

Use this quick reference guide to understand whether ladders can be used for a job, arrange for or ensure the safe use of ladders.

The use of ladders is work at heights

Falls from height are one of the biggest causes of workplace fatalities and major injuries. Common causes are falls from ladders and through fragile roofs.

Work at height means work in any place where, if there were no precautions in place, a person could fall a distance liable to cause personal injury. For example you are working at height if you:

- are working on a ladder or a flat roof;
- are using a ladder as a mean of access;
- could fall through a fragile surface;
- could fall into an opening in a floor or a hole in the ground.

Planning of work at heights

Those in control of any work at height activity shall make sure work is properly planned, supervised and carried out by competent people. This includes using the right type of equipment for working at height.

Low-risk, relatively straightforward tasks will require less effort when it comes to planning. Those in control shall first assess the risks.

Take a sensible, pragmatic approach when considering precautions for work at height. Factors to weigh up include the height of the task; the duration and frequency; and the condition of the surface being worked on. There will also be certain low-risk situations where common sense tells you no particular precautions are necessary.

The following elements should be considered when planning and undertaking work at height:

- take account of weather conditions that could compromise worker safety;
- check that the place (e.g. a roof) where work at height is to be undertaken is safe. Each place where people will work at height needs to be checked every time, before use;
- stop materials or objects from falling or, if it is not reasonably practicable to prevent objects falling, take suitable and sufficient measures to make sure no one can be injured, e.g. use exclusion zones to keep people away or mesh on scaffold to stop materials such as bricks falling off;
- store materials and objects safely so they won't cause injury if they are disturbed or collapse;
- plan for emergencies and rescue, e.g. agree a set procedure for evacuation. Think about foreseeable situations and make sure employees know the emergency procedures. Don't just rely entirely on the emergency services for rescue in your plan.

When can a ladder be the most suitable equipment?

Ladders don't offer any protection from a fall. Before considering a ladder, you must work through these simple steps:

1. avoid work at height where it is reasonably practicable to do so;
2. where work at height cannot be avoided, prevent falls using either an existing place of work that is already safe or the right type of equipment;
3. minimise the distance and consequences of a fall, by using the right type of equipment where the risk cannot be eliminated.

Figure 1 provides further guidance and examples for each of the above steps. Ladders can only be used after having considered the 3-step sequence above.

For further information, refer to: [Z's Working at height Safe Work Practice](#).



