

CONSTRUCTION

Portable Ladder Safety

This bulletin provides general information on ladder safety. It is important to realise that there are limits to the safe use of a ladder. Most accidents involving ladders occur because these limits are exceeded.

Standards for portable ladders

Portable ladders should comply with the requirements of the relevant [Australian Standard](#):

- [AS/NZS 1892.1](#):1996 Portable ladders Part 1: Metal
- [AS 1892.2](#):1992 Portable ladders Part 2: Timber
- [AS/NZS 1892.3](#):1996 Portable ladders Part 3: Reinforced plastic
- [AS/NZS 1892.5](#):2000 Portable Ladders - Selection, safe use and care

Points to be observed when using ladders

1. All ladders should be adequately supported at the base

Wet grass with soft soil beneath it, or a makeshift support under one side are not acceptable.

If the surface is too soft to support the ladder, use a plank or board under the feet of the ladder to stop them from sinking. Depending on the degree of unevenness, a plank or board under one or both feet may be adequate, providing the plank(s) are stable, ie. much wider than the thickness, and large enough not to sink into the ground on one side. If the ground is uneven, use a purpose-made device to steady the ladder. Do not erect a ladder on a slippery surface; its stability depends on the friction at the base of the ladder.

2. A ladder should never be 'walked' by the person standing on the ladder

The word 'walked' above describes the action of a person standing at the top of a ladder who, by moving his body, causes the bottom of the ladder to lift the ends of the stiles alternately to cause the ladder to move. This is a very dangerous practice, since the ladder is not under proper control.

3. Set the ladder at a slope of approximately 4 in 1

For every metre in height, the ladder should extend out from the vertical surface at the base by about 250 mm. This will minimise the chance of the ladder falling backward or the bottom of the ladder sliding away from the wall, and is the most comfortable and safe slope for climbing and working from the ladder.

4. One ladder one person

Only one person should ever be on a ladder at any given time.

5. Always have three limbs on the ladder

It is recommended that one should **always** have three limbs on the ladder at all times.

This means either two feet and one hand, or one foot and two hands on the ladder when ascending, descending, or working on the ladder. To achieve this, always carry your tools in a tool belt, holster or pouch, not in your hands. Never attach a power tool to the side of a ladder when it is not in use.

6. Special care and equipment when working near powerlines

Beware of contacting power lines when putting a ladder into position. If you **must** work near power lines, including supply lines into a building, have them de-energised, or insulated with 'tiger tails', before placing the ladder. In addition, any ladder used near power lines should be non-conducting, such as timber (without wire reinforcement, or with the wire reinforcement recessed and insulated) or reinforced plastics, **but NOT aluminium or any metal.**

7. Never climb higher than the third rung from the top of the ladder

The ladder should be long enough to provide at least one metre (1 m) of solid support beyond the height of the task. Where it is necessary to get onto or off at the top of the ladder, it should extend at least 1 m above the level being accessed. As a general rule, a ladder should be used as a means of access and not a place of work.

8. Limit the climb to allow for a secure hold while working from ladders

If it is necessary to work from a ladder, do not climb higher than a position where the worker's shoulders are level with the top of the stiles. This allows for a secure hold to be maintained while working. Only use a ladder as a place of work if the worker can grasp the ladder near waist height, and only for tasks which allow the worker to hold the ladder with one hand. Ladders should be placed in a manner that permits the worker to face towards both the ladder and the task without leaning over the side of the ladder. When working from a ladder, **always work within easy arm's reach from the ladder.** This minimises the possibility of overbalancing and falling off. Extra care should be taken when painting eaves and fascia boards, as the ladder is usually below the work height.

9. Follow these general safety precautions when using ladders

Ladders should not be used outdoors when strong winds are blowing. If their use cannot be avoided under these conditions, the ladder must be firmly secured by tying it off or by other acceptable methods. While the ladder is being secured, it must be held firmly by another person.

Ladders are to be fitted with rubber (or similar non-slip material) feet to prevent slipping.

Ladders shall be firmly secured, or tied off. If tied, the ties should be attached to the stiles of the ladder, not the rungs. While the ladder is being secured, it should be held firmly by another person.

If it is not practicable to tie off or secure a ladder for whatever reason, the ladder must be 'footed' at the base by another person with both hands on the stiles to prevent any movement or overturn of the ladder.

10. Extension ladders

Extension ladders such as rope and pulley types, are suitable for accessing high areas such as rooftops and tall trees. One specialist design is the pole ladder, which has a curved top rung to give the ladder stability when used for accessing a pole or round column. To erect a rope and pulley ladder, place the unextended ladder into position and then extend it a few rungs at a time, using the rope. Always ensure that the latching hooks are properly engaged after each extension.

Some extension stepladders made before August 1996 used spring clips to retain the extended rear legs. While they may be used safely when the top of the extended ladder rests against a wall, **they are not safe if the top of the ladder is above the wall – when a person steps off or onto the ladder the clips may disengage and allow the ladder to fold.**

These extension stepladders must never be used in this configuration. Such ladders do not conform to the requirements of AS/NZS 1892.1:1996.

Long ladders and heavy ladders (greater than 20 kg) should only be handled by **two persons**.

11. Step ladders

Stepladders should only be used in the fully open position. They should be positioned on a stable surface, with no tendency to wobble. They should be made as rigid as possible by the use of side braces and cross braces. Some specialised types of stepladders have a working platform for standing on at their top; this platform should be surrounded by a handrail. Platform ladders should only be used for handling items that are located at a height compatible with the height of the platform.

12. Multipurpose ladders

Where used as a single ladder the length of the front edge of the stile, including feet shall not exceed 9.0m for industrial ladders.

Where used as a stepladder the length of the front edge of the stile including feet to the centre of the hinge pivot-pin shall not exceed 5.1m for industrial ladders.

Where used as a stepladder, the slope of the front and rear stiles shall not be less than 65 degrees and not greater than 80 degrees above the horizontal.

Where used as a work platform, the slope of the front and rear stiles shall not be less than 65 degrees and not greater than 80 degrees above the horizontal.

13. Fully enclosed slip resistant footwear should always be worn when using ladders

14. Ladders should be well maintained, stored under cover, with adequate support to prevent sagging

They should be inspected at regular intervals and any defects or deterioration repaired before further use. Wooden ladders should never be painted. If a preservative is used it should be transparent, and remain transparent during the life of the ladder, to enable visual inspections to detect deterioration or defects.

Damaged ladders should be taken out of service until they are repaired by a competent person or destroyed in such a manner as to render them useless, eg. by cutting into lengths of approximately 1m, or not more than 2 rungs.

15. Maximum length of ladders

The length of ladders are listed in AS/NZS 1892 : 1996 parts 1 and 3, and AS 1892: 1992 part 2

	Single	Extension	Stepladders	Trestle
Metal ladders and reinforced plastic ladders	9m industrial	15m industrial	6.1m industrial	5m
Timber ladders	runged 9.2m	15.3m	5.5m industrial 5.5m platform	5.1m

16. Load rating

- Industrial ladders have a load rating of 120kg.

Domestic ladders should not be used in an industrial environment.

For further information please contact NT Worksafe on 1800 019 155 or go to worksafe.nt.gov.au