



**Mineral Products Association**

The Trade Association for the Aggregates, Asphalt, Cement, Concrete, Dimension Stone, Lime, Mortar and Silica Sand Industries



# Working at Height Safely

## EMPLOYEE GUIDE

Version 1.0

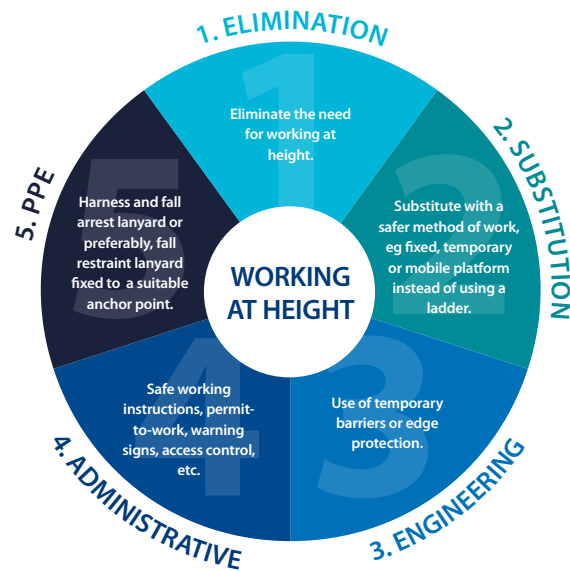
## Introduction

The MPA and its members have committed to Vision Zero; to ensure that everyone goes home 'Safe & Well Every Day'. Vision Zero is built around eliminating the causes of 'The Fatal 6'. These are the high-consequence hazards that analysis has shown are responsible for 94% of the fatalities within the industry. Working at Height (WaH) has been identified as one of 'The Fatal 6' with 17% of fatalities in the industry involving a fall from height. Even when a fall is from a height of less than two metres, fatalities and life-changing injuries can occur.

Working at height is a hazardous activity and operatives can be exposed to risks associated with working at height whilst undertaking daily activities such as loading, inspecting silos and other processing plants, sampling, access, and egress from mobile plant, and undertaking a wide range of maintenance tasks. Repeated near misses and falls are caused by missing floor gratings, working from ladders, fragile roofs, openings, and pits, scaffolding and scaffolders, misuse of MEWPs, incorrect use of PPE, crushers, and mobile plant with poor access for maintenance. However, with a few simple steps the risks of working from height can be eliminated or significantly reduced. Every fall that happens could have been avoided, and you have the ability to stop an accident before it occurs. This booklet will show you how you can avoid danger and keep yourself and your colleagues safe by using the Hierarchy of Controls (HOC).

This document has been prepared by the MPA and 3M to share good practice and to raise awareness of the potential hazards of work at height to help guide the industry to a safer working environment.

**VISION ZERO**  
SAFE & WELL EVERY DAY



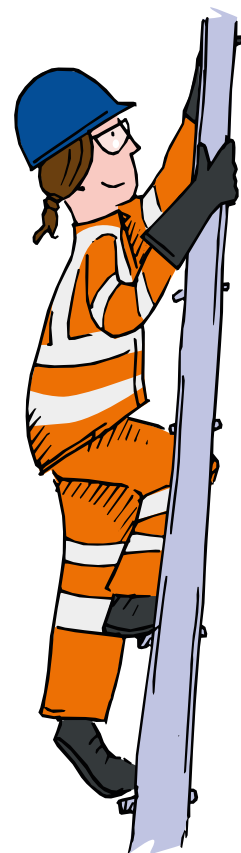
This is the Hierarchy of Controls (HOC). Whenever working at height is necessary, you should work through these steps in order to make everyone as safe as possible.



Examples of working at height - control measures must be put in place

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## What is Working at Height?

Any time you are working somewhere and there is the possibility you could fall a distance that could cause injury, you are working at height. This is more complicated than you might think. Even a small drop can cause an injury, and it's possible to fall even if you haven't climbed up anything, such as if you are working by a hole in the ground.

You might have heard that work only counts as working at height if you are 2m or more off the ground. However, this is no longer the case. The law was changed in 2005, and there is no minimum height anymore; any time there is the chance of a fall that could cause injury, you are working at height.

When we refer to working at height, or WaH, we mean:

- Any work done above ground or floor level
- Any work done in a location where you could fall from an edge, through an opening or through a fragile surface
- Any work done in a location where you could fall into an opening in a floor or a hole in the ground

That means there doesn't have to be a ladder, staircase or scaffolding involved for something to count as working at height. Remember, anywhere where a fall is a possibility (slips or trips on level surfaces don't count) is classed as working at height, and all the rules and regulations apply.

