

1.0 INTRODUCTION

The standard establishes guidelines for the safe use, proper selection and inspection of ladders.

2.0 SCOPE

This standard applies to employees and contractors who work with ladders.

3.0 REFERENCES

NB OHS General Regulation 91-191	New Brunswick Occupational Health and Safety Regulation 91-191 Part XV: Section: 122
CSA	CSA standard Z11-12 (2017) Portable Ladders
ANSI A14.2	Portable Metal – Safety Requirements
ANSI A14.5	Portable Reinforced Plastic – Safety Requirements
Form 671	Ladder Inspection

4.0 TERMS AND DEFINITIONS

Competent Person	(a) qualified, because of such factors as knowledge, training and experience, to do assigned work in a manner that will ensure the health and safety of persons, (b) knowledgeable about the provisions of the Act and the regulations that apply to the assigned work, and (c) knowledgeable about potential or actual danger to health or safety connected with the assigned work;
Type / Grade I Ladder	Portable ladder that can support at least 250 pounds (113.4 kilograms) of weight
Type / Grade IA Ladder	Portable ladder that can support at least 300 pounds (136.1 kilograms) of weight.
Supervisor	a person who is authorized by an employer to supervise or direct the work of the employer's employees regardless of title, this could be a lead, senior, foreman, etc.
Belt Buckle rule	your belt buckle is positioned between the side rails at all times, which will maintain your center of gravity.

5.0 ROLES AND RESPONSIBILITIES

5.1 Supervisor

- ensure employees are competent on ladder safety which should cover purchasing, selection, inspection, tag out, use, and storage.
- ensure all ladders (fixed and portable) are regularly inspected and properly maintained.

- ensure ladders in need of repair are tagged and removed from service.

5.2 Employee

- ensure safe use of ladders as outlined in training or in this standard
- inspect ladders before use and keep ladders clean and in good condition.
- inspect ladder brackets/mounts and ensure ladders are secured on vehicles.
- tag damaged ladders, take out of service and report to your supervisor immediately.
- do not modify ladders

6.0 STANDARD

Ladders are versatile, useful pieces of equipment. Ladders can be fixed or portable. They are mainly used for access type work, like reaching different levels above or below ground (roofs or trenches), and performance type work, such as fixing a light bulb or painting walls.

The proper training and use of the correct equipment will reduce the risks associated with ladders.

Most falls from ladders are traceable to three main problems:

- The wrong ladder was used.
- The ladder failed because it was in bad shape or the condition of the surface failed to support the ladder (slippery, unstable or uneven surfaces).
- The ladder was misused.

NB Power employees and contractors shall use only approved fiberglass ladders near energized lines and in locations which contain live electrical apparatus. This includes battery and computer rooms, live bus bars, etc.

Note:

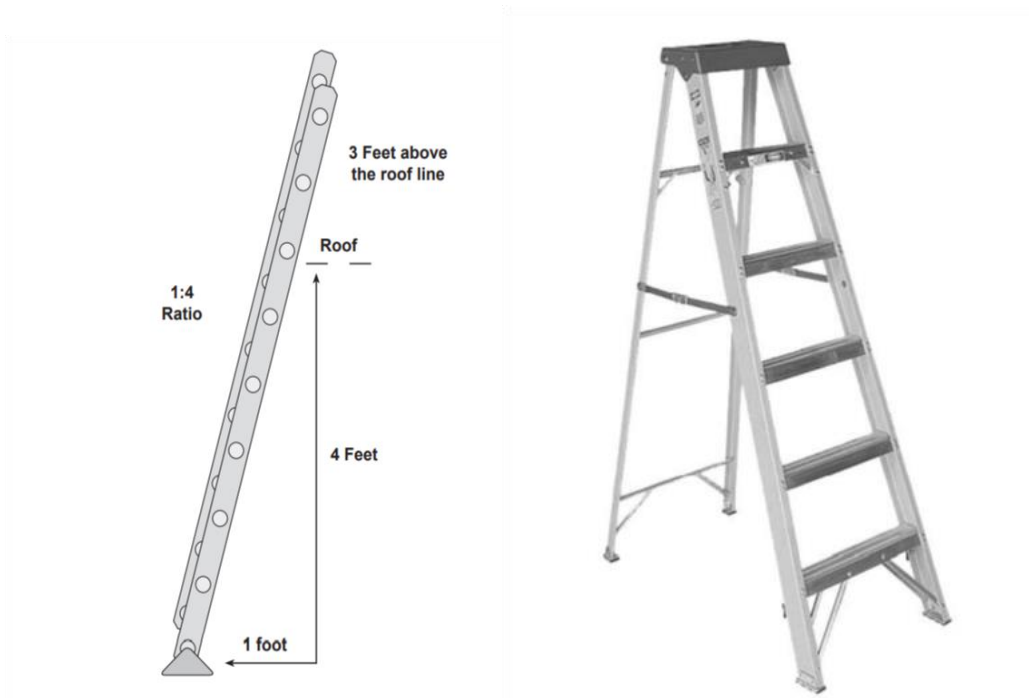
Ladders shall be clearly and permanently marked in English and French with at least the following information:

- (a) manufacturer's name or trademark;***
- (b) date of manufacture;***
- (c) nominal length;***
- (d) maximum extended length (where applicable); and***
- (e) grade, projected use, and load rating***

6.1 Proper selection and set-up

- Choosing the right ladder is the first step to safety.
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- New ladders are approved by the CSA Group and rated for how much load they can carry (heavy, medium, or light), and for the type of use (industrial, commercial or household).
- Straight, extension and stepladders are known as portable ladders. Straight and extension ladders are to be used against a wall, and normally for outdoor work. These ladders need to be placed very carefully; wrong setup is the single largest source of accidents. If the ladder slips at the base, you will fall. Safe ladder use includes:
 - Placing the ladder on clear level ground free of ice, snow, water and sand.
 - Following the 1:4 rule: the base should be 1 foot from the wall for every 4 feet in height.
 - Not climbing above the fourth rung from the top of an extension ladder.
 - If the ladder is used to access a roof for instance, it should rise about 1 m or 3 feet above that surface.



6.2 Inspection

A pre-use inspection is required. The ladder must also be cleaned and maintained in good condition. The inspection must follow the manufacturer's recommendations. This inspection is required regardless of the type of ladder you are working with, see Appendix A – Ladder Inspection Requirements.

6.3 Portable Ladders:

- a) Ladders must be secured against movement. If the ladder cannot be tied off then it

shall be held in place by a competent person at all times when in use.

- b) When extending the ladder to working height, both locking dogs (if equipped) on the moving section shall be engaged on a rung.
 - c) Portable extension ladders shall have no more than three sections, and when extending a portable extension, maintain a minimum overlap as follows:
 - Where the ladder is 11 m or less, the overlap shall be 1 m.
 - Where the ladder exceeds 11 m and is 15 m or less, the overlap shall be 1.25 m.
 - Where the ladder exceeds 15 m and is 22 m or less, the overlap shall be 1.5 m.
 - d) When an employee is working 3 m or higher on a portable ladder, the work may be done without a fall-protection system if:
 - The work is light duty and of short duration at each location and;
 - The employee can maintain their centre of gravity between the ladder side rails (belt buckle rule) and;
 - The employee can usually have one hand free to hold on to the ladder or another (three point contact) support and;
 - The ladder is not near an edge or floor opening that would significantly increase the fall distance.
 - e) Side rails of the ladder shall extend at least 1 meter above any platform or landing to which the ladder is a means of access.
 - f) Portable ladders shall never be used as a horizontal work platform unless specifically designed for that purpose.
 - g) Portable ladders shall not be placed in front of a door that opens toward the ladder unless the door is locked, blocked or guarded.
 - h) Portable ladders shall be used by only one person at a time.
 - i) When ascending or descending a portable ladder, the employee shall face the ladder have both hands free for climbing. i.e., maintaining three point contact, this means two hands and one foot, or two feet and one hand, on the ladder at all times. A handline shall be used for handling materials.
 - j) Substitutes for portable ladders, such as boxes, chairs and crates, shall not be used.
 - k) Defective ladders shall be taken out of service and either tagged for repair or scrapped.
 - l) Use the belt buckle rule, your belt buckle is positioned between the side rails at all times, which will maintain your center of gravity.
 - m) Working from portable ladders for extended periods shall be avoided and alternate methods to provide access shall be considered.
 - n) When both hands need to be free for a short duration, two feet and your body must be supported by the ladder.
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- o) Care must be taken when setting up ladders near openings. Assessment of the location where the ladder is being installed, if there is an fall hazard existing, ensure the proper fall protection system is in place.
- p) Alternative equipment (e.g., bucket truck, self-propelled elevating work platforms) shall be considered when appropriate, due to the hazards of erecting and dismantling scaffolds.

