered through the Environmental Health and Safety (EHS) Department.

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### 1. Program Description

The purpose of this program is to insure employees recognize hazards related to the selection, use, transport and storage of ladders in accordance with [Cal/OSHA Title 8 CCR §3276](#). This program shall be used as a tool to minimize hazards associated with ladders, and will supplement broader safety programs, including but not limited to the Injury and Illness Prevention Program and the Shop Safety Manual.

### 2. Scope

This program applies to any use of ladders three (3) feet in height / length or greater by employees of the University as part of their normal work activities. This includes temporary employees and graduates performing research related activities in field stations and remote research facilities.

### 3. Definitions

- **“A” Frame ladder** – a self-supporting portable ladder, non-adjustable in length, with flat steps and a hinged base. Also known as a step ladder.
- **Angle of inclination** – the preferred pitch of portable non-self-supporting ladders
- **Articulating ladder** – also known as a “Combination ladder”, “Sectional ladder” or “Multi-position ladder”, this is a portable ladder capable of being used either as a step ladder, a single ladder or an extension ladder. It may also be capable of being used as a trestle ladder or a stairwell ladder.
- **Back leg (rear rail)** – the support members of a self-supporting portable ladder-back section. The back legs are joined by rungs, bars, rear braces or other bracing to form the back section.
- **Cage** – a cage is a guard that may be referred to as a cage or basket guard, which is an

enclosure that is fastened to the side rails of the fixed ladder or to the structure to encircle the climbing space of the ladder for the safety of the person who must climb the ladder. Ladder cages provide fall protection and are required by code on fixed ladders over 20 feet high. The base of the cage must be at least 7' above the base surface.

- **Cleats** – ladder cross pieces of rectangular cross section placed on edge upon which a person may step while ascending or descending. Also known as a ladder “rung.”
- **Combination ladder** – another name for “Articulating ladder;” see definition above.
- **Double Front or Twin Front ladder**– a self-standing ladder that is designed to allow both sides of the ladder to be climbed safely.
- **Duty rating** – the combination of factors, including but not limited to, ladder type and design features, which imply service capability.
- **Extension ladder** – a non-self-supporting portable ladder adjustable in length. It consists of two (2) or more sections traveling in guides or brackets so arranged as to permit length adjustment. The ladder size is designated by the sum of the lengths of the sections measured along the side rails.
- **Fastenings** – a device to attach a ladder to a structure, building or equipment.
- **Feet** – the component of a ladder support that is in contact with the lower supporting surface.
- **Fixed ladder** – a ladder that is permanently attached to a structure, building, or equipment. Typically used to access the top of facilities for maintenance. The top of fixed ladders should extend 3 feet past the top of a structure. Refer to the Working at Heights Program for more information.
- **Grab Bars** – grab bars are individual handholds placed adjacent to or as an extension above ladders for the purpose of providing a safe hand-hold above the ‘top’ of the ladder.
- **Individual-rung ladder** – a fixed ladder, each rung of which is individually attached to a structure, building or equipment that does not have side rails. These ladders are used for ingress and egress of areas including but not limited to manholes, crawl spaces, and other confined spaces.
- **Inside clear width** - the distance between the inside flanges of the side rails of a ladder.
- **Ladder** - a ladder is an appliance usually consisting of two (2) side rails joined at regular intervals by crosspieces called steps, rungs or cleats, on which a person may step while ascending or descending.
- **Ladder foot, shoe or skid-resistant bearing surface** - that component of ladder support that is in contact with the lower supporting surface.
- **Ladder safety device** - any device, other than a cage or well, designed to eliminate or reduce the possibility of accidental falls, and which may incorporate such features as life belts, friction brakes and sliding attachments.
- **Marking** - any sign, label, stencil or plate of a primary hazard or informational character or both, affixed, painted, burned, stamped or embossed on the ladder surface.
- **Maximum extended length or maximum working length** - the total length of the

extension ladder when the middle or intermediate and top or fly sections are fully extended (maintaining the required overlap).

