

Code of practice



Prevention of Falls at Workplaces – General

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1. Introduction

1.1 What is a code of practice?

An approved code of practice is a practical guide to achieving the standard of health and safety required under the *Work Health Act* and the *Work Health (Occupational Health and Safety) Regulations*.

An approved code of practice should be followed unless there is an alternative course of action which achieves the same or a better standard of health and safety for workers.

An approved code of practice is designed to be used with the Act and Regulations but does not have the same legal force. A person or company cannot be prosecuted for failing to comply with an approved code of practice. However, in proceedings taken under the Act or Regulations, failure to observe a relevant approved code of practice can be used as evidence that a company or person has contravened or failed to comply with the provisions of the Act or Regulations.

An approved code of practice is any document approved by the Minister for Work Health. It comes into effect on the day the notice of this approval is published in the Northern Territory Government Gazette.

1.2 Scope

This code of practice relates to work conducted where there is a risk of people or materials falling.

Work is conducted where a free fall of 3 metres or greater is possible, specific fall prevention mechanisms such as those described in this code must be included as part of that work.

Work conducted with a potential free fall of less than 3 metres is subject to a risk assessment as described in this code. Many situations which present a free fall potential under the three metres will still require specific fall prevention measures.

2. General principles for managing the prevention of falls in workplaces

The basic principles for the prevention of falls in workplaces is consistent with the process adopted for managing other workplace hazards.

2.1 Duties of designers and planners

2.1.1 Regulation 10 - Manufacturers

Subject to these Regulations, a person who designs plant or structures for use at a workplace shall -

- (a) insofar as is relevant to the health and safety of workers and other persons at the workplace, ensure that the design of the plant or structure complies with these Regulations; and
- (b) ensure the plant or structure is designed to minimise the risk to the health and safety of workers and other persons at or in proximity to the workplace.

Architects, engineers or any other person planning or designing a building or structure, have a general duty of care to ensure that the design and construction allows persons to properly construct, maintain, repair or service the building or structure in a safe manner.

This duty of care also extends to any person who may be involved in the demolition, modification, renovation, maintenance or normal operation of a building, structure or plant.

It is therefore important at the design and planning stage to give consideration to the prevention of falls not only during construction but also for subsequent use or maintenance of the building, structure or plant.

2.2 Considerations for designers and planners

Have the following been considered?:

- safe access to or egress from any work area;
- provision of permanent guard rails or edge protection;
- use of temporary work platforms (eg. scaffolds, elevated work platforms);
- location and operation of plant and equipment;
- use of fall arrest systems and devices, including the provision of suitably located temporary and permanent anchorage points; and
- provision of safety nets.

Other matters which should be considered include:

- reducing the risk when working at heights (eg. the installation of guard rails to perimeter structural members prior to erection);
- reducing the need to work at heights by pre-fabricating modules on the ground before lifting them into position;
- the siting and condition of access roads, for example to enable a crane to place building material in the most appropriate and accessible location; preparation of the ground or floor below the work area. It should be compacted and level to support plant or equipment (eg. cranes and scissor lifts);
- Preparation of the ground or floor below the work area. It should be compacted and level to support plant or equipment (eg cranes and scissor lifts);
- provision of permanent safety mesh;
- location of and access to equipment for maintenance purposes;
- location of amenities;
- identification and location of services (eg. power lines); and
- first aid facilities and trained personnel where necessary.

2.3 Duties of employers

2.3.1 Regulation 38 - Hazard Identification and Risk Assessment

- (1) An employer, in implementing these Regulations, shall ensure that appropriate measures are undertaken to identify all hazards from work which may affect the health and safety of a worker and any other person who could be affected by the work.
- (1A) Where a hazard is identified under subregulation (1), an employer shall ensure that an assessment is made of the risk associated with the hazard.
- (2) Without limiting subregulations (1) and (1A), the identification of hazards and the assessment of risks shall be undertaken -
 - (a) before the introduction of any plant or substance for the first time at a workplace;
 - (b) before work of a type not previously performed at a workplace is commenced;
 - (c) when there is a change in the type of work, work practices or plant at a workplace that may result in an increased risk to the health and safety of a worker or other person at the workplace; or
 - (d) when information becomes available concerning work, work practices, plant or substances at a workplace that may impact on the health and safety of a worker or other person at the workplace.
- (3) An assessment by an employer of a representative example of specific work or circumstances shall constitute an assessment under this regulation

for all similar work or circumstances which occur at the workplace or other workplaces at which a worker of the employer works.