6.4 Portable Step Ladders:

NB Power employees and contractors shall use only approved fiberglass step ladders in locations which contain live electrical apparatus. This includes battery and computer rooms, live bus bars, etc.

Proper Set Up and Use:

- a) Make sure step ladder is fully open and spreaders locked
- b) Set all feet on firm, level surfaces. Do not place on unstable, loose, or slippery surfaces.
- c) Place step ladder where access is not obstructed.
- d) Do not place in front of unlocked doors.
- e) Step ladders shall not be used on scaffolds.
- f) Climb only front side of step ladder.
- g) Face step ladder and use both hands when ascending or descending.
- h) Do not overextend sideways. Use the belt buckle rule:
- i) Do not climb, stand, or sit above the second step from top (refer to label), on the pail shelf, or spreader braces.
- j) Do not straddle front and back. Do not climb from one step ladder to another.
- k) Avoid pushing or pulling off to side of the step ladder.
- l) A step ladder shall not be used as an extension ladder unless designed for that purpose.

6.5 Rolling Staircase

Depending on the job site and task, a platform ladder, also known as a rolling ladder or a rolling staircase can have its advantages. Avoid complacency and follow these rules:

- a) Always ensure that the rolling ladder is properly set up and used in accordance with the safety instructions/warnings that can be found on the ladder's label.
 - b) Prior to use, the rolling staircase should be inspected. Walk around the ladder and look for signs of damage and/or worn parts.
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- c) Ensure that the rolling ladder is positioned on firm, level ground. Make sure that all the ladder's feet have firm contact with the ground. The ladder should not exhibit any rocking motions. If it does, reposition the ladder so it is steady.
- d) When ascending or descending rolling ladders, do so one step at a time facing the rungs. Additionally, do not try to add extra height by standing on top of buckets or boxes at the top of the ladder platform.
- e) Only one person should ever be on a platform ladder at a time.
- f) Never attempt to move or reposition a rolling staircase while personnel and/or tools are on it.
- g) Do your best to avoid positioning rolling ladders in the pathways of pedestrian and vehicle traffic. If a ladder must be positioned in these pathways, use a spotter, barrier tape, etc. to guide traffic away from the ladder's location.
- h) Always position a rolling ladder within arm's reach (or closer if possible) to the task at hand. Do not attempt to overreach. Personnel should keep the majority of their body weight centered on the ladder.
- i) If wheel locks are available engage before use



6.6 Fixed Ladders:

- a) Fixed ladders shall be inspected for defects before use. If they cannot be repaired the ladder shall be destroyed and replaced.
 - b) Fall arrest system shall be worn when climbing above 6 meters on fixed ladders, unless the ladder is equipped with a ladder cage.
 - c) If a fixed ladder equipped with a ladder cage is more than 9 meters in height, it shall be equipped with rest platforms at intervals of no more than 9 meters.
 - d) Side rails of a fixed ladder shall extend at least 1 meter above any platform or landing to which the ladder is a means of access.
 - e) does not have any rungs that extend above a landing,
 - Is placed in such a way that an adequate landing surface that is clear of obstructions is available at the top and bottom of the ladder for access and egress.
 - f) Auto closing gates or chains must be in place.
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- g) All fixed ladders shall be constructed and used in accordance with the Regulation 91-191 under the New Brunswick Occupational Health & Safety Act and CSA Standard Z11-12 (R2017) Portable Ladders.