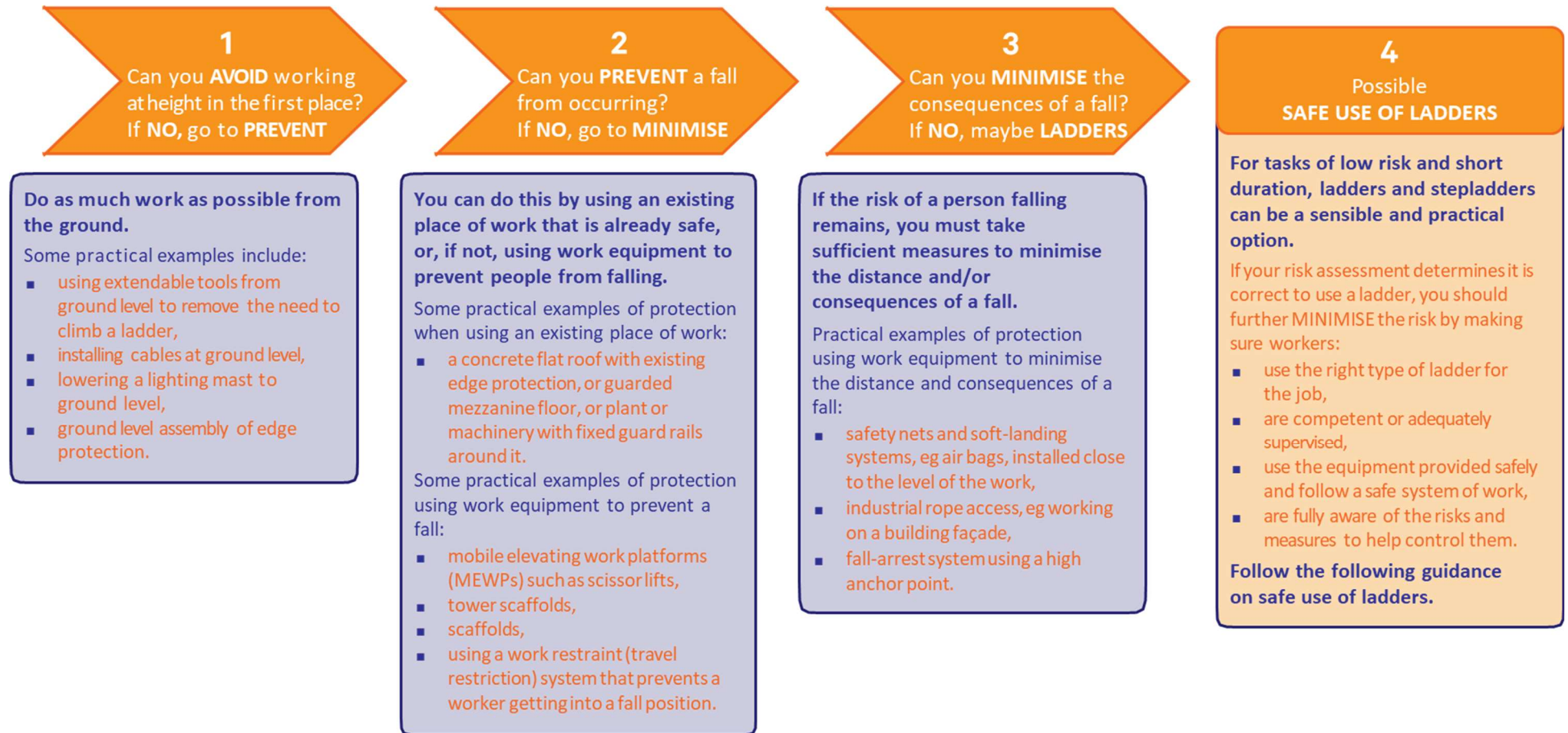


Figure 1 – Can a ladder be used?






If your risk assessment determines it is appropriate to use a ladder, you shall further MINIMISE the risk by making sure:

1. the right type of ladder for the job is being used,
2. those engaging in the task are competent or adequately supervised,
3. a thorough pre-use check is carried out,
4. the ladder is properly set up and secured,
5. the equipment provided is used safely and following a safe system of work.

1. Identifying the right type of ladder for the job

The table below helps determine the appropriate ladder type and the conditions the equipment shall meet for the different types of ladder use:

- **access:** use of a ladder for accessing a work platform, roof or other temporary or permanent structure;
- **visual inspection:** use of ladder for accessing points to visually gather information (which cannot be obtained by other means (e.g. camera mounted on telescopic stick, drone));
- **manual work:** use for ladder for low risk and short duration tasks (i.e. minutes) when other means of access do not exist. Single-step stools and single-steps blocks may also be used.

Type of use	Access		Visual inspections	Visual inspections	Manual work
Ladder type	Rung or step type fixed ladders	Single and extension ladders	Platform ladders with handhold		
					