- **Nail** - a steel nail, unless otherwise designated.
- **Permanent deformation (set)** - that deformation remaining in any part of a ladder after all loads have been removed.
- **Pitch** - the included angle between the horizontal and the ladder, measured on the opposite side of the ladder from the climbing side.
- **Railings** - anyone or a combination of those railings constructed in accordance with Cal-OSHA Section 3209. A standard railing is a vertical barrier erected along exposed edges of floor openings, wall openings, ramps, platforms and runways to prevent falls of persons.
- **Rail ladder** - a fixed ladder consisting of side rails joined at regular intervals by rungs or cleats and fastened in full length or in sections to a building, structure or equipment.
- **Reinforced plastic ladder** - a device whose side rails are constructed of reinforced plastics. The crosspieces, called steps, rungs or cleats, may be constructed of metal, reinforced plastics or other suitable materials. This term does not denote the absence of all metallic elements because even in ladders with side rails and crosspieces manufactured of reinforced plastics, the hardware and fasteners may be metallic.
- **Rungs** - rungs are ladder crosspieces of circular or oval cross-section on which a person may step while ascending or descending.
- **Side-step ladder** - a ladder from which a person getting off at the top must step sideways from the ladder in order to reach the landing.
- **Stepladder** - a stepladder is a self-supporting portable ladder, nonadjustable in length, having flat steps and a hinged back. The stepladder size is designated by the overall length of the ladder measured along the front edge of the side rails.
- **Single ladder** - a single ladder is a non-self-supporting portable ladder, nonadjustable in length, consisting of but one (1) section. The overall length of the side rail designates its size.
- **Special-purpose ladder** - 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.
- **Steps** - steps are the flat crosspieces of a ladder on which a person may step while ascending or descending.
- **Step stool (ladder type)** - a self-supporting, foldable, portable ladder, nonadjustable in length, 32 inches or less in overall size, with flat steps and without a pail shelf, designed so that the ladder top cap as well as all steps can be climbed on. The side rails may continue above the top cap.
- **Through ladder** - a ladder from which a person getting off at the top must step through the ladder in order to reach the landing.
- **Visual damage** - damage evident by visual inspection.
- **Visual inspection** - inspection by the eye without recourse to any optical devices except

prescription eyeglasses.

- **Well** - a permanent complete enclosure around a fixed ladder that is attached to the walls of the well. Proper clearances for a well will give the person who must climb the ladder the same protection as a cage.
- **Working load** - the maximum applied load, including the weight of the user, materials and tools, which the ladder is to support for the intended use.

#### 4. Responsibilities

##### ***Departments:***

- Provide and purchase the appropriate type(s) of portable ladders(s)
- Provide specific training for ladder users
- Implement ladder inspection guidelines
- Ensure ladders are inspected and labeled on an annual basis by user
- Ensure ladder safety requirements are followed using Ladder Inspection Guidelines (Appendix A); and
- Each Department that has or uses portable or fixed ladders is responsible for conducting Ladder Inspections using the checklist form in Appendix A and submit annually to EHS for review.

##### ***Supervisors:***

- Ensure employees attend ladder safety training
- Correct any unsafe ladder usage behavior witnessed
- Take appropriate disciplinary action to help discourage unsafe behavior

##### ***Employees whose work process requires the use of ladders:***

- Attend ladder safety training
- Comply with ladder safety requirements as stated in this program in Section 5.

##### ***EHS:***

- Provide general training for ladder users
- Assist Departments in ladder selection
- Assist Departments in establishing ladder inspection guidelines; and
- Provide periodic audits of the ladder safety program

#### 5. Program Components

##### ***TYPES OF LADDERS***

Common ladder types include portable wooden, metal, fiberglass or reinforced plastic step ladders; portable wooden or metal extension ladders; trestle ladders; or fixed ladders. For any specialty ladders, please contact EHS for evaluation prior to use or purchase.