- (3) Where an assessment under subregulation (1) indicates that there is a significant risk to the health and safety of a worker or other person, steps to be taken to meet the requirements of these Regulations shall be identified.
- (4) An assessment under subregulation (1) shall be revised when there is evidence to indicate that it is no longer valid, or in any case, at intervals not longer than 5 years.
- (5) An employer shall keep a record of all assessments made under this regulation -
 - (a) for a period of 30 years after the last review, where the assessment relates to exposure of a worker to a hazardous substance and the assessment indicates a requirement for health surveillance or for monitoring of a worker's exposure to the substance; and
 - (b) for a period of 5 years after the last review, for all other assessments.
- (6) An employer shall make a record kept under subregulation (5) available, on request, to a worker who is or may be exposed to a risk to which the record relates.

2.3.2 Regulation 47A - Prevention of falls

- (1) Where a worker is required to work -
 - (a) in or on an elevated workplace from which he or she could fall;
 - (b) in the vicinity of an opening through which he or she could fall;
 - (c) in the vicinity of an enclosure or container into which he or she could fall;
 - (d) on a surface through which he or she could fall; or
 - (e) in any other place from which he or she could fall, and there is a reasonable likelihood that the worker could be injured if he or she were to fall, then protection against the fall shall be provided -
 - (f) by the provision of a safe means of access to the workplace;
 - (g) by the provision of secure fences, edge protection, working platforms, covers or other forms of safeguarding; or
 - (h) where the protection provided by paragraphs (f) or (g) is not practicable, by the provision and maintenance of safe systems of work.
- (2) Safeguarding provided for the purposes of subregulation (1)(g) shall be kept in good condition and shall not be removed while the work is being performed except, so far as is necessary, to allow access or egress of a person or the shifting of plant or material.

To assist in identifying where a person may fall, consideration should be given to:

- injuries arising from falls that have occurred at the workplace or other similar workplaces;
- 'near miss' incidents or accidents related to falls at the workplace or other similar workplaces relevant codes of practice and guidance notes;
- consultation with employees to find out what problems they may have in performing their jobs;
- consultation with health and safety representatives and health and safety committees;
- consultation with self employed persons or contractors to find out if they are having or likely to have problems in performing their jobs;
- walk through inspections of the workplace (consider checklists); and
- records or statistics which indicate potentially unsafe work practices.

As part of the hazard identification, risk assessment and control process, procedures and work practices should be closely addressed. Safe work practices and documented procedures should be established before work commences. These should be drawn up in a consultative approach by all interested parties.

Factors which can cause a fall include:

- moving from one surface to another
- the surface is not capable of supporting a load
- openings or holes are not identified or protected
- open edges are not protected
- levels change
- hand grip is lost
- surfaces are slippery
- ladders used incorrectly
- surfaces move
- struck by moving or falling object
- weather conditions
- exposure to electricity or chemicals
- fall arrest systems and devices are used incorrectly

2.3.3 Regulation 39 - Control of risk

- (1) An employer shall ensure that a worker's exposure to a hazard at a workplace is controlled to minimise the risk to the health and safety of the worker.
- (2) Where there is a need under subregulation (1) to control a worker's exposure to a hazard, the control shall be achieved, as far as **practicable***,

through the progressive application of one or more of the following measures:

- (a) the elimination of the hazard from the workplace;
- (b) the substitution of the hazard with something that is a lesser hazard;
- (c) the isolation of the hazard from the worker;
- (d) the control of the hazard by engineering means;
- (e) the control of the hazard by administrative means, including the adoption of safe working practices;
- (f) the use of personal protective equipment.

It is important to regularly review the steps, especially if there are changes in the work environment, when new technology is introduced or standards are changed.

