



Ladder Safety Program

Public Safety Department
Environmental, Health and Safety (EHS) Division
Standard Operating Procedure (SOP) #42

Purpose

To establish and define the procedures to ensure that ladders at Lafayette College are installed, used, inspected and maintained in accordance with applicable standards.

References

OSHA Portable Ladder Safety “Quick Card”
OSHA “Stairways and Ladders - A Guide to OSHA Rules”
Appendix # A – Lafayette College Ladder Inspection Form

Responsibilities

Managers and supervisors are responsible for implementing, maintaining, and auditing the requirements of this procedure and ensuring that all affected personnel are trained in the requirements of this procedure. Additionally, they must ensure that outside contractors who are required to work within an area where this procedure is in effect comply with the procedure.

Procedures

Contractors shall be responsible for bringing and using their own ladders on Lafayette property. Contractors should not use Lafayette College ladders unless they receive permission from the Lafayette College Director of Plant Operations.

Personnel who properly use approved, portable, extension or step ladders and properly constructed fixed ladders less than 20 feet in height will not need additional fall protection unless transferring to another location or surface where a potential fall exposure exists.

All ladders owned by Lafayette College shall be inspected prior to each use. At least every six months all ladders shall be inspected by Plant Operations using the form in Appendix A.

OSHA Rules for All Ladders

The following rules apply to *all ladders*:

1. Maintain ladders free of oil, grease and other slipping hazards.
2. Do not load ladders beyond their maxim intended load nor beyond their manufacturer's rated capacity.
3. Use ladders only for their designed purpose.
4. Use ladders only on stable and level surfaces unless secured to prevent accidental movement.
5. Do not use ladders on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental movement. Do not use slip resistant feet as a substitute for exercising care when placing, lashing or holding a ladder upon slippery surfaces.

6. Secure ladders placed in areas such as passageways, doorways or driveways, or where they can be displaced by workplace activities or traffic to prevent accidental movement. Or use a barricade to keep traffic or activity away from the ladder.
7. Keep areas clear around the top and bottom of ladders.
8. Do not move, shift or extend ladders while in use.
9. Use ladders equipped with nonconductive side rails if the worker or the ladder could contact exposed energized electrical equipment.
10. Face the ladder when moving up or down.
11. Use at least one hand to grasp the ladder when climbing.
12. Do not carry objects or loads that could cause loss of balance and falling.

OSHA Portable Ladder Safety

1. Read and follow all labels/markings on the ladder.
2. Avoid electrical hazards! – Look for overhead power lines before handling a ladder.
3. Avoid using a metal ladder near power lines or exposed energized electrical equipment.
4. Always inspect the ladder prior to using it. If the ladder is damaged, it must be removed from service and tagged until repaired or discarded.
5. Always maintain a 3-point (two hands and a foot, or two feet and a hand) contact on the ladder when climbing. Keep your body near the middle of the step and always face the ladder while climbing (see diagram).
6. Only use ladders and appropriate accessories (ladder levelers, jacks or hooks) for their designed purposes.
7. Ladders must be free of any slippery material on the rungs, steps or feet.
8. Do not use a self-supporting ladder (e.g., step ladder) as a single ladder or in a partially closed position.
9. Do not use the top step/rung of a ladder as a step/rung unless it was designed for that purpose.
10. Use a ladder only on a stable and level surface, unless it has been secured (top or bottom) to prevent displacement.
11. Do not place a ladder on boxes, barrels or other unstable bases to obtain additional height.
12. Do not move or shift a ladder while a person or equipment is on the ladder.
13. An extension or straight ladder used to access an elevated surface must extend at least 3 feet above the point of support (see diagram).
14. Do not stand on the three top rungs of a straight, single or extension ladder.
15. The proper angle for setting up a ladder is to place its base a quarter of the working length of the ladder from the wall or other vertical surface (see diagram).
16. A ladder placed in any location where it can be displaced by other work activities must be secured to prevent displacement or a barricade must be erected to keep traffic away from the ladder.

17. Be sure that all locks on an extension ladder are properly engaged.
18. Do not exceed the maximum load rating of a ladder. Be aware of the ladder's load rating and of the weight it is supporting, including the weight of any tools or equipment.

