RIIWHS204E

Work Safely at Heights

LEARNER GUIDE

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1.1 Introduction

This training course is based on the unit **RIIWHS204E Work Safely at Heights**.

Working at heights includes any job where there is a chance of you being injured by falling down from one level to another, like falling off a roof.

Any person who is working at heights needs training, clear work instructions and must use fall prevention and safety equipment.

1.1.1 Overview

You will learn about:

- Planning out the work.
- Choosing and installing safety equipment.
- Working at heights safely.
- Cleaning up the work area after you have finished.

1.1.2 What is Working at Heights?

Working at heights includes:

- Work that is done at a high level off the ground, including work done from elevating work platforms.
- Work that is done near an edge that a person could fall off, or near a hole that a person could fall into.
- Work done on a surface that a person can fall through, or slip off.

1.2 Work Safely

You must follow all safety rules and instructions when performing any work at heights. If you are not sure about what you should do, ask your boss or supervisor. They will tell you what you need to do and how to do it in a safe way.

1.2.1 Health & Safety Rules

Every workplace has to follow laws and rules to keep everyone safe. There are 4 main types:

Type	Explanation
Acts	These are laws that you have to follow.
Regulations	These explain what the law means.
Codes of Practice	These are instructions on how to follow the law, based on industry standards. 'Managing the Risk of Falls in Workplaces' is the national code of practice for working at heights.
Australian Standards	These tell you what the minimum requirement is for a job, product or hazard.

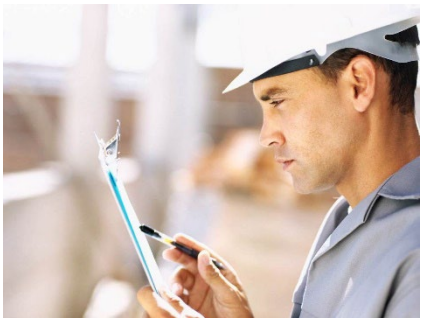
These requirements are the basis of all policies, procedures and safe work practices within a company and/or workplace.

1.2.2 Technical and Safety Information

Like laws and rules, technical and safety information is an important part of all procedures and practices for working safely.

Before starting your work at heights, you need to make sure you have all technical and safety information for the job.

This will help you to do your work in the safest way.



Technical and safety information includes:

Site Details

The information and safety requirements of the workplace environment (where you will be working).

Hazard Details

Any hazards in the work area or related to the work at heights. This could also include instructions on how to handle dangerous or hazardous materials.

Task Details

Instructions of what the work is or what you will be doing (this can include diagrams or plans). Also instructions on how to safely do the job, for example manual handling techniques.

Manufacturers' Guidelines and Specifications

How to use and maintain tools, equipment and safety devices and systems.

Faulty Equipment Procedures

Isolation procedures to follow or forms to fill out.

Signage

Site signage tells you what equipment you need to have, or areas that are not safe to be in.

Emergency Procedures

Instructions on what to do in emergency situations, for example if there is a fire, or if first aid is needed.

Communication Procedures

Technical and safety information could also include workplace procedures for communication.

You should never work alone at heights. If you fall there would be no one to help you so it is very important that you have good communication with the other workers around you at all times.

Plan out your work and make sure you all understand what each person will be doing and where. To be as safe as possible you need to have clear and direct contact with other workers. Try to use clear, basic language so that nobody gets confused or misunderstands.

Make sure you can see and hear each other. If you can't, you should use hand signals or some other way to communicate.

You could also think about using a two-way radio or mobile phone (if it is allowed on site). If you are using radios make sure they work properly before you start and check for any interference on the channel.

Don't be afraid to ask questions to make sure everyone understands the situation.

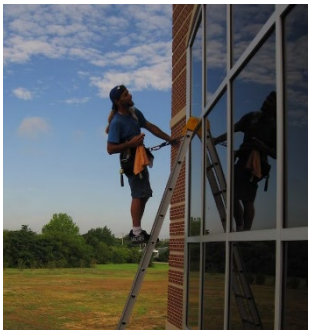
1.3 Get Your Work Details

You need to be clear about what work you will be doing. Make sure you have everything about the job written down before you start. This includes what you will be doing, how you will be doing it and what equipment you will be using.

Make sure you have all of the details about where you will be working. For example:

- On a bridge, building or rooftop.
- Near shafts, trenches, holes or other openings.
- On a ladder.
- On scaffolds.
- In elevating work platforms (EWPs).
- On vehicles or other plant and equipment.
- Above other workers.

You also need to make sure you have all of the details about the kind of work you will be doing. Work at heights can include lots of different types of work including:



- Construction.
- Repair work or maintenance.
- Cleaning.
- Painting.
- Installing or removing plant or equipment.
- Rescue operations.

1.3.1 Work Instructions

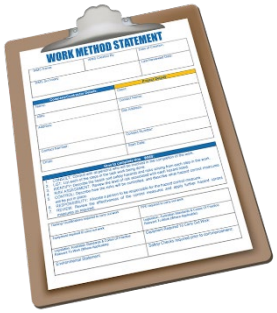
All work at heights needs to follow worksite, environmental protection and company safety procedures and work instructions.

Procedures help to make sure that all work is done in a safe way, without damaging equipment or putting people in unsafe situations.

Work instructions will tell you the safest way to do the job, and the safety equipment that you will need to use.

1.3.2 Work Method Statements

Many worksites require a Work Method Statement (WMS) before any work can start. A Work Method Statement is a list of steps that outlines how a job will be done. It also includes any hazards that occur at each step, and what you need to do about them.



These statements can also be known as a Safe Work Method Statement (SWMS), Job Safety Analysis (JSA) or Safe Operating Procedure (SOP).