*** the meaning of the word “Practicable”**

Some of the general duty provisions in the Act and some requirements in the Regulations are qualified by the words “so far as is practicable”.

“Practicability” applies to general duties for employers, self-employed people, people with control of workplaces, designers, manufacturers, importers, suppliers, erectors and installers, and to certain requirements in the Regulations. These people are expected to take practicable and reasonable measures to comply with the requirements.

If something is practicable, it is capable of being done. Whether it is also reasonable takes into account:

- the severity of any injury or harm to health that may occur;
- the degree of risk (or likelihood) of that injury or harm occurring;
- how much is known about the hazard and the ways of reducing, eliminating or controlling it; and
- the availability, suitability and cost of the safeguards.

The risk and severity of injury must be weighed up against the overall cost and feasibility of the safeguards needed to remove the risk.

Common practice and knowledge throughout the relevant industry are taken into account when judging whether a safeguard is “reasonably practicable”. Individual employers could not claim that they did not know what to do about certain hazards if those hazards are widely known by others within industry, and safeguards were available.

The cost of putting safeguards in place is measured against the consequences of failing to do so. It is not a measure of whether the employer can afford to put the necessary safeguards in place.

While cost is a factor, it is not an excuse for failing to provide appropriate safeguards, particularly where there is risk of serious, or frequent but less severe, injury.

Where a regulation exists and is not qualified by the words “as far as is practicable”, the regulation must be complied with as a minimum requirement.

In some instances, a combination of control measures may be appropriate. Control measures should be designed:

- to eliminate or reduce the risks of a hazardous work process and to minimise the effects of injury or disease; and
- to reduce the risk of exposure to a hazardous substance.

2.3.4 Specific control measures for the prevention of falls

Specific control measures include:

- designing and planning new buildings, structures or plant with consideration to the prevention of falls;
- ensuring that designs or plans to modify existing buildings, structures or plant consider the prevention of falls;
- looking at the way jobs can be done safely to eliminate or reduce the likelihood of a fall;
- organising and sequencing work so that people do not interfere with or increase the risk of a fall for themselves or others;
- identification, collection and presentation of information and knowledge required by contractors to enable them to work safely; and
- identifying the training or knowledge required to work safely if there is the risk of a fall.

Control measures are not mutually exclusive. That is, there may be occasions when more than one control measure must be used to reduce the risk of a fall.

2.3.5 Regulation 43 - Information, instruction and training

- (1) An employer shall ensure that a worker receives sufficient information, instruction and training in the work that the worker may be required to perform to enable the worker to perform the work without risk to the health and safety of the worker or any other person.
- (2) The information, instruction and training to be provided under subregulation (1) shall be determined according to the nature of the risk associated with the work to be performed by the worker and the competency of the worker, and shall be provided in a manner appropriate to the workplace.
- (3) An employer shall ensure that -
 - (a) information, instruction and training provided under subregulation (1) is reviewed and revised at regular intervals; and
 - (b) a record is kept of the information, instruction and training provided to a worker.

Employers must also provide proper instruction and training. This is important and should take into account the functions of each employee to provide them with the necessary skills and knowledge to enable them to perform their work safely.

2.3.5.1 Training programs

An effective training program should have at least the following features:

- a careful analysis of training needs which identifies the tasks to be performed and the hazards associated with those tasks;
- the level of competency to be achieved as a result of training; and a program which encompasses:
 - entry standards and induction programs for learners;
 - learning objectives;
 - selection of training aids (eg. use of graphics, videos, printed material etc.);
 - adequate testing;
 - evaluation of results in relation to their usefulness to the industry;
 - recognition of skills attained where applicable (eg. accreditation).

2.3.6 Specific training measures for the prevention of falls

2.3.6.1 Induction

Induction programs are essential for new employees and for those taking up new jobs or where work situations have changed. Induction can be the first experience or initiation for a person new to the job or a particular work environment.

Information given during an induction should include:

- workplace policies and procedures;
- how to identify hazards;
- reporting of hazards;
- reporting of accidents or incidents;
- how to carry out the job in a safe and healthy manner;
- information on hazardous work practices;
- use, fitting, storage and maintenance of personal protective equipment;
- where to obtain occupational safety and health information; and
- emergency evacuation procedures.

