

SECTION 5

Ladders**Sections and Schedules 122 - 129****Ladder markings Sec. 124(1)**

- Portable ladder manufactured after July 1, 2009 meets the requirements of:
- CSA Standard CAN3-Z11-M81 (R2005), Portable Ladders,
- ANSI Standard A14.1-2007, American National Standard for Ladders – Wood – Safety Requirements,
- ANSI Standard A14.2-2007, American National Standard for Ladders – Portable Metal – Safety Requirements, or
- ANSI Standard A14.5-2007, American National Standard for Ladders – Portable Reinforced Plastic – Safety Requirements.

Ladders Sec. 122(1)

- A ladder shall be designed, constructed and maintained so as not to endanger a worker and shall be capable of withstanding all loads to which it may be subjected.

**Portable Ladders 123(d)(iii)**

A ladder

- (a) shall be free from defective or loose rungs;
- (b) shall have rungs spaced at 300 millimetres on centres;
- (c) shall have side rails at least 300 millimetres apart;
- (d) shall be placed on a firm footing

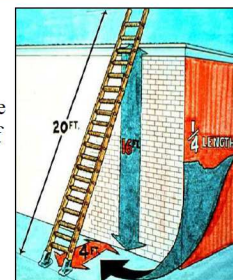
Portable Ladder Stability (Sec. 125)

A ladder:

- Must be secured against movement and placed on a base that is stable.

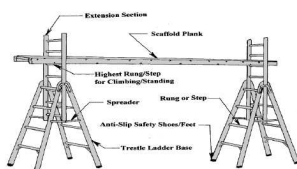
*Question:**Does a Ladder always need to be tied off?***Portable Ladders Pitch (1/4 Length) (Sec. 125)**

- The base of an inclined portable ladder is no further from the base of the wall or structure than $\frac{1}{4}$ of the height to where the ladder contacts the wall or structure.



Extension Trestle Ladder

- The maximum length of a ladder measured along its side rail shall not be more than
- five metres for a trestle ladder or for each of the base and extension sections of an extension trestle ladder



Extension Trestle Ladder
(often used in pairs to support a scaffold plank)

Portable Ladder Heights



- Six metres for a step-ladder;
- Nine metres for a single ladder or an individual section of a ladder;
- Fifteen metres for an extension ladder with two sections; and
- Twenty metres for an extension ladder with more than two sections.
- No ladder shall be lashed to another ladder to increase its length.

Portable Ladders Access Sec. 125(2)(b)



A ladder used as a regular means of access between levels of a structure:

- Shall extend at the upper level at least **1 metre** above the landing or floor;
- Shall have a clear space of at least 15 cm behind every rung;
- Shall be located so that an adequate landing surface that is clear of obstructions is available at the top and bottom of the ladder;

Wood Ladders-No Paint

A wooden ladder

- shall be made of wood that is straight-grained and free of loose knots, sharp edges, splinters and shakes; and
- shall not be painted or coated with an opaque material.



Constructed Wood Ladders

The side rails of a wooden ladder of the cleat type:

- That has a length of 5 m or less
 - Has side rails constructed of lumber measuring not less than 38 mm by 89 mm,
- More than 5 m long
 - Has side rails constructed of lumber measuring not less than 38 mm by 140 mm,
 - Has side rails that are not notched, dapped, tapered or spliced,
 - Has side rails at least 500 mm apart at the bottom.



Wood Ladders

- The rungs of a wooden ladder of the cleat type,
- shall measure not less than,
- nineteen millimetres by sixty-four millimetres if the side rails are 400 millimetres apart, or
- nineteen millimetres by eighty-nine millimetres if the side rails are more than 400 millimetres and not more than 610 millimetres apart; and
- shall be braced by filler blocks that are nineteen millimetres thick and are located between the rungs.



Self-Supporting Ladders

- No worker shall stand on the top of or the pail shelf of a step-ladder or work from the top **three rungs** of a portable single or extension ladder. Sec. 125 (3)(d)



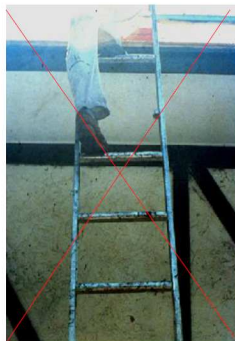
Portable Ladders

The tops of the ordinary types of stepladders shall not be used as steps.



Portable Metal Ladders

What's Wrong with this picture?



Use of Ladders

When ascending or descending the climber must face the ladder.



Portable Ladder Fall Protection Sec. 124 (3)

An employee working 3 m or more above the ground or floor level on a portable ladder may work without a fall-protection system if:

1. The work is a light duty task of short duration at each location,
2. The employee's centre of gravity is maintained between the two ladder side rails,

Ladder Fall Protection cont...

3. The employee will generally have one hand available to hold on to the ladder or another support, and
4. The ladder is not positioned near an edge or floor opening that would significantly increase the potential fall distance.

Note: This section does not apply while the worker is moving up or down the portable ladder.

WHAT WENT WRONG?



Fixed Ladders



Access Ladder Fixed in Position

- (1) Subject to subsection (2), an access ladder fixed in position,
- (a) shall be vertical;
- (b) shall have rest platforms at not more than **nine metre** intervals;
- (c) shall be offset at each rest platform;

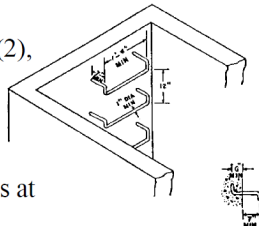
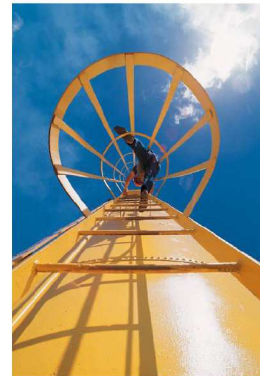


FIGURE D-1.—Suggested design for rungs on individual-rung ladders.

Cages or Wells

- (d) where the ladder extends over 3 metres above grade, floor or landing, shall have a safety **cage commencing not more than 2.2 metres** above grade, floor or landing and continuing at least 90 centimetres above the top landing with openings to permit access by a worker to rest platforms or to the top landing;
- (e) shall have side rails that extend 90 centimetres above the landing; and
- (f) shall have rungs that are at least 15 centimetres from the wall and spaced at regular intervals.

• Sec 121(1)
* Does not apply to drilling or services rigs with climb assist



NUMBERS TO REMEMBER WITH LADDERS

- Ladders need rungs 300mm on center and rails **least** 300mm apart
- Ladders can only handle the load they are rated for
- Ladders must clear the work surface by a min of 1m
- Ladders must be 1 ft out for every 4 ft up
- Ladders need a 15cm/150mm clearance behind every rung
- Maximum height of a step Ladder is 6m
- Fixed ladders need a rest platform every 9m

Extension Ladder Over Lap:

- Overlap for an extension ladder of 11 m or less is 1.00m
- Overlap for an extension ladder of 11 - 15 m is 1.25m
- Overlap for an extension ladder of 15 - 22 m is 1.50m

DAMAGED LADDERS MUST BE TAGGED AND DESTROYED