## What is Competency?

The HOC need to be considered by a competent person. Training is one element of competency, and personal development needs to be kept up-to-date to carry out your role safely. But competency is made up of lots of other elements, including training, to ensure your safety and the safety of those around you.



# STOP and THINK

## Health and Fitness to Work

Some of the things you will read in this booklet are not the most convenient ways to do your job. However, working safely isn't about convenience, it's about doing whatever it takes to keep you and your colleagues out of danger.

**Before you make any decisions while working, you should STOP and THINK:**

- Are there any risks?
- What could I do to eliminate or reduce them?

IF IN DOUBT, always talk to your Line Manager or Supervisor.

### Risk Assessments

You should try to familiarise yourself with the risk assessment for any work you do. However, remember that these are not set in stone. A risk assessment can always be changed and updated, so make sure you talk to someone if you think you've identified a danger or a way to avoid risk.

Before you start any kind of working at height, you should make sure you're medically fit and healthy enough to carry out the job. If in doubt, ask your Line Manager or Supervisor if they can carry out a working at height medical assessment.

**While this isn't a complete list, your ability to work at height can be affected if you have any of these conditions:**

- High blood pressure or high pulse
- A history of heart attacks, strokes, or similar seizures
- Musculoskeletal difficulties
- Mobility issues
- Taking any medication which may affect your ability to perform
- Having an aversion to heights in general

Tiredness and fatigue can also make you less safe, especially when working at height. Make sure you follow your working time directives to make sure you have enough energy to work safely.

## Elimination

### Can we totally remove the danger?

The first question you should ask yourself whenever you approach working at height is "could this risk be eliminated?" The best way to avoid accidents and falls is to remove the need to work at height altogether. That way nobody needs to be at height, and therefore nobody is at risk of falling.

If you can think of an alternative way to complete the work, talk to your Line Manager or Supervisor and recommend a different approach. You can do this at any point. Remember, safety is an ongoing process. If anything changes, or you have an idea to eliminate working at height that hasn't been considered before, you can always go to your Line Manager or Supervisor and suggest improvements.

If work at height cannot be eliminated, a competent person needs to work through the HOC to identify the safest way forward. The HOC must be applied during the job planning and during the selection of risk controls.

#### How can I eliminate working at height?

There are a few ways you can get rid of the risk of working at height by eliminating the need for it. Here are a few examples to consider:

- Using extendable tools so you can remain on the ground
- Lowering a damaged item to the ground rather than bringing yourself up to repair it at height
- Placing boards or supports on fragile surfaces so workers will not fall through them
- Covering up any holes in the ground before working near them

#### Before carrying out a task that requires work at height, consider:

- Whether you are competent to carry out the task
- Can collective fall prevention measures be implemented?
- The workplace location, including its associated hazards and risks.
- The likely fall distance and any hazards that may increase the risk (e.g. pendulum effect).
- The potential for falling objects when WaH, or when underneath WaH activity.
- Any floor or barrier openings or trap doors, shafts, etc.
- The access to WaH and its condition (e.g. the condition of ladders or stairs).
- The workplace conditions that could increase the risk (e.g. wind, lightning, rain, temperature).
- The choice and effectiveness of control measures, including supervision and Permit-to-Work.
- If you're using personal fall protection, you must also consider:
  - The location of anchor point(s), their load capacity and maintenance regime.
  - The choice of personal fall protection system and its specification.
  - Calculation of the 'fall clearance' distance (also known as 'clear fall').
  - The competency, authorization and supervision required to carry out the procedure.
  - The emergency rescue plan

## Substitution

If the task cannot be eliminated and the task must be completed, can we reduce the hazard?

If we can't eliminate the need to work at height, the next best thing to do is substitution. This means looking at the situation and seeing if any of the working methods can be replaced with a safer option.