6.7 Ship's Ladders

A ship's ladder is a specific style of stairway initially used on ships. Since ships have limited deck space, ship builders had to design stairs with unusually steep slopes. These stairs became known as ship's stairs or ship's ladders. As a result of their design (especially the steep slope they are usually built to), ship ladders may resemble fixed ladders.

As a result, WorkSafeNB will allow service stairways or fixed ladders to be substituted by ship ladders under the following conditions:

A ship's ladder must:

- Be designed so the angle between the side rails and the horizontal is between 50° and 70°. The preferred angle is in the range of 60° to 68°.
- Serve only a single platform or landing and have a maximum height of 4 metres (12 feet).
- Have tread width of at least 130 millimetres (mm) (5 inches), with a non-skid finish, uniformly spaced (rise) at no more than 305 mm (12 inches). Treads should be at least 430 mm (17 inches) long, but not longer than 630 mm (24 inches).
- Have a minimum design working load of 1.1 kilo newton (kN) (250 pounds) applied uniformly to a 90 mm (3.5 inch) strip across the centre of the tread.
- Have handrails provided on both sides of the ladder at approximately 900 mm (36 inches) above the tread nosing.
- Have a safety guard installed parallel to the slope of the ladder and offset approximately 150 mm (6 inches) from the rear of the treads. (This guard is to stop a worker's leg from passing through to the backside of the ladder if a foot slips off the back side of the tread.)

In addition, it should be noted that a ship's ladder is a permanent load-carrying structure and needs to be properly engineered. Design drawings and specifications should show all information necessary for the fabrication and installation of the ship's ladder, including details on how it is to be secured in place. The completed installation will need to be certified by a professional engineer as being fabricated and installed in accordance with good engineering practice.

7.0 TRAINING

- Ladder eLearning (course code) Anyone working on a ladder regardless of height must understand the proper use and inspection of the ladder.
 - Employees or contractors are required to use fall protection when working at 3 m or more, when working above any surface that could injure an employee during a fall (working above a surface that has rebar could result in impalement and serious injury even if the fall is less than 3 m).
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8.0 APPENDIX

Appendix A – Ladder Inspection Requirements

Appendix B – Ladder Safety Tips (Quick Guide)

DOCUMENT APPROVAL/REVISION RECORD

Revision #	Date	Revision Summary	Author	Reviewed By	Approved By
New	2023-07-18	New	A. Munn	TH&S	R. Roy
01	2025-01-16	6.5 Fixed Ladders (e, f) align with CSA standard	N. Legere	TH&S	R. Roy