Fixed Ladders

If the total length of the climb on a fixed ladder equals or exceeds 24 feet (7.3 m), the ladder must be equipped with ladder safety devices; or self-retracting lifelines and rest platforms at intervals not to exceed 150 feet (45.7 m); or a cage or well and multiple ladder sections with each ladder section not to exceed 50 feet (15.2 m) in length. These ladder sections must be offset from adjacent sections and landing platforms must be provided at maximum intervals of 50 feet (15.2 m). In addition, fixed ladders must meet the following requirements:

1. Fixed ladders must be able to support at least two loads of 250 pounds (114 kg) each, concentrated between any two consecutive attachments. Fixed ladders also must support added anticipated loads caused by ice buildup, winds, rigging and impact loads resulting from using ladder safety devices.
2. Individual rung/step ladders must extend at least 42 inches (1.1 m) above an access level or landing platform either by the continuation of the rung spacing as horizontal grab bars or by providing vertical grab bars that must have the same lateral spacing as the vertical legs of the ladder rails.
3. Each step or rung of a fixed ladder must be able to support a load of at least 250 pounds (114 kg) applied in the middle of the step or rung.
4. Minimum clear distance between the sides of individual rung/step ladders and between the side rails of other fixed ladders must be 16 inches (41 cm).
5. Rungs of individual rung/step ladders must be shaped to prevent slipping off the end of the rungs.
6. Rungs and steps of fixed metal ladders manufactured after March 15, 1991, must be corrugated, knurled, dimpled, coated with skid-resistant material or treated to minimize slipping.
7. Minimum perpendicular clearance between fixed ladder rungs, cleats, and steps and any obstruction behind the ladder must be 7 inches (18 cm), except that the clearance for an elevator pit ladder must be 4.5 inches (11 cm).
8. Minimum perpendicular clearance between the centerline of fixed ladder rungs, cleats and steps, and any obstruction on the climbing side of the ladder must be 30 inches (76 cm). If obstructions are unavoidable, clearance may be reduced to 24 inches (61 cm), provided a deflection device is installed to guide workers around the obstruction.
9. Step-across distance between the center of the steps or rungs of fixed ladders and the nearest edge of a landing area must be no less than 7 inches (18 cm) and no more than 12 inches (30 cm). A landing platform must be provided if the step-across distance exceeds 12 inches (30 cm).
10. Fixed ladders without cages or wells must have at least a 15-inch (38 cm) clearance width to the nearest permanent object on each side of the centerline of the ladder.
11. Fixed ladders must 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.

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12. Side rails of through or side-step fixed ladders must extend 42 inches (1.1 m) above the top level or landing platform served by the ladder. Parapet ladders must have an access level at the roof if the parapet is cut to permit passage through it. If the parapet is continuous, the access level is the top of the parapet.
13. Steps or rungs for through-fixed-ladder extensions must be omitted from the extension; and the extension of side rails must be flared to provide between 24 inches (61 cm) and 30 inches (76 cm) clearance between side rails.
14. When safety devices are provided, the maximum clearance distance between side rail extensions must not exceed 36 inches (91 cm).
15. Fixed ladders must be used at a pitch no greater than 90 degrees from the horizontal, measured from the back side of the ladder.

Lafayette College Ladder Inspection Checklist

Date:	Ladder Description:
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Item Checked	Condition OK	Needs Repair
General		
Loose steps or rungs (consider loose if they can be moved by hand)		
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 non-slip bases		
Step Ladders		
Wobbly (from side strain)		
Loose or bent hinge spreaders		
Broken Stop on hinge spreaders		
Loose Hinges		
Extension Ladders		
Loose, broken, or missing extension locks		
Defective locks that do not seat properly when the ladder is extended		
Deterioration of rope		
Trolley Ladders		
Worn or missing tires		
Wheels that bind		
Floor wheel brackets broken, loose or missing		
Floor wheels and brackets missing		
Ladders binding in guides		
Ladder and rail stops broken, loose and missing		
Rail supports broken or section of rail missing		
Trolley wheels out of adjustment		
Trestle Ladders		
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		