1.3.2.1 How to Fill Out a Work Method Statement

1. Break the job down into steps and think about what needs to happen in each one.
2. Think about and list any hazards that exist at each step.
3. Work out the best way to deal with the hazards to make the work as safe as possible.
4. Work out who is responsible for each step in the job, who is responsible for dealing with hazards and who is supervising the whole job.
5. Make sure the Work Method Statement is explained to everyone and they clearly understand what they need to do.

1.3.3 Keeping Everyone Safe

WHS law says that all companies and workers need to keep themselves and other people safe while they work. This is called a duty of care.

To keep yourself and other workers safe you need to:

- Follow your instructions.
- Follow all workplace rules.
- Make sure all equipment is safe to use.
- Carry out your work safely.
- Report any problems.

If you think something is dangerous, tell your boss or supervisor as soon as possible.

Your worksite will also have instructions for working safely including:

- Emergency procedures, including using fire fighting equipment, first aid and evacuation.
- Rescue procedures, especially for workers who have fallen and are hanging in their harness.
- Controlling hazards.
- Handling hazardous materials and substances.
- Safe operating procedures.
- Personal protective clothing and equipment.
- Safe use of tools and equipment.

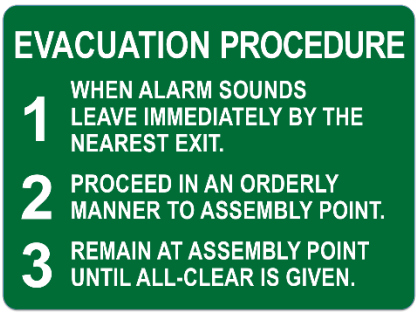
1.3.4 Emergency Procedures

Before undertaking any kind of high risk work you have to make sure you are familiar with the relevant emergency procedures. Work at heights can be extremely dangerous if you are not prepared, not using the correct safety equipment, or if you make a mistake. It can only take a moment of distraction for something to go wrong and knowing how to respond quickly may be the difference between a full recovery and serious injury.

Emergency procedures should include common workplace emergencies such as:

- Fire.
- Gas leak.
- Injuries and the administration of first aid.
- Flood.
- Structural collapse.
- Vehicular collisions.
- Unexpected or severe weather conditions.

You will find details of how to respond to each type of emergency including:



- The responsibilities of specific personnel.
- The location of emergency equipment.
- Who must be notified, how and what details need to be provided.
- Areas to gather.
- Areas to be avoided.

Any work at heights emergency procedures should also include guidelines for responding to:

- Falls from height.
- Suspension trauma (also known as suspension intolerance).
- First aid treatments specific to these types of emergencies.

There may be additional safety or emergency requirements specific to the work conditions including:

- Confined spaces.
- Working at night.
- Working near or above public areas.

Review all emergency procedures before starting any work and speak with your supervisor if anything is unclear or you feel something has been overlooked, or is unsafe in any way.

1.4 Inspect the Worksite

Before you start any work at heights you need to look around the site.

Have a good look at the layout of the area and the condition of any buildings or structures that you will be working on.

This is so you know the layout of the area, you can check the condition of any buildings or structures that you will be working on, you can check for potential hazards and choose the right equipment to use.

Once you have an idea of what the job and site look like you can start to think about any potential hazards and work out what equipment you'll need to do the work.

1.4.1 Checking the Weather

The weather can change the way you do the work at heights.

Strong wind can knock you off balance or blow equipment and materials over the edge of the work area.

Rain can make the surface of the work area slippery.

Lightning can be extremely dangerous, especially when working up high.

If the weather is very bad, you might have to put the work off until the conditions clear up.

1.5 Identify and Control Hazards

Before you start work, you need to check for any hazards or dangers in the area. If you find a hazard or danger you need to do something to control it. This will help to make the workplace safer.

1.5.1 Identifying Hazards

Part of your job is to look around to see if you can find any hazards before you start your work at heights.

A **hazard** is the thing or situation with the potential to cause injury, harm or damage.

When you start checking for hazards, make sure you look everywhere. A good way to do this is to check:

- Up high above your head.
- All around you at eye level.
- Down low on the ground (and also think about what is under the ground).

Some hazards you should check for in the work area:

Area	Potential Hazards
Surfaces	Are they unstable, slippery, untidy, sloping or not going to support your weight?
Structures	Are they unstable or incomplete?
The Ground	Is it uneven, soft or unstable? Will it support the weight of access equipment (scaffolds, EWPs etc.)?
The Work Area in General	Is it crowded, busy or messy? Is there plant, equipment, tools, rubbish, workers or other obstructions in the area? Are there hazardous materials in the area? Are there other hazards specific to the worksite? Are there hazards related to the work being done in the area? Is there a chance of tools, materials or equipment falling down onto other people? Is there enough lighting to cover the whole work area?
Access to and from the Work Area	Is there a safe way to get to and from the work area?
Unprotected Edges	Are there unprotected edges on floors, working platforms, walkways, walls or roofs?
Environment	Is bad weather predicted (e.g. storms and rain)? Are there very hot or cold temperatures? Are there UV hazards?
Manual Handling	Trying to carry heavy or bulky items while on a ladder. Having to bend or twist too much to get hold of materials or equipment. Holding yourself in an uncomfortable position, or in a way that will make it hard to keep your grip. Balancing while moving from one surface to a different one.