Initial awareness and familiarity with personal protective equipment must form part of an induction program for new employees. Particular care must be given to the training requirements for correct selection, fitting, use, care, storage and maintenance of personal protective equipment.

2.3.6.2 “On the Job” training

Employee “on the job” training should include:

- showing the employee the skill to be learned;
- explaining the reasons, steps and key points;
- having the person practise;
- giving feedback on the practise; and
- correcting errors as they occur.

2.3.6.3 Prevention of falls training

Training in the prevention of falls should include:

- safe work practices to prevent a fall;
- correct selection, fitting, use, care, maintenance and storage of fall arrest systems and devices, including safety nets;
- correct selection, fitting, use, care, maintenance and storage of personal protective equipment;
- correct selection, use, care and storage of tools and equipment to be used;
- procedures in the event of an emergency such as rescue, accident or injury;
- proper methods of working on fragile material;
- electrical safety;
- maintaining record keeping procedures and systems; and
- hazard or accident reporting systems.

2.3.6.4 Further training or re-training

Persons may need further training where:

- new methods, equipment, policies or procedures are introduced;
- the type of operation or environment changes; and
- their particular job requirements change.

2.3.6.5 Certification or accreditation

There may be occasions when a person is required to obtain some formal accreditation or certificate (eg. scaffolders, riggers, doggers, rope access workers).

Employers must ensure where an appropriate accreditation or certification is required that it is valid and current.

Employers should also ensure that people who are being trained to obtain accreditation or certification are supervised during the training.

The possession of a certificate of competency does not provide any exemption whatsoever from the requirement for fall protection to be provided for a person working at heights.

2.3.6.6 Providing information in an appropriate form

Information should be provided in a form that all employees at the workplace can understand.

Ways should be developed so that employees with a non English speaking background or those with disabilities can be provided with information and included in the consultation process. These may include:

- organising information to be provided for people with the same language, in groups;
- using interpreters;
- using audio-visual aids;
- using graphics;
- using short, simple English phrases; and
- demonstrating points.

Ensuring that a person understands the information is extremely important. Checks will be necessary to ensure this.

3. Controlling common hazards of working at height

3.1 Prevention of falls of material

3.1.1 Regulation 138 - Prevention of falls material

- (1) Where there is a reasonable likelihood that a person could be injured by the fall of an object or material at a workplace, measures shall be put in place to prevent the fall of the object or material or the person being injured by the fall of the object or material.
- (2) Notwithstanding subregulation (1), a gantry shall be erected over an area where a person, other than a worker performing construction work, has access, where the health and safety of the person may be at risk if an object or material -
 - (a) used in the construction work; or
 - (b) being lifted by a crane for use in the construction work, were to fall into the area.
- (3) In addition to subregulation (2), where a load is to be raised, lowered or otherwise moved by a crane over part of a road, measures shall be taken to prevent a person or vehicle entering the part of the road while the load is being raised, lowered or moved.
- (4) Gantries referred to in subregulation (2) shall be designed, erected and maintained to be self supporting under normal conditions and to withstand normal loading requirements placed on them, having regard to the construction work to be performed.
- (5) Measures under subregulation (3) may include the use of warning signs, flashing lights, barriers and flagmen, as is appropriate, given the nature of the load and the need to cause a minimum of disruption to persons and traffic on the road.
- (6) Gantries shall be kept in place until the need for overhead protection no longer exists.

Reducing the risk is not limited to the means described in the regulations or this code of practice. Other means may be relevant for particular cases, if they can eliminate or reduce the risk of a fall. For example the erection of the many types and variety of communication towers and masts, many of which may require multi guy lines, will require other means to reduce the risk of falling. The risks associated with maintenance and servicing must also be considered.

The erection of advertising or other types of signage on towers or other structures may also require other means of reducing the risk of falling to be considered. In all cases the three basic steps of hazard identification, risk assessment and risk control must be carried out.

3.2 Holes and openings

While no specific regulations exist in the Northern Territory regarding holes or openings, these present a significant hazard and Regulations 47, 47(A) and 138 should be applied.