Ladders should be selected based on the following criteria:

1. The type of work for which the ladder will be used
2. The weight the ladder will carry
3. The condition of the ladder
4. The physical work environment

#### a. Extension Ladders

Portable extension ladders are used for working at heights. These consist of two or three parts which can be slid apart to give the required height. Available as two or three extensions and in various closed lengths (8 to 20 feet). A double extension ladder, which can give a length of up to about 30 feet, should be suitable for most two-story properties. Longer, three-section ladders can give lengths up to about 50 feet.

- Users must not stand on the top four (4) rungs of an extension ladder.
- Portable extension ladders must not be used in a horizontal position as platforms, runways or scaffolds.
- Portable extension ladders must not be used to gain access to a roof unless the top of the ladder extends at least three (3) feet above the point of support, at eave, gutter or roofline.
- Frayed or badly worn ropes must be replaced.
- 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.

#### b. Stepladders

A self-supporting portable ladder, non-adjustable in length, flat steps, and hinged back. Stepladders come in lengths of up to 20 feet.

- Double sided ladder
- Step Stool (ladder type)

**The following table defines Duty Ratings and provides information regarding types of portable stepladders including design features and maximum weight capacities:**

Duty Rating:	Typical Use Areas at UCI:
<p><b>Type IAA</b> – Industrial stepladder: 3 to 20 feet. These stepladders have a load capacity of 375 pounds. Type IAA ladders are recommended for special extra-heavy-duty use.</p> <p><b>Type IA</b> – Industrial stepladder: 3 to 20 feet. These stepladders have a load capacity of 300 pounds. Type IA ladders are recommended for extra-heavy-duty use.</p> <p><b>Type I</b> – Industrial stepladder: 3 to 20 feet. These stepladders have a load capacity of 250 pounds. Type I ladders are manufactured for heavy-duty use.</p>	<ul style="list-style-type: none"><li>• Building Engineers</li><li>• Building and Grounds Services</li><li>• Building Maintenance</li><li>• Building Systems</li><li>• HVAC</li><li>• Electric Shop</li><li>• Carpenters</li><li>• Central Plant</li><li>• Network &amp; Academic Computing Services – NACS</li><li>• Student &amp; Faculty Housing</li><li>• Custodial Maintenance</li><li>• Sign Shop</li><li>• Locksmith Shop</li></ul>
<p><b>Type II</b> – Commercial stepladder: 1.5 to 12 feet. These stepladders have a Load Capacity of 225 pounds. Type II ladders are approved for medium-duty use.</p> <p><b>Type III</b> - Household stepladder: 1.5 to 6 feet. These stepladders have a load capacity of 200 pounds. Type III ladders are rated for light-duty use.</p>	Not allowed for use at UCI

**Please Note: Only Type I, IA, or IAA portable stepladders will be approved for purchase by**

campus departments.

**c. Wooden Ladders**

Wooden ladders are not permitted for use on campus.

**d. Combination Ladders**

A portable ladder capable of being used either as a stepladder or as a single or extension ladder. Combination ladders can be used as an A frame, extension ladder, scaffolding, or as a staircase ladder in various configurations.

**e. Maximum ladder lengths allowed:**

Type	Maximum
Step Ladders	20'
Single-section portable ladders	30'
Metal	48'
Metal ladders having more than two sections	60'
Painter's Stepladder	12'

**CARE AND USE OF LADDERS**

To support safe ladder use and ensure proper inspection practices, contact your supervisor or EHS to affix QR code stickers to all portable ladders. These codes provide direct access to the UCI Portable Ladder User Guide and the Ladder Inspection Form on your mobile or portable devices.