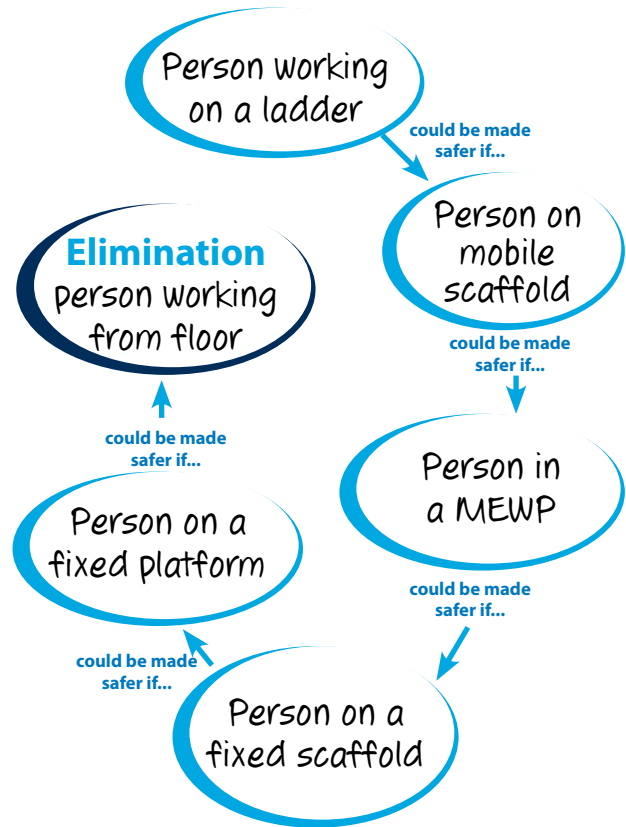
This can be tricky, as we need to make sure the new option doesn't pose additional risks. But remember, risk assessments are always being updated and it doesn't cost anything to suggest a substitution to your Line Manager or Supervisor.

### What does substitution look like?

Imagine you're at home and you need to get something down from a high shelf. All you have at hand is an office chair with wheels. Would you stand on that in order to reach it?

Probably not! You would SUBSTITUTE the chair for something safer, like a step stool, ladder or even just a chair without wheels.

Substitution in the workplace works in exactly the same way.



## Engineering

If the task cannot be eliminated or substituted and the task must be completed, what engineering solutions will make the work safer?

If you can't use elimination or substitution, you should look at the available engineering controls. These are the physical parts of your workplace that reduce risks when working at height.

For example, if you have a child who is just starting to walk, you'll probably notice all kinds of risks around the house! That's why you might install child locks on windows and cupboards, a guard on the stove or even padding on sharp corners on which they could bang their head; these are all engineering controls.

Here are some examples of the engineering controls you might see when working from height. Remember, you can always make suggestions if you think one control should be replaced with another.

### Fixed Platforms

Any kind of fixed structure, such as fixed scaffolding or a walkway, counts as a fixed platform. These are the safest options when working at height, as they will have guard rails and toe boards installed to prevent falls and dropped equipment.

#### Questions to ask:

- Is there room for a fixed platform to be installed?
- Are you working at height for long enough that a fixed platform will be worthwhile?
- Could a fixed platform replace any of the other engineering controls you are using? All permanent work platforms and elevated walkways with falling hazards must be protected with guardrails and toe boards.





### Temporary Barriers

These are barriers placed around the edges of fall hazards to both warn people of the risk and prevent them from getting too close to the edge.

#### Questions to ask:

- Are the barriers clearly visible?
- Are the barriers being affected by the weather, e.g. strong winds blowing them over?
- Are there any fall hazards that could be made safer by adding temporary barriers?

### Mobile Elevated Work Platforms (MEWPS)

MEWPs, which include cherry pickers and scissor lifts, are convenient ways of getting workers to high-up locations. However, as we mentioned before, safety is much more important than convenience! Remember to ask yourself if a more permanent engineering control might be a better fit for the work.

#### Questions to ask:

- Are there any overhead obstructions?
- Is the MEWP on level, flat and stable ground?
- Is it too windy to safely use a MEWP (wind speeds above 28mph are too dangerous)?
- Is the area around the MEWP clear enough that nobody would be hurt if something was dropped?

The working area around the MEWP must be made safe so as to prevent falling objects landing on other workers, and to reduce the likelihood of the MEWP being hit by other equipment. The size of the area must be related to the maximum height of the tasks being carried out, and the workplace hazards/risks.

MEWPs must be operated on level, flat, stable ground to ensure stability.

MEWPs must not be used when the wind speed is above 12.5m/s (28mph).

You must be trained, competent and authorised to operate the MEWP.

There must be an access ladder or steps to access the platform. Grab handles must be fitted at a suitable place(s) to make access easier and safer.

Access gates or doors in the barriers around the platform must open inwards and must not be used to exit at height unless a risk assessment has been carried out and a safe method of exiting has been planned and implemented.