Director of Total
Health & Safety

Appendix A – Ladder Inspection Requirements

Date Inspected: _____ Ladder Location: _____

Inspected by: _____

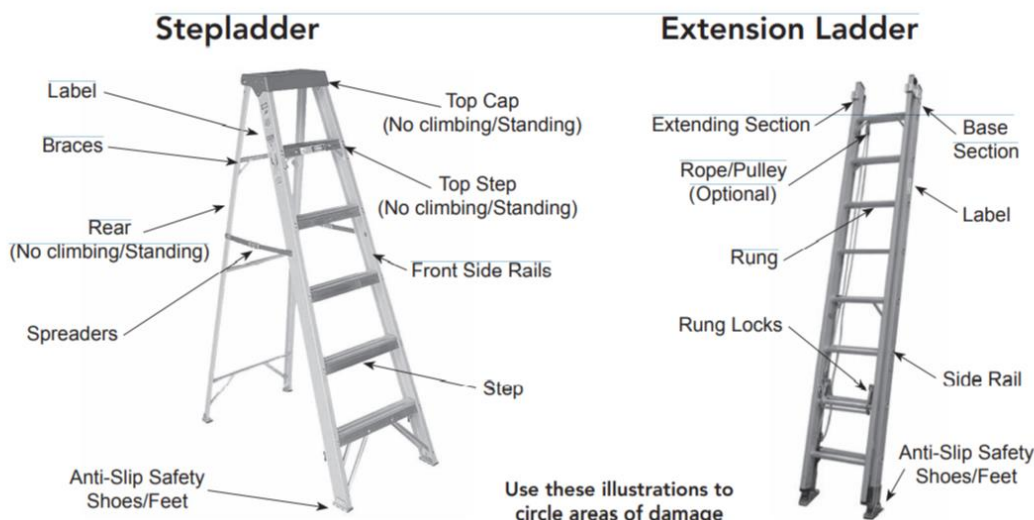
Type ☐ Stepladder ☐ Extension Ladder Height _____ ft.

Duty Rating (Found on the Label)

- ☐ Type IAA (Extra Heavy Duty) — 375 pounds ☐ Type IA (Extra Heavy Duty) 300 pounds
☐ Type I (Heavy Duty) — 250 pounds ☐ Type II (Medium Duty) — 225 pounds
☐ Type III (Light Duty) — 200 pounds

Shoes/Feet:	Worn, Loose, Cracked or Missing	<input type="checkbox"/> Needs Repair <input type="checkbox"/> Good
Rails/Uprights:	Sharp Edges, Cracked or Bent	<input type="checkbox"/> Needs Repair <input type="checkbox"/> Good
Steps/Rungs:	Loose, Broken, Worn or Missing	<input type="checkbox"/> Needs Repair <input type="checkbox"/> Good
Top Cap:	Cracked, Loose or Missing	<input type="checkbox"/> Needs Repair <input type="checkbox"/> Good
Good Hardware:	Difficult to Operate	<input type="checkbox"/> Needs Repair <input type="checkbox"/> Good
Cleanliness:	Grease, Oil or Slippery Materials	<input type="checkbox"/> Needs Repair <input type="checkbox"/> Good
General:	Rust, Corrosion, Cracks, Loose or Missing Parts	<input type="checkbox"/> Needs Repair <input type="checkbox"/> Good
Labels:	Missing or Not Legible	<input type="checkbox"/> Needs Repair <input type="checkbox"/> Good
Rung Locks:	Loose, Broken or Missing	<input type="checkbox"/> Needs Repair <input type="checkbox"/> Good
Rope/Pulley:	Worn, Frayed Broken or Missing	<input type="checkbox"/> Needs Repair <input type="checkbox"/> Good

Remove the ladder from service if any box is checked under the “Needs Repair” category and tag the ladder as “Damaged – Do Not Use.” Dispose of the damaged ladder properly.



Appendix B – Ladder Safety Tips

Ladder Safety Tips

LADDER INSPECTION, USE & CARE

SAFETY BEFORE YOU CLIMB



Safety Matters

Let's be safe out there!