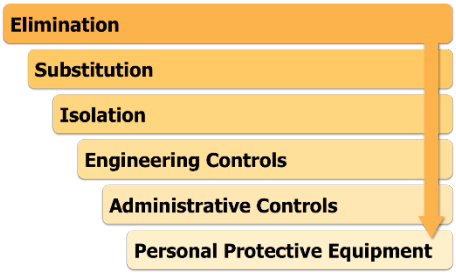
1.5.2 Controlling Hazards

After you have found hazards or dangers you need to work out how bad they are:

Thinking about these things will help you to choose how to control the hazards. Hazards controls need to follow:

- Legislation (laws).
- Australian Standards.
- Codes of Practice.
- Manufacturers' specifications.
- Industry standards.

The best way to control hazards is to use the Hierarchy of Hazard Control. This is a list of 6 ways to control hazards, in order from best to worst.



You start at the top of the list and see if you can take away (eliminate) the hazard or danger.

If you can't take it away you move down the list to see if you can swap it for something safer (substitution).

Keep working through the list until you find something that controls that hazard or danger.

This table shows you the 6 different types of controls in order from best to worst:

Hierarchy Level	Action
1. Elimination	Completely remove the hazard. This is the best kind of hazard control.
2. Substitution	Swap a dangerous work method or situation for one that is less dangerous.
3. Isolation	Isolate or restrict access to the hazard.
4. Engineering Controls	Use equipment to lower the risk level.
5. Administrative Controls	Site rules and policies attempt to control a hazard.
6. Personal Protective Equipment	The least effective control. Use PPE while you carry out your work.

Hazard control measures need to be put in place before you start your work, or as soon as you see a hazard while you are doing your work. Hazard controls can sometimes be listed in your work instructions or you can ask your boss or supervisor for help.

1.5.2.1 Hazard Controls for Work at Heights

WHS regulations say that you need to use the following hazard controls whenever possible for working at heights:

Level	Hazard Controls
Level 1	Completely avoid carrying out the work at height.
Level 2	Work only on solid structures that include safe entry and exit from the work area.
Level 3	Lower the risk of a worker falling by using one or more of the following things: **a)** A fall prevention device like guardrails or edge protection. **b)** A work positioning system like an elevating work platform if you can't use edge protection. **c)** A fall-arrest system if you can't use either fall prevention or positioning systems.

Once a hazard control is in place you will need to check to make sure it is working well to control the hazard or danger.

Signs and Safety Barriers

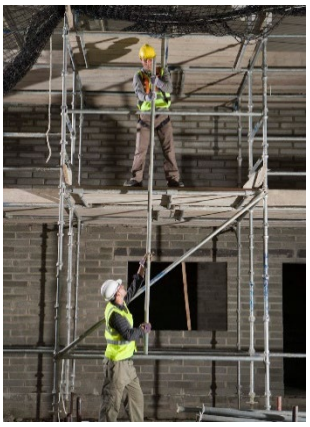
Signs and safety barriers should be put up to warn people of falling objects or when elevated working platforms or ladders are being used.

Signs and barriers may include:

- Danger or warning signs.
- Flashing lights.
- Barricades and fences.

Talk to your supervisor or safety officer if you are not sure if it is safe enough to carry out your work. If you think the hazard is still too dangerous you should not try to do the work.

1.6 Select and Check Safety Equipment



Safety systems and equipment are used to:

- Protect workers.
- Access work areas safely.
- Stop workers from falling.
- Stop tools or materials from falling.

All safety systems must be installed and regularly checked by a competent person. For some equipment this may be someone with a scaffolding or rigging licence.

Safety systems and equipment for working at heights come under 5 main categories:

Category	Example Safety System
1. Personal Protective Equipment	Protective equipment worn on site.
2. Fall Prevention Devices	Temporary work platforms. Guard rails (edge protection systems). Safety mesh and covers.
3. Work Positioning Systems	Industrial rope access systems. Restraint systems.
4. Fall-Arrest Systems	Catch platforms. Safety nets. Fall-arrest harnesses. Anchorage or static lines and rails.
5. Ladders	Portable ladders. Fixed ladders.

It is very important that you consult with the appropriate personnel when selecting and checking safety systems and their parts to make sure:

- They are right for the task.
- They meet WHS requirements and worksite policy.

1.6.1 Personal Protective Equipment (PPE)

Personal Protective Equipment (PPE) is clothing and equipment designed to lower the chance of you being hurt on the job. Most worksites require workers to wear PPE before they enter the site. PPE includes:

- **Head protection** – hard hats and helmets.
- **Foot protection** – non-slip work boots.
- **Hand protection** – gloves.
- **Eye protection** – goggles, visors or glasses.
- **Ear protection** – plugs or earmuffs.
- **Breathing protection** – masks or respirators.
- **High-visibility clothing** – clothing that makes you stand out and lets other people know where you are.
- **Weather protection** – clothing that protects you from the sun or from the cold.
- **Fall prevention** – safety harnesses, lanyards and other equipment that stops you from falling from height.

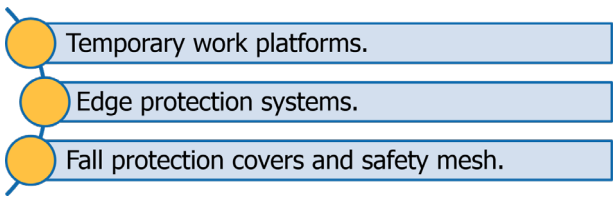
PPE needs to be kept in good condition and replaced if it becomes damaged or defective.

It is the last line of defence for protecting the individual from workplace hazards and risks but will only be effective if it is worn correctly, adjusted to fit the individual and properly maintained.

1.6.2 Fall Prevention Devices

If there is no other way to avoid working at heights, the safest equipment you can use is a fall prevention device.