Z limits of use	Fixed, single and extension ladders shall not be used to access a landing level (top of the roof or structure accessed) or conduct visual inspections at more than 5.0m.	Single and extension ladders shall be secured at both ends regardless of length.	Platform ladders shall have a handhold at the top. Platform ladders shall not have platforms situated at more than 3.0m from the ground surface.		
Standard	Fixed ladders shall comply with standard AS1657.	All portable ladders shall comply with one of the AS/NZS 1892 (series) standards: <ul style="list-style-type: none"> • AS/NZS 1892.1 – 1996 Portable Ladders Part 1: Metal. • AS/NZS 1892.3 – 1996 Portable Ladders Part 3: Reinforced Plastic. Compliance of the ladder can be confirmed on the manufacturer's label. A ladder's integrity shall not be modified (i.e. not removing, not replacing, not adding parts).			
Duty rating	Rung and step type fixed ladders shall be of the appropriate duty (light, medium, heavy or special) and load rating for the environment and tasks of performance. A label shall be displayed at entry point.	All portable ladders shall be of Industrial Duty rating. Domestic Duty ladders are unsuitable for use at Z. The duty rating of a ladder can be confirmed on the manufacturer's label.			
Load rating		All portable ladders shall have a load rating of no less than 120kg, and sufficient to handle the combined weight of the workers and tools. The load rating of a ladder can be confirmed on the manufacturer's label.			
Height/reach	When possible fixed ladders shall be angled. Intermediate rest/landing platforms shall be installed at least every 3.0m.	All ladders shall be of appropriate height for the job to be completed. Single and extension ladders shall be extended 1m (approx. 4-5 rungs) above the landing level (top of the roof or structure) when set up at a 4-to-1 ratio.			
Material	Ladders may be made of aluminium or fibreglass. The appropriate material will depend on the task that needs to be performed. <ul style="list-style-type: none"> • Aluminium ladders are sturdy, relatively lightweight, and resistant to corrosion and weathering. • Fibreglass ladders are the sturdiest and most weather-resistant ladders. When doing electrical work, ladder made of non-conductive materials (such as fibreglass) shall be used. Do not use metal ladders or ladders with steel reinforcements where electrical hazards exist.				
Manoeuvrability	Fixed	Portable	Portable or movable		



2. Competency and supervision for the use of ladders

To use a ladder one needs to be competent. Competence requirements may be no more than making sure workers receive appropriate instruction and training on how to pre-use check, set up, secure, and use the equipment safely. Training can take place on the job, it does not need to take place in a classroom.

Anyone who is not yet fully competent shall work under additional specific supervision of somebody who can perform the task competently.

3. Pre-use check for ladders

Before using a ladder, one shall always carry out a 'pre-use' check to spot any visual defects to make sure the ladder is safe to use.

A thorough pre-use check shall be carried out:

- by the user;
- prior to the commencement of the use;
- after something has changed, e.g. a ladder has been dropped or moved from a dirty area to a clean area (check the state or condition of the feet).

The thorough pre-use check should consider the following:

- **Check the general condition** – cracked or damaged welded joints, loose rivets or damaged stays.
- **Check the rubber feet** – if they are missing, worn or damaged the ladder could slip. Also check ladder feet when moving from soft/dirty ground (e.g. dug soil, loose sand/stone, a dirty workshop) to a smooth, solid surface (e.g. paving slabs), to make sure the foot material and not the dirt (e.g. soil, chippings or embedded stones) is making contact with the ground.
- **Check the stiles/rails** – make sure they are not twisted, bent, dented or damaged, as the ladder could buckle or collapse.
- **Check the rungs/steps** – if they are cracked, bent, worn, missing or loose they could collapse, if they are contaminated, they could be slippery;.
- **Check any platform** – if it is split or buckled the ladder could become unstable or collapse.
- **Check any locking mechanism** – if they are bent or the fixings are worn or damaged the ladder could collapse. Ensure any locking bars are engaged.

If any of the above defects is detected, the ladder shall not be used and a manager contacted to discuss of an alternative.

4. Setting up and securing ladders

So they can be used safely all ladders shall be set up and secured appropriately.

Setting up a ladder appropriately requires the following conditions being met:

- **under safe weather** – ladders should be avoided under rainy weather and not be used in high wind conditions;
- **on firm ground**;
- **on level ground** – refer to the manufacturer's pictograms on the side of the ladder. Use proprietary levelling devices, not ad-hoc packing such as bricks, blocks, timbers etc.;
- **on clean, solid surfaces** – i.e. paving slabs, floors etc that are clean (no oil, moss or leaf litter) and free of loose material (sand, packaging materials etc) so the feet can grip. Shiny floor surfaces can be slippery even without contamination;
- **where they will not be struck by vehicles** – i.e. away from traffic area or protected using suitable barriers or cones;
- **where they will not be pushed over by other hazards such as doors or windows** – i.e. secure the doors (not fire exits) and windows where possible;
- **away from powerlines** – safe distance of at least 5.0m from overhead power lines shall be applied, unless it is certified the power line has been made dead or that it is protected with insulation;
- **safe from the public/visitors** – i.e. where the general public are prevented from using it, walking underneath it or being at risk because they are too near (use barriers, cones or, as a last resort, a person standing guard at the base).



