



# ILLINOIS STATE UNIVERSITY LADDER PROCEDURE

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## **1. PURPOSE AND SCOPE**

The purpose of Illinois State University's (ISU) Ladder Procedure is to protect employees from the hazards associated with falls from and use of ladders. This program applies to employees who, while performing their duties, are required to use ladders. The Illinois Department of Labor (IDOL) requires Illinois State University to develop and implement procedures for safe use of ladders. All departments are required to implement the practices and procedures outlined in this procedure.

## **2. RESPONSIBILITIES**

Everyone involved with ladders has certain responsibilities. It is very important that every individual is familiar with his/her responsibilities.

### **a. ENVIRONMENTAL HEALTH AND SAFETY**

- Review and update the Illinois State University Ladder procedure to conform to current CFR standards.
- Monitor compliance with standards set forth in the program through periodic worksite inspections.
- Assist supervisors by providing training as set forth in procedure.
- Provide guidance for the proper selection and use of appropriate ladder equipment.

### **b. SUPERVISORS**

- Ensure that all employees required to use ladders have received the appropriate training.
- Provide necessary personal protective equipment.
- Continuously monitor the work to assure ladders are being used properly and safely.
- Take appropriate disciplinary action whenever an employee under his/her direction fails to follow safety precautions outlined in this procedure.

### **c. EMPLOYEES**

- Use ladders according to safe work practices outlined in training.
- Inspect each ladder prior to use and report any defects or concerns to their supervisor immediately.
- Use any required personal fall protection according to training received.

- Never attempt to alter or repair any ladders.

### 3. DEFINITIONS

**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.

**Cleats** - Are ladder cross-pieces of rectangular cross-section placed on edge on which a person may step in ascending or descending.

**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.

**Fastenings** - Is a device to attach a ladder to a structure, building, or equipment

**Fixed ladder** - A fixed ladder is a ladder permanently attached to a structure, building, or equipment.

**Grab bars** - Are individual handholds placed adjacent to or as an extension above ladders for the purpose of providing access beyond the limits of the ladder.

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

**Pitch** - Is the included angle between the horizontal and the ladder, measured on the opposite side of the ladder from the climbing side.

**Rungs** - Are ladder cross-pieces of circular or oval cross-section on which a person may step in ascending or descending.

**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.

**Steps** - Are the flat cross-pieces of a ladder on which a person may step in ascending or descending.

**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.

**Type I Stepladders** - An industrial stepladder, 3 to 20 feet in length, to be used for heavy duty work. Its weight capacity, including worker is 250 pounds or more.

**Type II stepladder** - A commercial stepladder, 3 to 12 feet in length, to be used for medium duty, such as painting. Its weight capacity, including worker is 225 pounds or more.

## 4. TRAINING

- All personnel engaged in operations which require the use of ladders must be properly trained in accordance with this procedure prior to use.
- The training shall include the following topics as applicable:
  - The nature of ladder hazards.
  - The correct procedures for selecting, using, inspecting, and storage of ladders.
  - The design requirements, as well as the maximum load capacity of ladders.
  - The nature of any overhead work/falling objects, personal fall protection, and electrical hazards in the work area.
  - Other requirements contained in this procedure.
- Retraining shall be conducted periodically or when an employee demonstrates a lack of skill, understanding or where inadequacies in an affected employees work involving ladders indicates that the employee has not retained proficiency.
- Documentation of all training is to be maintained by the employees' department.

## 5. INSPECTION AND STORAGE

### Inspection

- All ladders should be inspected by users for signs of wear, misuse, abuse deterioration, etc.
- If any deficiencies are noted the ladder shall be tagged with a "Danger Do Not Use" tag and taken out of service. All tagged ladders must be brought to a supervisor so it can be repaired/replaced.

### Storage

- Return ladders to storage area after use.
- Store ladders where they are protected from the weather.
- Ladders will be stored in well ventilated areas to prevent mechanical, gravitational, water, chemical or heat damage.
- Store straight ladders in flat racks or on wall brackets.
- Store step ladders in the vertical, closed position.

- Stored ladders should not create a trip hazard.

## 6. PROCEDURES

### General Requirements

- Purchase and use only Type I and II stepladders.
- Straight and extension ladders require non-skid feet.
- Portable ladders shall be placed on a substantial level base, and the area around the top and bottom of the ladder shall be kept clear.
- The use of ladders with broken or missing rungs, broken or split side rails, or other faulty or defective construction is prohibited. Ladders with such defects will be tagged and removed from service immediately.
- All ladders are to be inspected by users each time they use a ladder.