Fall prevention devices are designed to stop you from falling by not letting you get too close to an unprotected edge while you work. Fall prevention devices include:



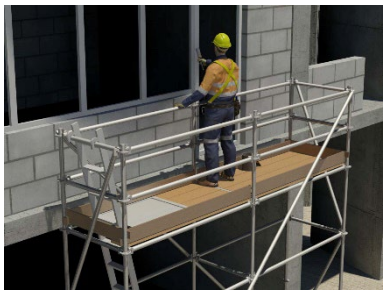
1.6.2.1 Temporary Work Platforms

A temporary work platform is a stable platform that can be used to access the job or the work area while the work is being done and is removed when the work is finished. The floor of the platform should be non-slip, large enough for workers, tools and materials and strong enough to carry it all safely.

Temporary work platforms are:

- Scaffolding.
- Elevating work platforms (e.g. boom type, scissor lift or hydraulic lift).
- Mast Climbers.
- Workboxes (crane or forklift lifted).

Temporary work platforms can also provide a safe way of moving tools and equipment to the work area.



Scaffolding

A person with a scaffolding licence must build any scaffold where a person could fall more than 4 metres. The scaffold also needs to have guardrails and kickboards to stop people or tools and equipment from falling over the edge.

If you are using a mobile scaffold make sure the wheels are locked whenever you are going to use it. Make sure the scaffold is on firm flat ground and will not sink under the weight of you, your tools and your materials. Do not ever let somebody move the scaffold while you are up on it.

Elevating Work Platforms (EWPs)

Elevating work platforms (EWPs) come in different types and sizes such as boom-type, scissor lifts and vertical mast.

Whenever working in an EWP you should wear a safety harness attached by a lanyard to an anchor point in the platform. Only an experienced, trained and qualified person should operate the EWP.

If you are operating a boom-type EWP with a boom that is 11 metres or longer you need a High Risk Work licence.

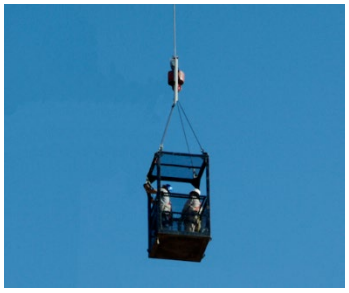
A competent person should check the EWP before any work to make sure it is safe to use.

Mast Climbers

Mast climbers are made up of work platforms that are raised and lowered along 1 or more masts using a hoist motor.

They may need to be tied to a building to make sure they are stable while you use them. Check the manufacturer's instructions for information.

Mast climbers need to be set up by somebody with a basic level rigging licence, or intermediate level scaffolding licence. Other workers can help set up or remove the mast climber if a licenced person is supervising.



Crane-Lifted Personnel Boxes/Workboxes

Personnel boxes or workboxes are used to lift workers with a crane.

Crane-lifted workboxes are useful for getting access to very high or isolated parts of a worksite where a scaffold would be difficult to put up.

The workbox must be designed especially to lift people.

Forklifts and Forklift Work Platforms

Order picking forklift trucks are most commonly used for stock picking and may only be operated by somebody with a High Risk Order Picker licence. They are designed to be used on flat level surfaces and must not be used on rough terrain.

A safety harness with lanyard must be used by anyone working on an order picker to reduce the risk of a fall from height.

Forklift work platforms are designed to lift people with a forklift. Never stand on a pallet or the forks.

Before you get into the work platform make sure it is securely attached to the forklift. While you are up in the air the forklift driver must stay at the forklift controls, keep the forklift parked and not tilt the mast of the forklift forwards or backwards.

Do not use ladders to try and get more height while working in a work platform.

1.6.2.2 Edge Protection Systems (Guard Rails)

An edge protection system is a barrier set up around the edge of a structure, building or gap to stop people and objects from falling over the edge.

It can include handrails or containment sheeting, safety shutters, guardrails, mid-rails and kickboards on a scaffold.

Guard rails should be used:

- At the edge of roofs.
- On top of plant or structures.
- At the edge of any surface without walls where a person could fall (like mezzanine floors, walkways, stairs or ramps).
- Around openings in floors (like incomplete elevator shafts).
- At the edges of excavations, pits or shafts where a person could fall in.

1.6.2.3 Fall Protection Covers and Safety Mesh

Fall protection covers are installed over openings and holes (like skylights) to prevent falls. They are usually made of timber, metal or wire mesh. They should be fixed in place and strong enough to stop a person falling through.

Signs should be set up near a fall protection cover to warn people that there is an opening or hole under it.

Safety mesh is designed to prevent falls through a roof. It is not designed to stop people falling from the edge of a roof, or through holes in a roof. Don't rely on safety mesh alone to prevent falls.

1.6.3 Work Positioning Systems

A work positioning system uses equipment that lets a worker carry out a task while wearing a harness to prevent a fall.

This can include:

- Industrial rope access systems.
- Restraint systems.

1.6.3.1 Industrial Rope Access Systems

Industrial rope access systems allow workers to be suspended from vertical ropes to access the work area which could be the side of a building or down in an area that can only be accessed through an opening up high (such as a tank or silo).

If possible, other methods should be used to access the work area instead of rope systems, such as EWPs or scaffolds.

Never work alone while using a rope access system.

1.6.3.2 Restraint Systems

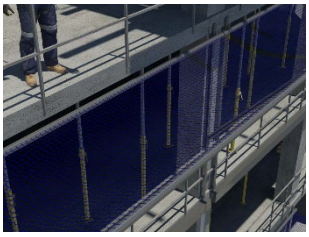
Restraint systems control a worker's movement by physically stopping them from getting to a point where they could fall off an unprotected edge.

These systems should only be used where a barrier or guardrail cannot be used.