<p>When it comes to basic workplace equipment, it doesn't get much simpler than the ladder. Because ladders are so simplistic, many people overlook the potential hazards. Yet, falls account for 15% of workplace fatalities. Many of these falls are from ladders and may have been prevented if a few basics had been followed.</p> <p>LADDER HAZARDS</p> <p>Two questions you should ask each time you use a ladder are:</p> <ol style="list-style-type: none">1. What condition is the ladder in?2. Am I using the right ladder for the job? <p><u>Five Rules of Ladder Safety</u></p> <ol style="list-style-type: none">1. Select the right ladder for the job.2. Inspect the ladder before you use it.3. Set up the ladder with care.4. Climb and descend ladders cautiously.<ul style="list-style-type: none">• Face ladder and hold on with both hands.• Carry tools on belt or raise and lower with hand line.• Check shoes and rungs for slippery surfaces.5. Use safe practices when working on a ladder.<ul style="list-style-type: none">• Always hold on with either hand and never reach too far to either side or rear to maintain balance.• (Keep your belt buckle between the rails!)• Never climb higher than the second step from the top on a stepladder or third from the top on a straight ladder.• Never attempt to move, shift, or extend ladder while in use.	<p><u>Inspecting the Ladder</u></p> <p>When checking the condition of the ladder, keep these guidelines in mind:</p> <ul style="list-style-type: none">✓ Rungs must be intact and free from grease or oil.✓ Make sure there are no splinters or sharp edges.✓ See that metal ladders are not dented or bent.✓ Safety feet should be placed on firm footing.✓ All support braces and bolts must be secure.✓ Make sure ropes are not torn or frayed.✓ Make sure the hinge spreader works properly. <p>Note: Defective ladders MUST be removed from service and tagged "Dangerous, Do Not Use"</p> <p><u>Choosing the Ladder</u></p> <p>When choosing a ladder, first check the weight limit. Ladders are usually rated as follows:</p> <ul style="list-style-type: none">✓ Type I-A ladders are heavy-duty and can handle up to 300 lbs.✓ Type I ladders can hold up to 250 lbs.✓ Type III ladders can hold up to 225 lbs.✓ Type III ladders are for light duty (200 lbs) and not to be used on an industrial site. <p>Ladders also vary in length. Choose one that is high enough for the job, but not so high that it becomes a hazard</p>	<p><u>Using Ladders Safely</u></p> <p>Some other things to remember include:</p> <ul style="list-style-type: none">✓ Make sure the ladder's feet are parallel to the surface it rests against.✓ Make sure the base is tied or held and that the top is anchored.✓ Avoid the top two steps of a stepladder and the top three rungs on other ladders.✓ Always face the ladder while using it.✓ Place the ladder at a safe angle. The distance from the bottom of the ladder to the wall should be about 1/4 of the ladder's working height.✓ Do not use ladders that have been exposed to fire or shows signs of corrosion.✓ Do not use a ladder for unintended purposes, such as in place of scaffolding planks.✓ Never allow more than one person on a ladder at a time.✓ Use both hands when climbing a ladder.✓ Avoid excessive stretching or leaning.
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Health & Safety Standards




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Page 12 of 12

Title:
Ladders (Safe Use, Selection and Inspection)

DO'S	LADDER STORAGE
<p>Carry the ladder balanced horizontally, never up and down</p> <p>Extend Side rails a minimum of 3 feet above upper surface</p> <p>Position foot of the ladder 1/4 of the working length away from the support</p> <p>4 TO 1 RATIO</p> <p><u>Do Not's</u></p> <ul style="list-style-type: none">⊗ Don't stand on top.⊗ Don't place a ladder in front of a door that is not locked, blocked or guarded⊗ Don't support on unstable structure.⊗ Don't carry ladder unbalanced⊗ Do not let a ladder made from any material contact live electric wires. Metal ladders will conduct electricity. Use a wooden or fiberglass ladder in the vicinity of power lines or electrical equipment.⊗ Never use a folding step ladder in an unfolded position. Step ladders should be securely spread open. 	<p>☞ Ladders should be stored on racks designed to protect them when not in use. These racks should have sufficient supporting points to prevent any possibility of excessive sagging. At no time should material be placed on the ladder while it is in storage.</p> <p>☞ Ladders should be maintained in good usable condition at all times. Hardware, fittings, and accessories should be checked prior to each use and kept in proper working condition.</p> <p>☞ Unfortunately one can still find defective ladders; primarily bent rungs and damaged shoes / feet</p> <p>Please tag out (remove from service) damaged ladders and report them to your supervisor immediately.</p>