Securing single and extension ladders appropriately:

Single and extension ladders shall only be used against a strong upper resting point, (i.e. do not rest a ladder against weak upper surfaces such as glazing or plastic). They shall be set up with an angle of 75° (i.e. 1 unit out for every 4 units up) and always be secured at both ends (see figure2) to prevent slipping sideways or outwards or falling backwards.

Key steps for effectively securing a ladder:

- tying the ladder to a suitable point, making sure both stiles are tied;
- where this is not practical, securing with an effective ladder stability device;
- if this is not possible, then securely wedging the ladder, e.g. wedging the stiles against a wall;
- if you can't achieve any of these options, footing the ladder. Footing is the last resort. Avoid it, where 'reasonably practicable', by using other access equipment.

To provide a secure handhold, never go beyond the third step from the top – ensure you have at least 1 meter (three rungs) extending past the point to which you are stepping off from.

Note: Tying and stability devices shall be visually pre-use checked in accordance with the manufacturer's instructions.

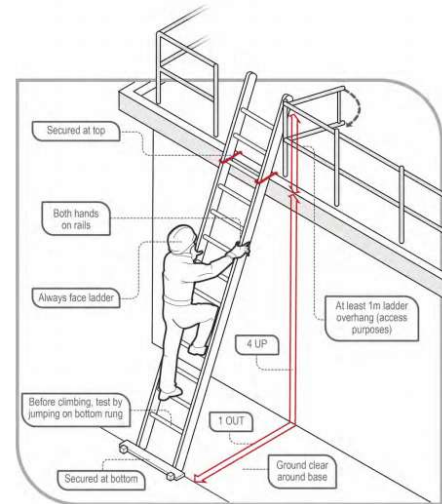


Figure 2 – Example of acceptable ladder use

5. Using ladders safely

Safe System of Work: Using a ladder is working at heights and as such certain elements from Z Safe System of Work apply to this activity:

- **Task Analysis:** For all work at heights (what includes any use of a ladder), independently of the heights, a Task Analysis (SWMS, JSA or SOP) shall be formalised and implemented.
- **Permit to Work:** Prior to any work at heights (what includes any use of a ladder), at a height exceeding 1.8 metres (measured from the lowest point of the workers body), a Permit to Work and a Work at Heights Certificate shall be obtained from a Permit Issuer. This requirement does not apply to work on scaffolds or Elevated Working Platform at less than 5.0 metres height.

Safety steps when using ladders: When using a ladder:

- **Ensure the stays and clips/locking devices are engaged** on extension and platform ladders;
- **Position the ladder to face the work activity** and avoid side on loading such as side-on drilling through solid materials (e.g. bricks or concrete);
- **Don't move or extend ladders while standing on the rungs;**
- **Don't stand ladders on moveable objects**, such as boxes, barrels, pallets, bricks, lift trucks, tower scaffolds, excavator buckets, vans, or mobile elevating work platforms;
- **Check all ladder feet** are in contact with the ground and the steps are level;
- **Don't overload the ladder** – consider the worker's weight and the material and tools involved before working at height. Confirm the ladders load rating on the label of the ladder;
- **Don't overreach** – always face the ladder rungs while climbing/descending and make sure your belt buckle (navel) always stays within the stiles, do not lean out beyond the stiles;
- **Carry tools in a toolbelt** or raise tools up using a hand line – never put tools on the rungs or carry tools in your hands while climbing/descending a ladder.
- **Keep three points of contact on the ladder at all times** – two hands and one foot, or two feet and one hand while climbing/descending, and two feet and one hand when working.
- **Maintain ladder's compliance** – any repair to a ladder should be carried out using the original manufacturer's design specifications or preferably done by the manufacturer representative.

The recommendations on safe use of the manufacturer of the ladder should also be followed.

Derogations

The [ZORM derogation process](#) shall be followed prior to any deviation from this guidance.