Restraint systems are made up of a harness that is connected to an anchor point or static line using a lanyard. The anchor point should be designed for fall-arrest loading.

1.6.4 Fall-Arrest Systems

Fall-arrest systems are designed to stop a worker or materials that has fallen off an edge from hitting the level below.



Fall-arrest systems include:

- Catch platforms.
- Safety nets.
- Individual fall-arrest systems.

1.6.4.1 Catch Platforms and Safety Nets

Catch platforms and safety nets are short term structures that are installed below a work area to catch a worker if they fall or to catch falling objects.

They should be strong enough to take the impact of people, equipment and materials.

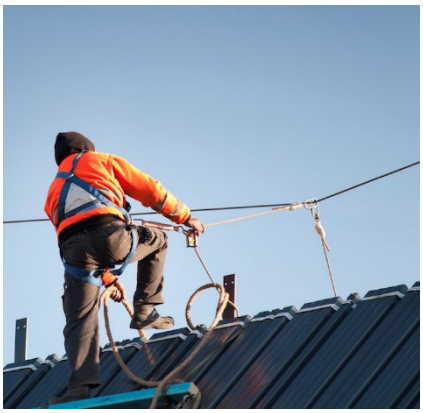
Industrial safety nets are sometimes used as fall protection for people working at heights where it is not realistic to have scaffolds or temporary guard railings.

1.6.4.2 Individual Fall-Arrest Systems

A fall-arrest system is designed to safely stop a worker falling too far and to minimise the force of the fall. Fall-arrest systems must only be used where other higher level control measures are not able to be used instead.

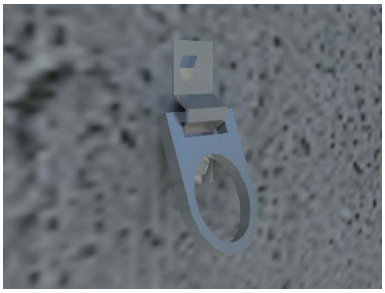
A fall-arrest system may include a number of parts:

- Anchorages.
- Static lines.
- Inertia reel.
- Lanyard of fixed length.
- Retractable lifelines.
- Rope grabs.
- Wire grabs.
- Rail system.
- Shock absorbers, both personal and industrial.
- Harness.
- Snap hooks (double or triple action to prevent rollout).
- Karabiners (double or triple action to prevent rollout).
- Rescue equipment.



Always choose compatible parts (parts that fit and work together) whenever preparing for work at heights. If you are not sure if the parts of a fall-arrest system are compatible, you should check with the manufacturer.

Anchor Points

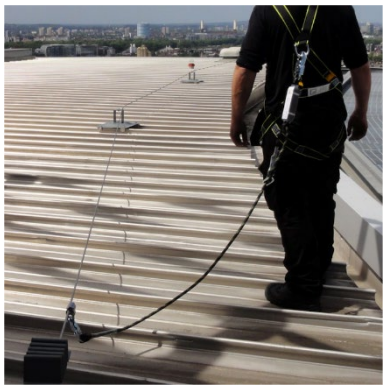


An anchor point (or anchorage) is a fixed point that a fall-arrest system or static line is connected to, that can hold the weight of a falling worker.

Anchors are required, under AS/NZS 1891.4, to have a minimum breaking strength of 15kN (1500kg) for 1 person attached. An anchorage rated to greater than 21kN (2100kg) is suitable for use by no more than 2 people.

All anchorages should be tested and approved by a competent person before use.

Static Lines



Static lines are horizontal lines that a lanyard can be attached to and are designed to stop people falling off an edge.

Static lines are anchor points for a fall-arrest system that still allow a limited range of movement along the path of the line.

Static lines must be installed and checked regularly by a competent person and must only be used in accordance with the manufacturer's specifications. Static line anchors must be rated appropriately for the situation and number of workers. Never add more people to a static line than the manufacturer recommends.

Wherever possible static lines should be installed above workers to reduce the free-fall distance of workers connected to it.

Fall-Arrest Harnesses

Usually when working at heights you should have a full body harness on. The harness must be fitted properly to make sure it will keep you safe if you fall.

The harness should be connected to an anchor or static line using the connection point on the front or the back of the harness, depending on the work you are doing.

Lanyards

Lanyards are used to connect the fall-arrest harness to the anchor point or static line. They come in single or double variations, depending on how and what you are attaching to. This allows you to transition safely from one attachment point to another without ever being completely unattached to an anchor point.

There should not be too much slack in the lanyard between you and the anchor point or static line.

The lanyard should be the right length for the situation. This will depend on the work you are doing, and how far from an unprotected edge the anchor point or static line is. As a guide it should be a length that doesn't let you fall more than 2 metres before the fall arrest system takes effect.

You should not work above the anchor point. If you do, you have further to fall before the safety system kicks in and stops your fall. The further you fall, the more likely you are to be injured.

To reduce injuries caused by a fall, energy absorbers should be used as part of the lanyard. An energy absorber slows down your fall by taking the impact of your weight and stretching as the lanyard is pulled by your body weight.

Inertia Reels

Inertia reels are used to give you a free range of movement or extra reach compared to a lanyard. In the event of a fall, an inertia reel will lock up the same way a seatbelt in a car does if you stop quickly.

Inertia reels should **not** be used in the following situations:

- While working on a sloped surface (e.g. a steeply pitched roof) or any other surface where a fall may not be a quick vertical one.
- Locked as a constant support for a worker during normal work.
- At the same time as a lanyard.

Swing Down and Swing Back – The Pendulum Effect

If a worker who is using an individual fall-arrest system falls from an edge, the system may act as a pendulum.

