PREVENTION OF FALLS – LADDERS

1ST EDITION

JUNE 2005

The following information is provided for people in the workplace who have responsibilities under the Occupational Health and Safety (OHS) Act 2004 for ensuring a safe and healthy environment. This guidance is intended to illustrate practical methods of reducing the likelihood of injuries from falls, both above and below two metres. You should also check the Occupational Health and Safety (Prevention of Falls) Regulations 2003 and the OHS Act to determine the legal requirements that relate to your specific situation.

Ladders have been commonly used to provide convenient access to a higher or lower level and to perform light duty tasks at height. Each year, many serious injuries result from falls from ladders. Over-reaching, trying to carry out heavy tasks or simply not setting the ladder up securely are among some of the common causes of falls.

The OHS (Prevention of Falls) Regulations 2003 place ladders in the lowest level of control of falls risks. While ladders are not prohibited by the Regulations, the Regulations do state that if an employer chooses a fixed or portable ladder to control risk of a fall, the employer must ensure that the ladder is appropriate for the task to be undertaken and is appropriate for the duration of the task and that it is set up in a correct manner.

The Regulations require if an employee is to undertake a task that involves the possibility of a fall from height, the employer must ensure that the risk of a fall is assessed and then eliminated. If it is not reasonably practicable to eliminate the risk then the risk is reduced so far as is reasonably practicable.

The Regulations provide for a 'hierarchy' of controlling risks relating to working at height and they are, in order of preference:

1. Work on the ground or on a solid platform.
2. Passive fall protection devices (e.g. temporary work platform, scaffolding, roof safety mesh or guard railing).
3. Work positioning systems (industrial rope access system or a travel restraint system or any other equipment other than a temporary work platform that enables a person to be positioned and safely supported at a work location for the duration of the task being undertaken at height).
4. Fall injury prevention systems (e.g. industrial safety net, catch platform or safety harness systems other than a travel restraint system.
5. Ladders (fixed or portable) and administrative measures.

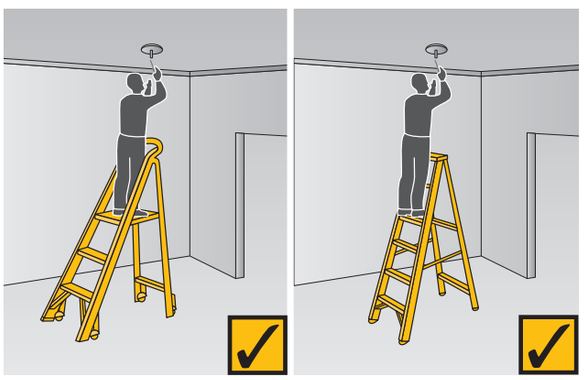
New and practical alternatives to using traditional ladders are appearing frequently in response to the need to prevent falls and the Regulations. It is important that you ask your equipment supplier about new products and keep in touch with the latest information on preventing falls from height.

BEFORE CONSIDERING USING A LADDER

Give consideration to whether:

- the job can be undertaken from the ground with extension tools;
- the construction or repair of the item or part of it can be undertaken on the ground;
- the item being accessed can be relocated to ground level to eliminate the need to work at height temporarily or permanently;

- an elevating work platform such as a scissor lift or cherry picker, or a fixed or mobile work platform can be used;
- scaffolding or use of a mobile scaffold can be used;
- a work positioning system such as a travel restraint or industrial rope access system can be used;
- a step platform can be used; and
- fixed stairs or steps can be installed that comply with relevant Australian Standards and building codes.



1.0 Mobile step platform and ladder used for work near a ceiling. (Note: mobile step platform provides a more stable surface to work from.)

If the above measures cannot be used or are not reasonably practicable for the given situation, then it may be appropriate to use a ladder provided it can be used safely.

USING LADDERS AS AN INTERIM MEASURE

Where a safer alternative for preventing a fall has been identified but there will be some delay in implementation due to purchasing, design, manufacturing or installation, then in some instances ladders may be suitable as an interim measure. That is, providing the ladder will only be used for a very short period of time until a safer alternative becomes available and a risk assessment demonstrates the ladder can be used safely given the circumstances.