### General Precautions

- Generally, step ladders shall be used to provide an elevated work platform and straight ladders to provide access to another work level.
- Before a ladder is used, it shall be inspected carefully for missing cleats, cracked or missing rungs, or side rails.
- Ladders shall not be placed in a horizontal position and used as a runway or scaffold.
- Place portable ladders so that both side rails have secure footing. Provide solid footing on soft ground to prevent ladder from sinking.
- Only one employee shall work from a ladder at one time. If work requires two employees, a second ladder shall be used.
- Never lean a ladder against unsafe backing such as loose boxes or barrels.
- Ladders shall not be placed on unstable bases such as boxes or barrels.
- Employees shall face ladder when ascending or descending and shall use both hands. If material must be handled, use a rope.
- If a ladder is to be placed where the opening of the door may displace it, the door shall be locked or otherwise guarded.
- Be sure that shoes are not greasy, muddy, or slippery before climbing. Never slide down a ladder.
- Never use a defective ladder. Tag it so that it may be destroyed.

- Do not leave unattended ladders unless properly secured.
- Metal ladders or ladders with metal side rails shall not be used near electric equipment or lines. (Aluminum will conduct electricity.)
- Employees shall not anchor (tie) personal fall protection to portable ladders. Structural components of fixed ladders may be utilized for personal fall protection only when determined by a Competent Person to meet the anchorage requirements (5000 lbs.).
- The bottom section of straight or extension ladders shall be equipped with safety shoes. The top section should always be securely tied off to something substantial or stabilized at the base by a co-worker.
- All labels shall be in place and legible.
- Do not reach further than arm's length from ladder. Move ladder as work progresses.
- Portable ladders in use shall be tied, blocked, or otherwise secured to prevent their being displaced. It is recommended all ladders be equipped with a 6' tie off rope which shall be tied off as soon as the ladder is positioned. If no suitable anchor point is available, a second worker shall steady the ladder.

## **7. STRAIGHT LADDERS**

- Employees shall not work higher than the third rung from top of a straight or extension ladders.
- Straight ladders shall not be used unless equipped with non-slip feet.
- Ladders shall be placed so the distance from the foot of the ladder to the base of the wall or other support is one-fourth the working length of the ladder.
- Portable ladders shall be tied or otherwise secured to prevent their being displaced.
- Ladders must be extended at least 36 inches (three rungs) above the landing when used for access to elevated positions

## **8. STEP LADDERS**

- Employees shall not use the top two steps of a step ladder.
- Step ladders shall not be used as straight ladders.
- Step ladders shall be fully spread and locked open when the ladder is in use.

## **9. EXTENSION LADDERS**

- Extension ladders shall not be used unless equipped with non-slip feet.

- Ladders shall be placed so the distance from the foot of the ladder to the base of the wall or other support is one-fourth the working length of the ladder.
- Portable extension ladders shall be tied or otherwise secured to prevent their being displaced.
- Ladders must be extended at least 36 inches (three rungs) above the landing when used for access to elevated positions.
- Extension ladders up to 36 feet must have a 3-foot overlap between sections.
- Extension ladders over 36 feet and up to 48 feet shall have a 4-foot overlap between sections.
- Extension ladders over 48 feet and up to 60 feet shall have a 5-foot overlap between sections.
- Two section extension ladders shall not exceed 48 feet in total length. Over two section ladders shall not exceed 60 feet in total length.

## **10. PORTABLE WOOD LADDERS**

- All wood ladders shall be free of splinters, sharp edges, compression failure, decay, and other irregularities.
- Stepladders shall have a metal spreader or locking device of sufficient strength and size to hold the front and back when open.
- Wood ladders shall not be painted

## **11. FIXED LADDERS**

- Steps shall be no more than 12 inches apart.
- Fixed ladders 20 feet or higher shall have a surrounding cage or a landing every 20 feet.
- If it has a cage or safety device, a landing is required every 30 feet.
- Surrounding cages shall extend down the ladder to a point not less than 7 feet nor more than 8 feet above the base of the ladder.
- The following sequence of events should take place before the emergency removal of someone else's lock/tag.



# Attachment 1

<p><b>DANGER</b></p> <p><b>DO NOT REMOVE THIS TAG!</b></p> <p><b>TO DO SO WITHOUT AUTHORITY WILL MEAN DISCIPLINARY ACTION!</b></p> <p><b>IT IS HERE FOR A PURPOSE</b></p> <p>REMARKS: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p><b>SEE OTHER SIDE</b></p>	<p><b>DANGER</b></p> <p><b>LADDER DAMAGED/UNSAFE</b></p> <p><b>DO NOT USE</b></p> <p><input type="checkbox"/> <b>DESTROY</b></p> <p><input type="checkbox"/> <b>REPAIR</b> _____</p> <p>_____</p> <p>_____</p> <p><b>INSPECTED BY:</b> _____</p> <p><b>DATE:</b> _____</p> <p><small>ACCUFORM SIGNS REORDER# MDT182</small></p>
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**FRONT**

**BACK**