This means the worker could hit the ground (called 'swing down') or swing back into the building or structure (called 'swing back').

These situations may also be referred to as 'the pendulum effect'.

Swing down can occur if the lanyard slides back along the perimeter edge of the roof as a worker falls, until it is vertical.

When this happens, the worker might hit the ground (or lower level), or the lanyard may break from being dragged across the edge of the roof.

The code of practice 'Managing the risk of falls at workplaces' lists the following measures to address 'swing down':

- The installation of guard rails.
- Placing the anchorage point at a right angle to the position of the lanyard at the perimeter edge, e.g. by using a mobile anchorage.
- The installation of a second anchorage point and belay devices (intermediate anchorages).

1.6.5 Ladders

Ladders can be used to get to and from the work area but you should try not to do your work while on a ladder.

Many falls happen while people are working from ladders. There are much safer and more stable options like EWPs or scaffolds.

Portable ladders come in 2 grades – industrial and domestic. All work carried out at heights should use a ladder that is rated to 120kg and is manufactured for industrial use.

Never use a domestic grade ladder for industrial work because it is not required to be as strong as an industrial grade ladder.

When choosing a ladder make sure it is in good condition. Check for faults or damage before you use it.

1.6.5.1 Anchorage Lines or Rails

Anchorage lines or rails can be temporary or permanent fall-arrest systems.

They are designed to give continuous fall protection for workers using ladders or climbing towers on plant (e.g. tower cranes) as well as workers on buildings or structures.

Safety considerations include that:

- The locking device is attached to the front of the harness.
- The lanyard (including all components/parts) is a maximum of 30cm long.
- The point of connection onto the line or rail system is near the base of the ladder where a worker can safely access it before climbing up.
- The system must provide continuous connection all the way to the top (disconnecting point).
- Free fall is limited to a maximum of 60cm.
- Permanent systems must be made of wire or rail construction and installed according to the manufacturer's instructions.

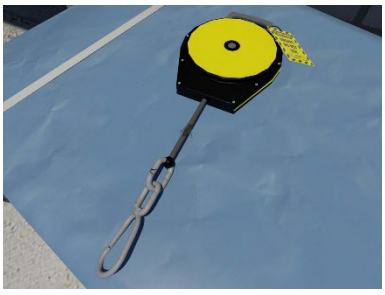
If a fall occurs, the system must be removed and checked by a competent person before it can be re-installed and used again.

1.7 Check Equipment before Use

Before you use any equipment, tools or plant you MUST work with your supervisor or team leader to check that the equipment is in safe working order. You can check the manual or instructions for how to inspect, use, clean, maintain and store the item.

If you find anything wrong during your checks you need to:

1. Tag and isolate (remove from service) the damaged or defective item to stop anybody else using it.
2. Write down the details of the problem in the logbook or on the inspection checklist. Give as much detail as possible.
3. Report the fault to your supervisor or another authorised person.



1.7.1 Inspecting Fall-Arrest Harnesses

Any harness equipment should be checked using an inspection checklist.

It is very important that all harnesses are checked before use. Part of checking the harness is to put it on and check that it fits correctly and is comfortable.

1.7.2 Inspecting Inertia Reels

When inspecting inertia reels make sure you check the following:

Component	Suggested Inspection
Rope	◆ Make sure the rope can be fully extended and retracts (winds back) back properly. ◆ Check the entire length of the rope for any damage (abrasion, fraying, stretching, evidence of contact with heat or chemicals). *Make sure you give the rope a firm pull while it is fully extended to test that it is securely attached to the drum of the inertial reel.*
Anchorage Body	◆ The main 2 parts to check on the anchorage body are the mounting ring and the casing. ◆ Check that there is no visible damage to either of these components. ◆ Also check that there are no loose or missing parts.
Locking Mechanism and Rope Guides	◆ Check for any wear or damage. ◆ Check that the locking mechanism is working correctly and holds securely. ◆ Check that the rope rewinds completely without loss of tension.
Snap Hooks and Links	◆ Make sure the locking action is working on these parts and that there are no signs of damage or wear.

1.8 Move Tools and Equipment Safely

Trying to carry heavy or bulky loads up to the work area can be very dangerous and you could lose your balance and fall or drop items down on people below.

Wherever possible, use other methods such as conveyors, hoists, cranes or elevating work platforms to move tools and equipment up to and around the work area.

Keep tools safely secured on a tool belt or in a toolbox inside a work platform.

Talk to your supervisor and consult your work instructions for methods on getting tools and equipment to the work area.

2.1 Check Existing Safety Systems and Equipment

All safety systems and equipment must be installed and regularly checked by a competent person. This is to ensure the safety systems and equipment have been installed correctly and reduce the risk of falling.

Some equipment will need to be installed and checked by a person with a scaffolding or rigging licence.

2.1.1 Fall-Arrest System Requirements

Before starting work you need to check that the fall arrest system has been installed correctly and that you will be able to work safely while connected to it.

All anchor points should be positioned so that a lanyard can be attached to it before the person using the system gets too close to an unprotected edge.

Each fall-arrest system is designed for a specific number of people connected to the line at any one time, and also takes into account the use of regular or energy absorbing lanyards.

Anchors and lines between supports should be set up on the inside face of columns where possible.

Static lines between supports must be free of obstructions to allow uninterrupted movement for workers attached to the line. If a line passes around a column, corner, or other sharp edge it should be packed to stop any damage to the line.

2.1.1.1 Limiting Free-Fall Distance in Fall-Arrest Systems

Fall-arrest systems incorporating a lanyard should be installed so that the maximum distance a person would free-fall before the fall-arrest system takes effect is 2 metres.