RISK ASSESSMENT INVOLVING USE OF A LADDER

If a task must be done where there is a risk of a person falling more than two metres, a risk assessment must be undertaken of that task by law. The risk assessment must consider:

- the type of task and how long the task will take; and
- the physical surroundings and conditions in which the task is undertaken.

2.0 Highly dangerous practices involving the use of ladders.

If it's proposed to use a ladder to do a job then some factors that could be considered are:

- Is the person who will undertake the task new to the task, still in training or not trained at all?
- Will the job involve heavy work or the use of both hands to hold something?
- Will the job involve the use of tools such as stillsons or pinchbars that require a high degree of leverage that may result in someone overbalancing or falling?
- Does the task need power tools or other equipment designed to be operated with two hands?
- Will the person be required to work on the ladder for more than a couple of hours increasing the likelihood of fatigue?
- Will the task require someone to work outside of the ladder styles and possibly over-reach causing the ladder to slip sideways?
- Does the task need to be undertaken in wet weather or where the ladder surface is likely to be slippery or become slippery over time?
- Does the task need to be conducted in windy weather where the ladder may move sideways or backwards?
- Will the job involve work near electricity such as powerlines, neon signs, live wires, etc? If so, is a metal ladder the only ladder available to work on in this situation?
- Could the weight of tools and materials required to do the job exceed the ladder capacity or increase the risk of a fall occurring in some way?
- Are the surfaces the ladder will rest on unstable in any way?
- Is anything likely to hit the ladder when it's set up such as ropes, cables, other workers, pedestrians, traffic, etc?
- Is there anything stopping the ladder from being set up or secured properly?
- Is the ladder too short to allow the person to stand on a rung at least 900mm from the top or stand on or below the second tread below the top plate?

- Does the person have to face away from the ladder when going up and down or working on it?
- Is the place for someone to stand after alighting from the ladder unsafe in anyway?
- Does the ladder show any evidence of faults such as missing, cracked, broken, loose, worn or warped parts?
- Are there any other factors present that might increase the risk of a fall from a ladder?

If the answer to any of the above questions is yes, then either additional measures will need to be put in place to allow the task to be done safely or else the task cannot be done using a ladder or it may not be able to occur at all. If adequate safety measures are not available to undertake a task safely you may need to wait until measures are made available or conditions change or you have a measure purposely designed and built if applicable.

Where a ladder is to be used it may be necessary to have a second person and/or witches hats or a barrier on hand to ensure the ladder is not knocked by passing traffic, pedestrians or animals as a routine precaution. An extra person may also be required for assisting with the raising or lowering of plant or materials.

SOME EXAMPLES WHERE USING A LADDER MAY BE ACCEPTABLE

The following are some examples where a risk assessment may indicate that it is acceptable to do work using a ladder:

- As a suitable means of getting to and from scaffolding or large pieces of equipment or the roof of a small building or structure.

3.0 Use of ladders to access:
a) different levels of a crane and
b) the roof of a tanker.

- Inspecting, assessing or undertaking minor maintenance on items or fixtures near the eaves or ceiling of a small building or structure.
  Example: changing a light bulb; cleaning or fixing vents; inspecting or servicing air-conditioning units, hot water services, telecommunication or security devices; cleaning gutters or downpipes; inspecting and undertaking minor maintenance of devices associated with doorways.
- Installing lightweight items or fixtures near the eaves or ceiling of a small building or structure.
  Example: installing hooks, nails, ornaments, basic shelving, pot plants, small signs or simple light fittings that do not involve wiring.
- Inspecting and pruning trees and shrubs where other measures cannot access the site or be used safely or are clearly not reasonably practicable given length of task and/or circumstances.
- Where loading and unloading of material and checking of loads is required and other control measures cannot be used due to access or transportability/storage issues or not reasonably practicable given length of task and/or circumstances.

4.0 Person using a ladder working near the edge of a small structure – this situation is okay where the task is light and of short duration and the person can face the ladder and not over-reach.

- Cleaning, maintenance or inspection tasks involving work areas where there is limited space for access for other control measures such as inside tanks, vats, cellars, pressure vessels and other confined spaces.