A fall restraint system that is securely anchored and properly adjusted to prevent exit from the platform must be used.

You or your colleagues must not exit the platform until the MEWP has been completely lowered to the ground (unless the MEWP is being used for high-level access AND a risk assessment has determined that it is a safer than other methods of access AND a safe method of work has been developed).

The elevation or descent of the MEWP platform must only happen when the MEWP is stationary.

The MEWP must not be moved when the platform is raised.

A maintenance and inspection program (including pre-use inspection) must be in place and MEWPs must be thoroughly examined no less than every 6 months by a competent person.

### Scaffolding (Including Scaffold Towers)

Scaffolding can be fixed, which is safer, but here we are mostly talking about tower scaffolding. This is scaffolding that is free-standing, and therefore isn't attached to anything. Scaffolding is a common solution to working at height, but there will be situations where it is not the best option.

#### Questions to ask:

- Could this scaffolding be replaced with a fixed platform?
- Would a MEWP be a safer option?
- Is the weather making the scaffold more dangerous (e.g. slips in wet weather)?

Workers involved in the erection, alteration or dismantling of scaffolding must wear a suitable personal fall protection system as per manufacturer instruction or risk assessment and be competent and authorised. Scaffolding must be erected in accordance with the approved design including guardrails, toeboards and where required, outriggers.

Scaffolds must be inspected and findings recorded before first use, whenever modifications are made to the scaffold and after any event likely to have affected strength or stability (e.g. high winds, heavy rainfall, impact by mobile equipment, or an overloading event).

Each week the scaffold must be subject to a formal thorough systematic visual inspection.

During the inspection process, the findings and necessary corrections/repairs (if any) must be recorded.

All scaffolding must have a visible tag at points of access allowing or prohibiting the use of scaffolding according to the current inspection status. No access is permitted to scaffolding unless the scaffold is equipped with the 'safe for use' tag. Scaffolding must be immediately dismantled after it is no longer needed.

#### Personal Fall Protection Systems

**REMEMBER:** you can always ask your Line Manager or Supervisor if you aren't sure if you're using the right engineering controls.

The risk assessment will help you understand why the current controls have been used, but it isn't set in stone. If you think there is a safer option available, you should speak up and see if the risk assessment can be updated.

## Administration

### Are there any administration controls that will make the work safer?"

Administration controls exist to make sure everyone is qualified, well-trained and aware of the risks involved with working at height. You will probably not be involved with setting any of these up, although they will be a part of your work.

#### Administrative controls for work at height can include:

- Training / competency
- Risk Assessments
- Management Systems
- Monitoring Systems
- Standard Operating Procedures (SOPs),
- Authorization/Permit to Work
- Work Observations

#### Questions to ask:

- Am I trained to work at height?
- Have I read the risk assessment?
- Do I agree with what's in the risk assessment?
- Do I have a permit to work?
- Has everyone around me gone through the same administration processes?

## A Permit to Work (PTW)

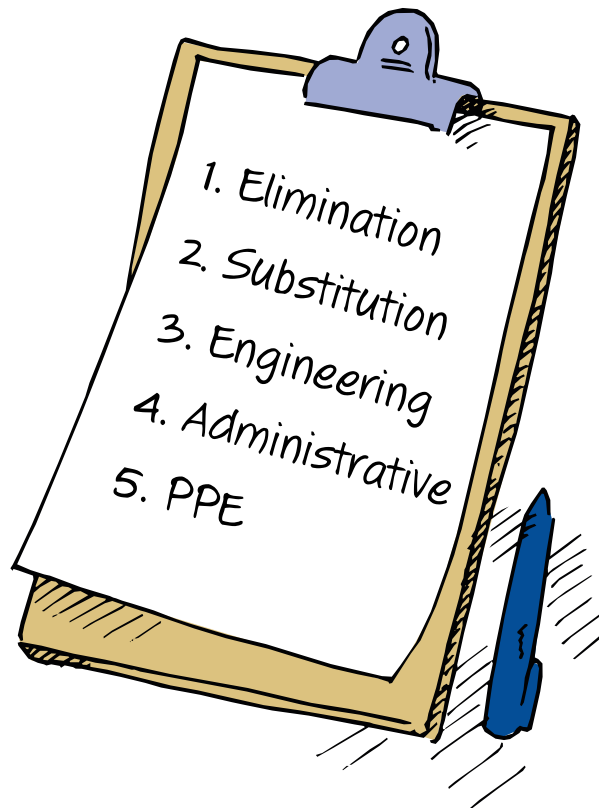
Most of the time when working at height, you will need a PTW. If you are not issued one, you should always check with your Line Manager or Supervisor to ask why.