There should be enough distance between the work surface and any surface below to enable the system, including the action of any shock absorber, to fully deploy (be effective) before a worker hits the ground.

To work out whether there is enough distance available, you should look at:

- The worker's height.
- The height and position of the anchorage point.
- The length of the lanyard.
- Any slack in the horizontal life line.
- Any stretching of the lanyard or horizontal life line when extended by a fall.
- The length of the energy absorber when extended by a fall.

2.1.2 Using Scaffolds

Any scaffold over 4m high requires a licensed person to erect it. If you are using a mobile scaffold that has already been put up, make sure the wheels are locked before you climb onto it. You also need to make sure the ground is flat, stable and will support the weight of the scaffold, workers, tools and equipment.

Always check with a licensed scaffolder before using a scaffold on soft, uneven ground.

2.1.3 Edge Protection

Make sure there is adequate edge protection such as handrails and kickboards.

2.1.4 Foot Walks

Foot walks are walkways that can be installed on a rooftop to provide a safe, non-slip surface for you to walk on.

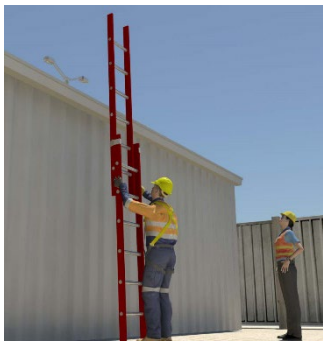
2.2 Safely Access the Work Area

Once you have selected all of your equipment and organised the safety systems and access equipment, you should safely make your way to the work area.

Make sure all access equipment is ready and in place. Check that access from the ground is safe before you try to get up to the work area. You also need to make sure you can connect to any safety systems without putting yourself in danger.

2.2.1 Using Portable Ladders for Access

Ladders should be set up so that they are on stable ground and fixed at the top and base. If you are using a step-ladder it should be fully opened with the legs locked into position.



Ladders need to be set up so that there is at least 1 metre of ladder extending past the floor you are moving to. The angle of the ladder should be 1m out for every 4m up.

Never use metal ladders near electrical hazards.

Depending on the type of work you are doing, you might need to use a fall prevention system that is connected to a ladder.

Ladder Access or Egress

Where fixed or extension ladders are used for access (entering) or egress (exiting), you should check that:

- There is a firm, stable work platform, free from obstructions, to step onto from the ladder.
- The ladder extends at least 1 metre above the stepping-off point on the working platform.
- Fall protection is provided at the stepping-off point where people access the working platform.

2.2.2 Connecting to the Fall-Arrest System

Anchor points and static lines should be installed so that workers can connect to them before getting too close to an unprotected edge.

When working with the fall-arrest system, talk to your supervisor or team leader who will help you to check the system is correctly fitted and adjusted. They will help you to make sure all safety catches are properly connected to anchor points and that you don't overload the anchor point or static line by connecting more people than it is designed to hold.

Your fall-arrest harness should fit properly and not be too tight or too loose. Make sure the lanyard is long enough for you to access your work area, but not so long that it becomes useless if you fall.

If you have to change the equipment you are using, make sure there is a safe position where you have access to both systems so you can secure yourself to the new system before freeing yourself from the old one.

2.3 Work Safely at Heights

All work at heights needs to be done safely. Keep the area clean and tidy to stop people from tripping over things. Make sure walkways are clear so people have enough room to move around and work.

2.3.1 Keeping Tools and Equipment Safely Stored

Keep all tools and equipment in a toolbox, not lying on the ground. You could trip over them or accidently kick them over the edge.

Hand tools should be secured on your tool belt or fitted with a lanyard so they can't fall if you accidentally drop them.

Kickboards should be installed where materials rest on any surface at height to stop somebody from accidentally kicking something over the edge.

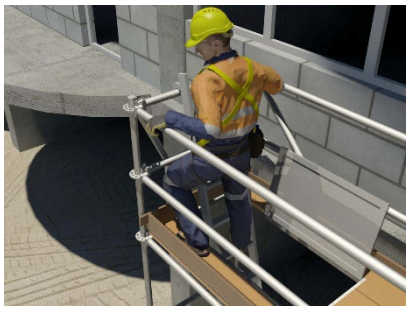
2.3.2 Keeping Safety Equipment in Place

All safety equipment needs to stay in place while you work. If the situation needs a new or different system, keep the old one in place until the new one is ready to use.

If you need to move from one safety system to another, make sure there is a safe position where you have access to both so you can secure yourself to the new system before freeing yourself from the old one.

2.3.3 Handling Equipment and Materials Safely

When you are moving or using materials and equipment, always use safe manual handling techniques.



Try not to bend or twist too much while moving tools, equipment or materials. You could injure yourself.

If you try to move something that is heavy, bulky or an awkward shape you might lose your balance and fall.

Always take care when moving on a ladder while you are holding tools, materials or equipment and make sure there is only 1 person on the ladder at a time. Always try to have at least 3 points of contact on a ladder at all times. This means 2 hands and 1 foot, or 2 feet and 1 hand.

The best option is to use equipment such as EWPs, cranes, hoists or conveyors to move tools or materials up to the work area.

When you are moving tools and equipment around your work area you should:

- Keep tools and equipment secured on your tool belt.
- Hoist materials and equipment up.
- Make sure that catch platforms and safety nets are in place before moving anything to the work area.

This helps to stop things from falling on people below you.

2.4 Check Safety Equipment and Hazard Controls

While doing your work at heights you should check all safety equipment and hazard controls regularly and often. It is important to make sure they are working properly and still keeping the work area as safe as possible.

2.4.1 Checking Safety Equipment

You need to check that all parts of the safety systems being used are still in place, working properly and have not been damaged during the work.