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5.0 Ladder being used to inspect a ceiling space.

- Inspection and maintenance of items on communication and utility towers where other control measures are not reasonably practicable due to access difficulties or lack of permanent access ladders and walkways.
- Where shelving or storage facilities are only accessed for inspection or minor maintenance on a weekly or lesser frequency.
- Accessing lightweight items on shelving or in storage facilities only a few times a month.

SOME EXAMPLES WHERE USING A LADDER AS THE SOLE SAFETY MEASURE WOULD NOT BE ACCEPTABLE

Ladders should not be used where a risk assessment identifies other control measures that would allow the task to be done more safely such as:

- Where it's reasonably practicable to undertake a task or part of a task on the ground or a solid platform, or using a passive fall prevention device such as an elevated work platform, scaffolding or a work positioning system. *Example: where long-handled devices can be used to clean windows, prune small trees and branches and retrieve balls from roof guttering; elevated work platform used to check storage levels in a tank or vat.*
- Where the task is only going to take a few minutes and adequate step platforms can be used safely for the task and are reasonably practicable *Example: accessing or stocking supermarket and other similar shelving.*
- Where large, heavy or bulky items need to be installed or removed. *Example: installing/removing air-conditioners, hot water services, large displays or frames.*
- Where ladders cannot be set up correctly for safe use. *Example: where there is a likelihood of the ladder slipping sideways or backwards or the person being knocked off the ladder.*
- Where the only type of ladder available is not suitable for the task at hand. *Example: metal ladder to undertake work near electricity and powerlines, load weight of person and material either do exceed or is likely to exceed the ladder capacity.*
- Where faults in the ladder are observed on inspection.
- Where a task involves someone working at height and there is a significant risk of the person falling and being seriously injured or killed.

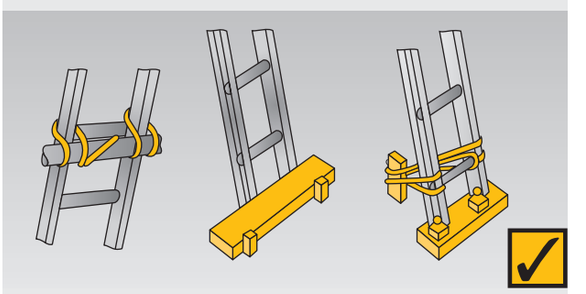
INFORMATION ON HOW TO USE LADDERS CORRECTLY

Setting Up a Ladder Safely

To use a ladder safely it must be used on a solid and stable surface so as to prevent the ladder from slipping.

Slipping can be prevented by:

- ensuring the ladder has non-slip feet;
- placing single and extension ladders at a slope of four to one, and setting up stepladders in the fully opened position; and
- securing single and extension ladders at both the top and bottom.



6.0 Ways of securing the top and bottom rungs of ladders.

Using a Ladder Safely

People using ladders should:

- make sure that the ladder is clear of powerlines;
- use non-conductive ladders when working on live electrical installations;
- set up the ladder in places where there is no chance of the ladder being hit or knocked;
- work from within the ladder stiles and not over-reach. Over-reaching can lead to the ladder tipping sideways;
- always have two hands free to climb up and down;
- not use tools that require a high degree of leverage, such as stillsons or pinch bars. This may result in overbalancing or falling;
- make sure that no one works underneath the ladder;