To ensure safety and serviceability, the following precautions on the care of ladders should be observed:

- Ladders should always be maintained in good condition, the joint between the steps and side rails shall be tight, all hardware and fittings securely attached, and the movable parts should operate freely without binding or undue play. All labels should be legible.
- Metal bearings of locks, wheels, pulleys, etc., should be frequently lubricated.
- Safety feet and other auxiliary equipment should be kept in good condition to ensure proper performance.
- Ladders should be inspected frequently, and those that have developed structural defects should be withdrawn from service for repair by a qualified technician for destruction and tagged or marked as **"Danger, Do Not Use."**

When using portable ladders, the following safety practices must be followed:

- Ladders should not be placed in front of doors opening toward the ladder unless the door is blocked open, locked, and/or guarded.
- Ladders should only be placed on a firm surface. All feet of the ladder should be placed on a stable surface.
- Ladders should not be used in a manner that was not intended by the manufacturer.
- When ascending or descending, the climber must face the ladder.
- Portable ladders should not be moved with anyone standing on them.
- Only one person should climb a ladder at a time, unless using a double-sided stepladder.
- Three points of contact should be maintained with the ladder at all times. (i.e., Two feet and one hand, two hands and one foot, etc.)
- If the user is unable to safely climb a ladder carrying tools or equipment, materials should be hoisted up when at the top of the ladder.

- Users should work within the side rails of all ladders and not overreach (i.e., keep one's belt buckle within the side rails of the ladder)

### **Safe Use of Ladders on or Around Electrical Equipment**

- Safety-related work practices should be employed to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts when work is performed near or on equipment or circuits, which are or may be energized.
- The specific safety-related work practices should be consistent with the nature and extent of the associated electrical hazards.
- Metallic or metal type ladders should not be used around electrical energy, components and sources.
- Portable ladders should have nonconductive side rails if they are used where the employee or the ladder could come in contact with exposed energized parts.

### **Protection of Ladders from Deterioration**

- Ladders formed by individual metal rungs imbedded in concrete, which serve as access to pits and to other areas under floors, are frequently located in an atmosphere that causes corrosion and rusting. To increase metal rung life in such an atmosphere, individual metal rungs shall have a minimum diameter of one (1) inch or shall be painted or otherwise treated to resist corrosion and rusting.

## **6. Reporting Requirements**

Constant awareness of and respect for safety when using ladders and compliance with all applicable UCI safety rules is essential for preventing injuries.

Each Department that has or uses portable or fixed ladders is responsible for inspecting ladders under its control and shall complete a comprehensive Ladder Inventory Form, Ladder Inspection Checklist Form, and submit to the EHS Department, General Safety and Injury Prevention Section, annually for review.

Representatives of EHS are authorized to issue warnings to employees and stop work from continuing if unsafe conditions and/or behavior is observed.

Supervisors may issue warnings and implement disciplinary actions in accordance with University Policy for failure to follow guidelines of this program.

Employees should report any safety concerns immediately to their supervisor or to EHS.

## **7. Ladder Inspection**

To ensure employee safety and prevent injuries from faulty equipment, **all ladders must be inspected prior to each use and at least once annually**. These inspections are critical for identifying any signs of damage, wear, or structural compromise.

### **Pre-Use Inspections:**

Before every use, the employee or ladder user must perform a visual inspection of the ladder to check for the following:

- Cracks, dents, or bent rungs/rails
- Loose or missing steps, bolts, or rivets
- Damaged or worn feet or stabilizers
- Presence of oil, grease, or other substances that may cause slips
- Functionality of locking mechanisms (for extension or step ladders)
- Structural integrity (no twisting or warping)

**Annual Inspections:**

A thorough inspection must be conducted **at least once per year** by a designated employee. The inspection must be documented using the EHS approved **Ladder Inspection Google Form on the affixed QR Code sticker**. Contact your supervisor or EHS to affix the QR code stickers to all portable ladders.

**Reporting and Tagging Damaged Ladders:**

If any defects, damage, or safety concerns are identified during an inspection:

- Immediately remove the ladder from service.
- Clearly tag the ladder as "**Do Not Use**."
- Report the issue to the employee's supervisor or designated safety personnel.
- The ladder must be **repaired by a qualified person** or **replaced entirely** before being returned to use.

