



## Queen's University Environmental Health and Safety

|                           |                           |                                |
|---------------------------|---------------------------|--------------------------------|
| Date Issued:<br>June 2025 | Page No.:<br>1            | Document No.:<br>SOP-Safety-15 |
| Version:<br>4.0           | Subject:<br>Ladder Safety |                                |

### 1. Introduction

The Standard Operating Procedure (SOP) for ladder safety was developed by the Department of Environmental Health and Safety in accordance with the University's Policy Statement on Health and Safety to ensure compliance with the Occupational Health and Safety Act.

Ladders are commonly used to reach or gain access to higher areas/levels, and, at times, it may be necessary to perform tasks while on a ladder. There are numerous hazards that can, if not properly managed, result in accidents or serious injuries.

### 2. Scope

This SOP applies to all university departments, units and/or workplaces on property that is owned, controlled, leased, used, or occupied by Queen's University employees for the purposes of conducting work, including field research sites. The SOP does not apply to home offices or similar locations that have been approved under a remote work arrangement.

### 3. Applicable Legislation

Occupational Health and Safety Act (R.S.O. 1990)  
CSA Standard Z11-18 (R2022) Portable ladders

### 4. Definitions

Combination Ladder - A portable ladder capable of being used either as a step ladder or a single or extension ladder.

Extension Ladder - A non-self-supporting portable ladder consisting of two or more sections travelling in interlocking rails, guides, or brackets so arranged as to permit length adjustment.

Load or Duty Rating - The recommended total weight that can be carried by a ladder. This includes the weight of the user plus any tools, materials, and accessories that the user takes on the ladder.

Platform Ladder - A self-supporting portable ladder of fixed size with a platform provided at the intended highest standing level.

Step Ladder - A self-supporting portable ladder, non-adjustable in length, having flat steps and hinged back. A step ladder is often bigger than a step stool and is meant for accessing higher areas.



## Queen's University Environmental Health and Safety

|                           |                           |                                |
|---------------------------|---------------------------|--------------------------------|
| Date Issued:<br>June 2025 | Page No.:<br>2            | Document No.:<br>SOP-Safety-15 |
| Version:<br>4.0           | Subject:<br>Ladder Safety |                                |

Step Stool - A self-supporting, fixed, or foldable, portable ladder non-adjustable in length, 800 mm (32 inches) or less in overall size with flat steps and without a pail shelf. The ladder top cap is designed to be climbed on as well as all steps. The side rails may continue over the top cap.

Trestle Ladder - A self-supporting portable ladder, non-adjustable in length, consisting of two sections, hinged at the top to form equal angles with the base.

## 5. Responsibilities

### 5.1 Responsibilities of Directors, Department, Unit Heads

- Ensure that all pertinent supervisors, employees, and students are notified about the provisions of this SOP, including their responsibilities for using ladders safely.
- Support and assist, when necessary, supervisors to ensure the components of this SOP are implemented in all facilities under the Head's authority.
- When necessary, assist supervisors or the Department of Environmental Health and Safety in addressing outstanding non-compliance issues related to this SOP that have been identified in a facility under the Head's authority.

### 5.2 Responsibilities of Supervisors

- Ensure that all employees and students are aware of this SOP and have been trained in the safe use of ladders.
- Ensure that ladders are inspected before use as per the requirements of this SOP.
- Ensure that only Queen's University equipment is used and that no personal ladders, step ladders, or step stools are brought onto campus or used at an off-site location.

### 5.3 Responsibilities of Faculty, Staff and Students

- Read and understand the requirements of this SOP.
- Complete the training requirement outlined in this SOP.
- Inspect ladders before use.
- Tag any defective ladder and remove from use immediately.
- Report any defective ladder to a supervisor.
- Only use Queen's University equipment as allowed by this SOP.

## 6. Training

All employees and students expected to work use portable ladders must receive appropriate training.



## Queen's University Environmental Health and Safety

|                           |                           |                                |
|---------------------------|---------------------------|--------------------------------|
| Date Issued:<br>June 2025 | Page No.:<br>3            | Document No.:<br>SOP-Safety-15 |
| Version:<br>4.0           | Subject:<br>Ladder Safety |                                |

A video labelled [‘A Practical Approach to Ladder Safety’](#) must be viewed by those that will be using a ladder. Once these individuals have viewed the video, they can complete the ladder safety quiz available on the [Department of Environmental Health and Safety website](#)

If a hard copy of the quiz is completed it, it must be sent to the Department of Environmental Health and Safety, along with a copy of the attendance sheet.

### 7. Ladder Rating

When selecting a duty rating adequate for your needs, you **MUST** allow for the combined weights of the user, their clothes, their tools, and the materials needed. The maximum load rating of the selected ladder should **NEVER** be exceeded.