Holes or openings in any floor should be covered with material of adequate strength to prevent entry by objects or persons and be securely fixed or adequately isolated to ensure there is no access to the penetration.

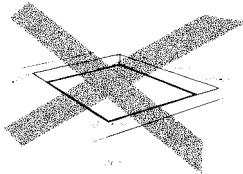


Figure 1
Unprotected holes are a severe hazard and must be covered.

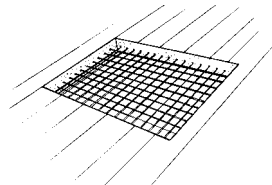


Figure 2
An example of 4mm mesh embedded in the concrete floor used to prevent things falling through the hole.

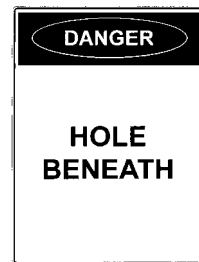


Figure 3
All covers must be securely fixed and marked clearly with the words.

“DANGER - HOLE BENEATH”

Any holes or openings covered with wire mesh must not be used as a work platform.

When installing services only that part of the control measure which allows access for installation is should be removed. The control should be modified to fit around the installed service.

3.3 Protection at edges

Every open edge of a stair, landing, fixed work platform or shaft opening must be protected to prevent people falling.

The provision of guard rails has been discussed in this code.



Figure 4
Unprotected stairways are a severe hazard.

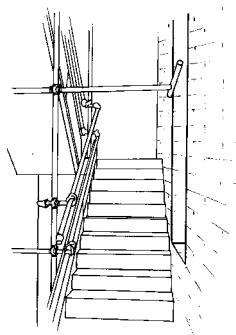


Figure 5
Stairways must have handrails and fender boards on the landings and bagging fitted over the ends of tubing and over couplings.

3.4 Grid mesh and checker plate flooring

Grid mesh and checker plate flooring is used for walkways, access-ways and working platforms.

There are hazards associated with this type of flooring. These are:

- panels are easy to dislodge if not securely fixed; and
- if multiple levels are used, a person working on one level can become disoriented.

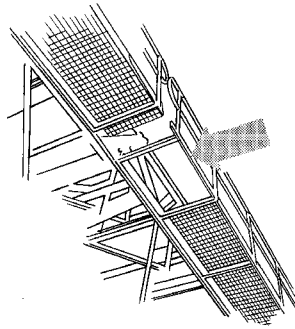


Figure 6

Removed grid mesh panels are a severe hazard. Access other than to replace the panel must be denied to the area.

Where grid mesh or checker plate flooring is used it must be securely fixed and assembled, in accordance with manufacturer's specifications. Where possible, it should be fitted to a structure, prior to the structure being lifted into permanent position.

Each panel must be securely fixed before the next panel is placed in position.

During installation, this type of flooring should be secured by tack welding, panel grips or other means to prevent movement before being permanently fixed.

If panels of grid mesh or checker plate flooring are removed the edge should be protected. Dimensions of the removed panels may result in openings or holes required to be protected in accordance with Regulation 47A.

3.5 Safe use of ladders

The incorrect use of ladders is the cause of a large number of falls from height each year across all industry sectors.

It is vitally important to ensure the ladder is set up on a level area and the base is located a distance from the wall approximately $\frac{1}{4}$ of the vertical height of the ladder.

Other means of preventing falls may be necessary in association with the use of ladders where a risk assessment determines additional protection is necessary. Permanent ladders fitted with protective backguards is one solution. Pole straps may be necessary while working from ladders. They should be inspected regularly, at least daily when in use.

Many falls from heights result from the non-use of ladders where crates, stools, desks etc. are used to access heights instead of properly setting up a ladder for the purpose.



Figure 7 & 8

Correct arrangement of ladder. Base about 1 unit out from wall to 4 units of vertical height. Horizontal benching of ground ensures vertical alignment of ladder.



Figure 9 & 10

Instability. Base ladder positioned too far from wall. Sudden slipping can occur.