**8. Competency Assessment and Training Requirements**

All persons using ladders should complete initial training at time of employment or prior to the use of ladders or other related equipment. Initial training will be provided by EHS and consist of online course completion on specific operating characteristics of portable and fixed ladders including:

- Proper inspection techniques, maintenance, storage and use
- The proper placement and setup of ladders
- Review of OSHA regulations and ANSI standards pertaining to fixed and portable ladders
- Instruction in hazard recognition and techniques that may be used to minimize risks to the users

Retraining will be required in at least the following situations:

- When changes in the types of ladders or other equipment present a hazard about which an employee has not been previously trained; or
- When observations of work practices indicate that an employee lacks the skill or understanding needed for safe work involving the care and use of ladders.

Employee competency will be assessed through the successful completion of the Ladder Safety Training Program, observations of work practices, and reviews of Ladder Inventory and Ladder Inspection Checklist Forms by EHS or Supervisor.

**9. References**[Cal-OSHA Title 8, Division 1, Chapter 4, Subchapter 7](#)

§3276. Use of Ladders

§3277. Fixed Ladders

§3278. Portable Wood Ladders

§3279. Portable Metal Ladders

§3280. Portable Reinforced Plastic Ladders

[A14.2 Portable Metal Ladders - 2017 American Ladder Institute](#)[UC Shop Safety Manual](#)[UCI Portable Ladder User Reference Guide](#)

External Resources:

- <https://www.americanladderinstitute.org>
- <https://www.cdc.gov/niosh/falls/ladder>
- [https://www.osha.gov/sites/default/files/publications/portable\\_ladder\\_gc.pdf](https://www.osha.gov/sites/default/files/publications/portable_ladder_gc.pdf)
- <https://www.osha.gov/etools/construction/falls>



Yearly, more than 164,000 workers are injured while working on a ladder. Most ladder accidents result from incorrect ladder selection, poor ladder condition, and/or improper use of the ladder. Portable ladders should be inspected before every use, annually, and/or after any fall.

### Portable Ladder Selection and Set-Up

- Use the right height/type of ladder for the job.
- Choose the right duty rating.

(it should be more than your weight plus the weight of the load you're carrying).

- Inspect the ladder before each use.
- Set up the ladder on level and stable ground.
- Place the ladder in a clear area where it can't be bumped or knocked over. Use a spotter for high-traffic areas.
- Use fiberglass ladders near charged electrical equipment.
- Wood ladders are prohibited on campus.
- Only Type I, IA, IAA ladders are allowed.
- Do not use or try to repair a defective ladder!

Type	Duty Rating	Use	Load
IAA	Special Duty Rugged		375 lbs.
IA	Extra Duty Industrial		300 lbs.
I	Heavy Duty Industrial		250 lbs.



### Using a Step Ladder/Specialty Ladders (Combination and Platform Ladders)

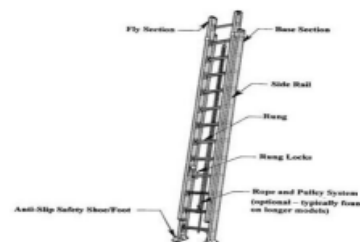
- Ensure footwear has good traction and that laces are tied.
- Check for overhead obstructions.
- Eliminate slip and trip hazards such as grease, cords and loose clothing.
- Remain centered on the ladder and do not over-reach.
- Keep three-point contact (two feet and one hand or two hands and one foot contact) with the ladder when ascending and descending.
- Watch your step! Always face the ladder; don't skip a step or jump off.
- Use a belt, rope, or hoist to transport tools.
- Never climb on the rear of a step ladder or stand on the top step and cap.



### Using an Extension Ladder

Adhere to all steps listed on Step Ladder. Additionally:

- Ensure stable ground and secure base to prevent slipping.
- Extend the top of the ladder three feet above the landing area.
- Limit one person at a time.
- Use the 4:1 ratio – For every 4 feet the ladder extends upwards, the base should be 1 foot away from the wall. Approximately 75-degree angle.



### Additional Information

- [UCI Ladder Safety FAQ and Resources](#)
- [UCI Safety Moment – Choosing and Using Ladders](#)
- [UCI Ladder Inspection Checklist](#)

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