CSA Grade 1 (or ANSI Type I or higher) ladders **MUST** be used at Queen's University.

| Maximum Load Capacity | Rated Use                                                                                                                  | CSA Standard | ANSI Standard | Allowed at Queens |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------|--------------|---------------|-------------------|
| 170 kg<br>(375 lbs)   | <b>Special Heavy Duty</b><br>Designed for the most demanding industrial and construction applications                      | Grade 1      | Type IAA      | Yes               |
| 135 kg<br>(300 lbs)   | <b>Extra Heavy Duty</b><br>Designed for frequent use in maintenance, construction, and industrial applications.            | Grade 1      | Type IA       | Yes               |
| 115 kg<br>(250 lbs)   | <b>Heavy Duty Industrial</b><br>Designed for use by contractors in maintenance, construction, and industrial applications. | Grade 1      | Type I        | Yes               |
| 100 kg<br>(225 lbs)   | <b>Medium Duty Commercial</b><br>Designed for moderate use by homeowners, painters, handymen etc.                          | Grade 2      | Type II       | No                |
| 90 kg<br>(200 lbs)    | <b>Light Duty Household</b><br>Designed for infrequent household chores, cleaning, painting etc.                           | Grade 3      | Type III      | No                |



## Queen's University Environmental Health and Safety

|                           |                           |                                |
|---------------------------|---------------------------|--------------------------------|
| Date Issued:<br>June 2025 | Page No.:<br>4            | Document No.:<br>SOP-Safety-15 |
| Version:<br>4.0           | Subject:<br>Ladder Safety |                                |

### 8. Markings

The primary markings that must be visible on the ladder are:

- Manufacturer's name or trademark
- Date of manufacture
- Nominal length
- Maximum extension length (where applicable)
- Grade and load rating.
- Safety precautions in words and/or symbols

For ladders constructed of a conductive material, distinctive and contrasting labels warning of electrical contact hazards shall be affixed to the ladder.

### 9. Ladder Use

Ladders can be used as a quick and easy way to access work at any given height; however, they are often used improperly and can result in injury. Selecting the wrong ladder, failing to ensure that a worksite is safe and secure, and the improper use of a ladder can easily result in falls and injury.

Ladders are meant for short duration work only, if you need to use a ladder for more than 10 minutes at a time you should find alternative options such as a manlift or scaffolding.

If there is the potential for a worker to fall from a ladder at a height greater than 10' (3m), fall arrest equipment must be used. Changing the way work is completed (ex: working from ground level), using a scissor lift, or using scaffolding are better alternatives to ladders.

To reduce the risks of using a ladder a worker must:

- Select the proper ladder for the job (ex: step stool, platform ladder, or extension ladder).
- Inspect the ladder to ensure that it is in good condition and not damaged (Appendix A Ladder/Step Stool Inspection Checklist).
- Use the ladder only on firm, level surfaces.
- Identify overhead hazards prior to setting up the ladder.
- Stabilize the base of the ladder to prevent it from movement and secure the top of the ladder when working above 10 ft (3m).
- Extend the ladder 3 ft or 3 rungs above any upper surface that you are accessing.
- Ensure the ground around the ladder is clear of obstructions and that the rungs are clear and free of slippery substances.
- Keep the area around the ladder clear of traffic and obstructions, when necessary, use a spotter or danger tape to cordon off the work area.
- Ensure that tools are secure while ascending and descending the ladder.



## Queen's University Environmental Health and Safety

|                           |                           |                                |
|---------------------------|---------------------------|--------------------------------|
| Date Issued:<br>June 2025 | Page No.:<br>5            | Document No.:<br>SOP-Safety-15 |
| Version:<br>4.0           | Subject:<br>Ladder Safety |                                |

- Setup the ladder at an appropriate angle of 4:1 (ex. 1 ft out from the wall for every 4 ft up).
- When using a ladder above 10 ft (3m) as a workstation, fall arrest equipment must be used.
- Always face the ladder when ascending or descending and maintain 3 points of contact.
- Do not overreach beyond the side rails of the ladder.
- Metallic or metal type ladders shall NOT be used around electrical energy, components, and sources.
- Only use ladders as intended, never use them horizontally as scaffold planks or a runway.

Common causes of ladder accidents include:

- Overreaching.
- Ladder not properly secured.
- Slippery surfaces (feet, rungs, footwear).
- Improper angle and/or setup.
- Unsafe position on ladder.
- Defective/damaged ladder.
- Ladder positioned too close to electrical lines.
- Using ladder in high winds.

### 10. Step Stools

Users of step stools (including library type rolling step stools) do not have to watch the video '[A Practical Approach to Ladder Safety](#)' however, a supervisor or other competent employee must go over the following guidelines, manufacturer's instructions, and complete Appendix B '*Step Stool Safety Acknowledgement*'.

Step stools must be inspected at least twice year and prior to each use. Appendix A (Inspection Checklist) or equivalent shall be completed on the bi-annual inspection.

Step stools must have a rating of CSA Grade 1, or ANSI Type I, to be used at Queen's University.