3.5.1 Portable ladders

Ladders should be used as a means of access to or egress from a work area and not used as a platform. If it is necessary for a person to work from a ladder, for example to complete maintenance, monitor plant operation, service plant or for access to or egress from a work area, consideration should be given to:

- choosing the type of ladder appropriate to the task. Do not use “domestic” or “home made” type ladders. All portable ladders must comply with the appropriate Australian Standard;
- providing a slip resistant base, rungs or steps;
- wearing slip resistant shoes;
- when a person is stepping from the ladder ensuring that they have a firm and level work platform, free from obstructions to step onto;
- ensuring that the stiles of the ladder extend at least 1m above the stepping-off point and that the ladder is securely fixed. Sufficient platform area must be provided at the stepping off point;
- ensuring the ladder is the right height for the task to avoid reaching or stretching. Keep the body centred between side rails at all times;
- ensuring the ladder is not too close or too far from the support structure. The ratio is one to four. For example, the distance between the ladder

base and the supporting structure should be about 1 metre for every 4 metres of working ladder height;

- securing the ladder against displacement or having another person hold the base of the ladder;
- making sure all locking devices on the ladder are secure;
- using the ladder on firm, stable and level ground;
- wearing a fall arrest system if there is likelihood of a free fall;
- ensuring that metal or wire bound ladders are never used close to energised power lines;
- ensuring the ladder is in good condition; and
- repairing ladders only in accordance with the manufacturer's specifications.

Step and trestle ladders should be used only in the fully open position. A step ladder may be used in the closed position by leaning against a support, however care must be taken to ensure that the load is carried by the front stiles only. Trestle ladders only shall be used to support any plank upon which a person has to work.

3.5.1.1 Ladder brackets

Ladder bracket scaffolds may only be used for very light work where an alternative is not practicable, such as for signwriting. They must not be used for general construction work. When used they should be in accordance with clause 10.2.5 of *AS/NZS 4576 Guidelines for Scaffolding*.

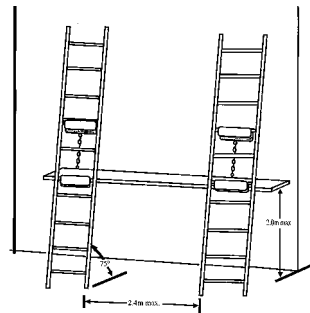


Figure 11
Example of an acceptable ladder bracket scaffold.

3.5.2 Permanent ladders

If a series of ladders are used to gain access to a surface, landing platforms should be provided at every 6 metre interval.

Ladder and tower safety systems

- such temporary systems should comply with the requirements of droplines. The locking device should not be capable of damaging the line in the case of a fall.

Permanent systems should be of wire or rail construction and should be installed according to the manufacturer's instructions.

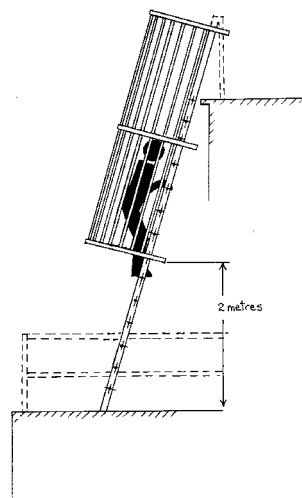


Figure 12
Permanent ladder fitted with a protective back guard where a person could fall more than 6 metres from the ladder.

Wire systems should be in accordance with AS 1891.3 and be sited in the middle or side of the ladder. The entire device should be capable of sustaining a load of 15kN (approximately equivalent to 1500 kg).

Rail devices should be anchored in accordance with AS 1891.3. They should be sited to allow clearance of the self-locking device. Junction points may be installed to allow both vertical and horizontal movement.



Further information on the correct use of ladders is covered in *AS/NZS 1892 Portable Ladders*.

4. Further information

Further information on the provisions of this approved code of practice or any other occupational health and safety issues can be obtained from NT WorkSafe at one of the offices listed below –

Darwin

Ground Floor, Minerals House
66 The Esplanade
DARWIN NT 0800

GPO Box 4160
DARWIN NT 0801

Freecall: 1800 019 115
Telephone: (08) 8999 5010
Facsimile: (08) 8999 5141
Email: ntworksafe.deet@nt.gov.au
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