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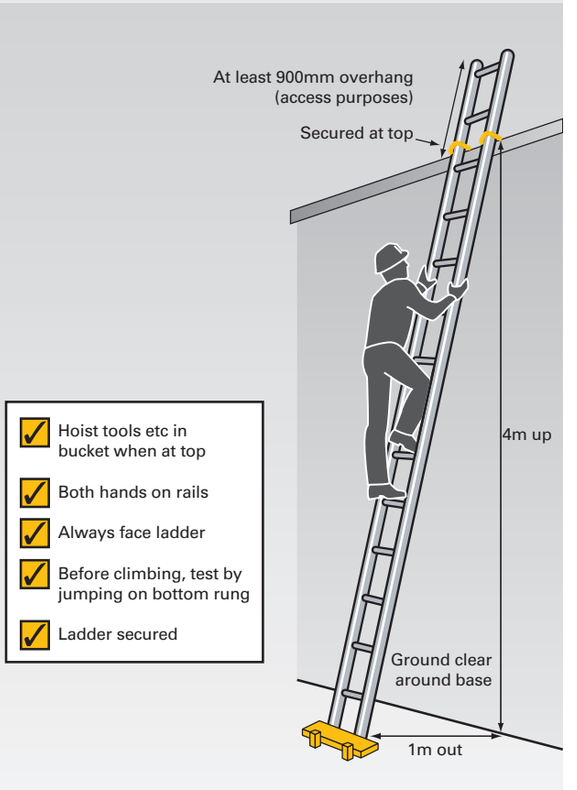
- not allow anyone else to be on the ladder at the same time. (Exception: Emergency Services personnel in certain circumstances); and
- ensure that there is a safe place to stand when alighting from the ladder.

Wherever possible people using ladders should always:

- face the ladder when going up or down or when working from it;
- stand on a rung that is at least 900mm from the top of a single or extension ladder; and
- stand on or below the second tread below the top plate of any stepladder.



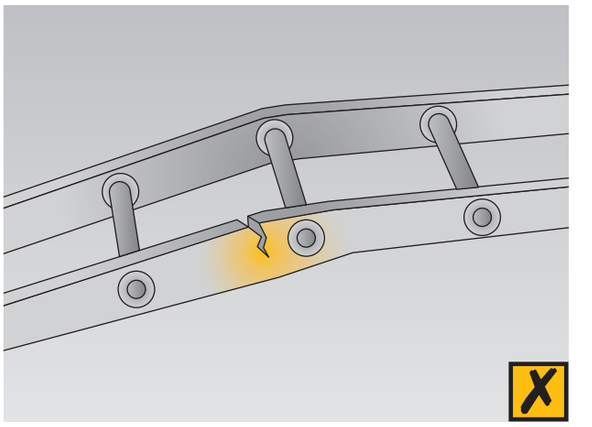
7.0 Safe practices involving the use of a ladder.

LADDER MAINTENANCE

A ladder needs to be regularly inspected to make sure that it does not pose a risk in itself. Ladders with any of the following faults should be replaced or repaired:

- timber stiles that are warped, splintered, cracked or bruised;
- metal stiles that are twisted, bent, kinked, crushed or with cracked welds or damaged feet;
- rungs, steps, treads or top plates that are missing, worn, damaged or loose;
- tie rods that are missing, broken or loose;
- ropes, braces or brackets that are missing, broken or worn; and
- timber members that, apart from narrow identification bands, are covered with opaque paint or other treatment that could disguise faults in the timber.

Ladders should not be painted as essential safety information may be obscured.



8.0 Ladder with broken, worn and bent parts.

MORE INFORMATION

WorkSafe Victoria

Specific information on working at heights can be obtained by contacting WorkSafe on 1800 136 089.

Acts and Regulations

Occupational Health and Safety Act 2004

Occupational Health and Safety (Prevention of Falls) Regulations 2003

Occupational Health and Safety (Plant) Regulations 1995

Acts and regulations are available from Information Victoria on 1300 366 356 or online at www.dms.dpc.vic.gov.au.

Publications

Prevention of Falls in General Construction (Code of Practice No. 28, 2004)

Prevention of Falls in Housing Construction (Code of Practice No. 29, 2004)

Guide to Manual Order Picking

Forklift Safety

These Codes and other falls prevention information are available from WorkSafe at **worksafe.vic.gov.au.**

Australian Standards

Standards Australia has some useful information on ladders and fall protection devices available from www.standards.com.au.

Other tools that may assist with fall prevention

- Job analysis sheets
- Visual observations of work process
- Industry, union and professional publications and forums
- Suppliers and suppliers magazines
- Manufacturer's instructions
- Consultation with Emergency Services on emergency procedures required for a particular job

Acknowledgements

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WORKSAFE VICTORIA

Advisory Service

222 Exhibition Street
Melbourne 3000

Phone 03 9641 1444
Toll-free 1800 136 089

Email. . . . info@worksafe.vic.gov.au
Web. . . . . .worksafe.vic.gov.au

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