Proper use of step stools:

- Carry objects so as not to impair ability to climb/descend, maintain balance and preserve field of view.
- Keep hands above knee level when reaching downward to grasp objects.
- Keep belt buckle within centre of stool when reaching sideways, do not overreach.
- Avoid leaning backward while moving objects.
- Avoid rising on toes when reaching up to place or retrieve objects.
- Keep both feet on the stool.
- Avoid applying forceful or jerky pushing/pulling movements when there is the potential for an unexpected reaction.



## Queen's University Environmental Health and Safety

|                           |                           |                                |
|---------------------------|---------------------------|--------------------------------|
| Date Issued:<br>June 2025 | Page No.:<br>6            | Document No.:<br>SOP-Safety-15 |
| Version:<br>4.0           | Subject:<br>Ladder Safety |                                |

### 11. Inspection and Maintenance

Users shall inspect the ladder before each use. The items to be inspected are outlined on the Ladder/Step Stool Inspection Checklist (Appendix A). If a specific ladder type has additional inspection items recommended by a manufacturer, a departmental specific checklist that incorporates these items shall be created and used.

Departments must have a method for ensuring pre-use inspections are being completed. For example, the pre-use inspections could be recorded using the checklist in Appendix A. Alternatively, the Department of Environmental Health and Safety will provide inspection tags, at no cost, that can be attached to the ladder to record pre-use inspections, or your department can create your own tags, so long as they include all the items in Appendix A.

If a ladder falls over, is exposed to high heat, fire, or corrosive substances it shall be re-inspected immediately for siderail dents or bends, excessively dented rungs, rung to side rail connection damage, hardware connection damage, possible rivet shear, corrosion, or signs that the strength of the ladder has been compromised. If in doubt, the manufacturer should be consulted.

Where structural damage or other defects are found during an inspection, the ladder or step stool shall be tagged and taken out of service and either discarded or repaired by a person authorised by the manufacturer. If an out of service ladder is to remain in the facility prior to disposal or repair, it must be clearly tagged as being out of service.

### 12. Version History

Version 1.0: March 2012 – Initial Release

Version 2.0: April 2021 – Minor wording and format changes. Strengthened the language around the requirement that all equipment is to be provided by Queen's University.

Version 3.0: January 2025 – General revisions and updating of the inspection requirements to match the latest CSA standard.

Version 4.0: June 2025 – Updated ladder training video location.

### Ladder/Step Stool Inspection Checklist

Ladder Type/ID: \_\_\_\_\_ Location: \_\_\_\_\_

*Damaged or defective ladders must be tagged out of service immediately and reported to your supervisor.*

| <b>‘A’ Acceptable or a checkmark</b><br><b>‘X’ Unacceptable or ‘N/A’</b>      | Date of Inspection |  |  |  |  |  |  |  |
|-------------------------------------------------------------------------------|--------------------|--|--|--|--|--|--|--|
|                                                                               |                    |  |  |  |  |  |  |  |
| Material: W=Wood M=Metal O=Other                                              |                    |  |  |  |  |  |  |  |
| Steps or rungs (No broken, loose, missing).                                   |                    |  |  |  |  |  |  |  |
| No Loose/missing nails, screws, bolts, or other metal parts.                  |                    |  |  |  |  |  |  |  |
| No Cracked, split, rusted, or broken uprights, braces, or rungs.              |                    |  |  |  |  |  |  |  |
| Wooden parts (smooth, no splinters)                                           |                    |  |  |  |  |  |  |  |
| No Damaged or worn non-slip bases.                                            |                    |  |  |  |  |  |  |  |
| Ladder stability.                                                             |                    |  |  |  |  |  |  |  |
| Moving parts moving freely and appear lubricated as required by manufacturer. |                    |  |  |  |  |  |  |  |
| Not Wobbly (side to side strain).                                             |                    |  |  |  |  |  |  |  |
| No Loose or bent hinge spreaders                                              |                    |  |  |  |  |  |  |  |
| Hinge spreader stops functioning correctly.                                   |                    |  |  |  |  |  |  |  |
| Hinges (No loose, broken)                                                     |                    |  |  |  |  |  |  |  |
| Extension Locks (No loose, broken, missing)                                   |                    |  |  |  |  |  |  |  |
| Rope (Not worn or rotted)                                                     |                    |  |  |  |  |  |  |  |
| Identification marks are visible and legible                                  |                    |  |  |  |  |  |  |  |
| Ladder had been stored properly                                               |                    |  |  |  |  |  |  |  |
| Initials (person completing inspection)                                       |                    |  |  |  |  |  |  |  |
| Notes:                                                                        |                    |  |  |  |  |  |  |  |

### Step Stool Safety Acknowledgement

Name:\_\_\_\_\_ Staff Student Number:\_\_\_\_\_

Department:\_\_\_\_\_

I acknowledge that I have read the Queen's University Policy on ladder safety, and that I have received training from my department on the safe use of step stools and will abide by this policy and departmental instruction.

Signed:\_\_\_\_\_

Date:\_\_\_\_\_

Supervisor's Name:\_\_\_\_\_

Supervisor's Signature:\_\_\_\_\_

Date:\_\_\_\_\_