If a worker has fallen while attached to a safety system all parts will need to be checked by a competent person to make sure they are still in good condition. Some parts of the system may need to be replaced before any more work can continue.

You need to check that fall protection equipment is safely adjusted to suit the work as each part of the job is finished.

You also need to make sure edge protection and safety nets stay in place until the work is done.

2.4.2 Checking and Adjusting Hazard Controls

You need to check any hazard controls that are in place to make sure they are effective and right for the task and work area.

As a work area changes over time because parts of the job are completed or weather conditions change, look at the hazard controls that are in place and work out if they are doing enough.

You might need to add more controls or change the ones that are there to keep yourself and others as safe as possible.

Re-assess the work area and check for any new hazards in the area. Control the hazards and if it is still too dangerous to carry out the work, stop until the situation can be made safe.

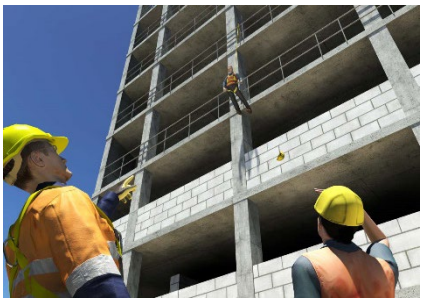
2.4.3 Preventing Suspension Trauma

Suspension trauma can be caused when a person in a fall-arrest harness falls and is left hanging in the harness for too long.

Hanging in the harness puts pressure on the legs and affects the flow of your blood, making it build up in your legs. This means there is not enough blood moving back up around the top of the body.

If a person is left hanging in a harness for too long they can die.

You can do the following things to help prevent suspension trauma in a person who is hanging in a fall-arrest harness:



- Never work alone when using a fall-arrest harness.
- Wherever possible, use a fall-arrest harness that allows your legs to be kept horizontal, or that has extra footholds so you can stand up in the harness.
- Always keep the time a person is left hanging in the harness as short as possible – 5 minutes or less. If a person is hanging in a harness for longer than 5 minutes they could need first aid.

If you fall and are hanging in a harness you should:

- Move your legs and stand up in any footholds to take the pressure off your legs.
- Try to lie down by bringing your legs up and leaning back.

2.4.3.1 Applying First Aid for Suspension Trauma

If first aid needs to be given to a person suffering from suspension trauma, you should follow these steps:

1. **Call for an ambulance (dial 000).**
2. **If the victim is unconscious, manage them according to basic life support principles (DRSABCD). If conscious, rest the victim in a comfortable position, ideally lying down, and reassure them.**
3. **Loosen or take off the harness.**
4. **Administer oxygen if available.**
5. **Look for and manage any other injuries, especially if they have fallen or been electrocuted.**
6. **Monitor life signs regularly.**

Do not attempt to provide first aid if you are not trained to do so. Call for help and monitor the situation until help arrives.

2.4.4 Reporting All Hazards, Incidents and Injuries

Depending on what happened, or how bad it was you might need to report to:

- Your supervisor.
- Emergency services, e.g. police, ambulance, fire brigade and emergency rescue.
- WHS regulator, e.g. WorkSafe, WorkCover, Safework etc.

Talk to your WHS officer or supervisor about the paperwork and procedures for reporting hazards, incidents and injuries, including suspension trauma.

2.5 Finish Work at Heights

Once you have finished the work at heights you need to check your work instructions to make sure everything has been done, and to see if there are any other tasks that need to be completed.

When the work is finished you will need to consult with authorised personnel who will dismantle any safety systems that are no longer needed.

2.6 Clear the Work Area and Store Tools and Equipment

When your work is finished (job completed or just finished for the day) you need to make sure the area is tidy before you leave.

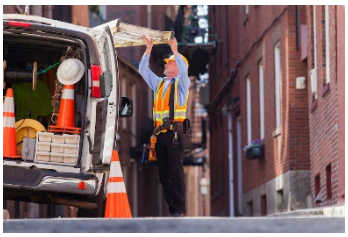
2.6.1 Clearing the Work Area

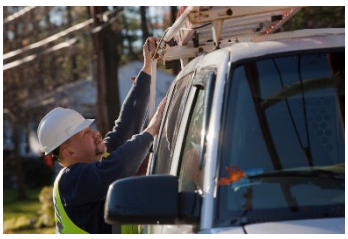
Follow worksite procedures and wear the right PPE when recovering and removing tools, equipment and materials from your work area.

Rubbish and other building debris can be a tripping hazard for workers and may have a negative impact on the environment. You need to make sure all rubbish is collected, sorted and removed or recycled correctly

Check the site environmental requirements to make sure everything is done in a safe way.

2.6.2 Checking and Storing Tools and Equipment





Tools and equipment need to be cleaned, checked, maintained and stored in line with the manufacturer's instructions and site or company procedures.

All tools and equipment should be cleaned after use to remove all dirt, mud, moisture or other contaminants that can damage it.

Check tools and equipment for damage or other faults. If anything is wrong you need to report it and carry out any repairs if you can.

Some tools and equipment require regular maintenance. This can include oiling timber surfaces, greasing metal surfaces or lubricating moving parts. Complete any maintenance records or documentation in line with organisational requirements, and make sure these are submitted to the correct person, or lodged appropriately.

Most tools and equipment will have specific storage instructions to make sure they will not be damaged and they can be easily found next time somebody needs to use them.

2.6.2.1 Reporting All Faults

Any damaged or faulty tools and equipment must be tagged and removed from use (isolated) to stop anyone else using them.

The problem should be written down in a logbook, checklist or other form.

You also need to tell your supervisor or other authorised person about the problem.