The PTW will tell you what controls have been applied to keep you safe and will verify various aspects of your work, including that a risk assessment has been carried out and that a suitable rescue plan exists.

Make sure you check the PTW before undergoing any work at height, and always ask if you haven't been provided with one. A PTW is a record of the safety measures that have been put in place to keep you from harm, and you should make sure you're familiar with them in case of an accident.

A PTW record must contain the following as a minimum:

- Verification of WaH hierarchy of controls having been applied.
- Verification of the workers' and their supervisors' competency.
- Verification of the suitability and good condition of WaH equipment, including appropriate anchor points
- Verification that a risk assessment was completed and that it identified the drop zone, fall, clearance distance and any associated hazards and risks (e.g. pendulum risk, etc.).
- Verification that a rescue plan exists and is both suitable and sufficient.



## PPE

### What PPE do I need to use to keep myself and others safe?

The last resort, if none of the previous options can be applied, is PPE. That doesn't mean PPE is useless; it's great, and an essential part of protecting yourself. However, it isn't a substitute for elimination, substitution, engineering controls or administration controls.

Once you are sure you have thought about all the previous options, you can make sure you're wearing the correct PPE.

#### When working at height, there is an ABC of fall protection:

A typical Personal Fall Arrest System (PFAS) incorporates key components often described as the ABC of fall protection.

#### **A** Anchorages

Anchorages are a secure point of attachment (structure) for the fall arrest system.

#### **B** Body support

Harnesses provide a connection point on the worker for the personal fall protection system.

#### **C** Connecting devices

Connectors are devices used to connect the worker's full body harness to the anchorage system (eg. shock absorbing lanyard, self retracting lifeline). Double lanyards can provide additional security

#### **D** Descent and rescue

Descent and rescue devices are used to raise or lower a fallen or injured worker to safety or retrieve them from a confined space.

#### **E** Education

Training in safe work at height, use of fall protection PPE, use of access equipment etc.

#### **F** Fall protection for tools

Helps make work environments safer and more productive by reducing dropped object incidents.

Using PPE is the part of working at height safely that you will be the most involved with. You should therefore always be asking yourself the following questions, to make sure everything is as safe as can be:

- Does the PPE stop me from reaching an edge I could fall off? If not, could that be implemented?
- Have I chosen a strong enough anchor point to support me if I was to fall?
- Are there any sharp edges that could sever the PPE and cause me to fall?
- Is there enough space below me for the PPE to work if I were to fall?
- Does the PPE protect people on the ground from falling objects?
- Am I trained to use this PPE?
- Has this PPE been inspected?
- Have I checked the risk assessment to be sure I'm using the right PPE?
- What is my rescue plan if there is an accident?
- If I have any concerns about the above, have I raised them with my Line Manager or Supervisor?

## Audit and Review

Every aspect of working at height needs to be reviewed to make sure it is still relevant and safe. This is unlikely to be your job. However, you can still contribute to making your workplace safer.

Remember, risk assessments are always changing. If you think of any dangers that haven't been mentioned, or ways to make your work safer, you must speak up and tell somebody. That way, you can contribute to making your workplace safer for everyone.

## Top 10 Considerations for Work at Height

- 1. Highlight any opportunities to improve work at height activities to your site Manager or Supervisor**
- 2. Follow the hierarchy of controls: Always start with elimination of the need to work at height if at all possible**
- 3. Plan ahead: To prepare for working at height, you must be competent and understand the risks. Don't wait until you are halfway through a job before implementing preventative measures**
- 4. Always select work equipment that is safe to use and suitable for the task at hand and that everyone understands how to use them safely**
- 5. Always follow the risk assessment and SSOW's for work equipment; this should be in line with the manufacturers instructions**
- 6. Carry out daily checks to ensure machinery and equipment is safe or decide whether it needs maintenance**
- 7. Allow adequate clearance and exclusion zones underneath any work at height**
- 8. Do not overcome collective protection that safeguards multiple people or assume that your PPE will keep you safe; it is a last resort!**
- 9. Always have emergency or rescue procedures in place to deal with any situation in which an incident may occur**
- 10. Maintain good discipline at all times. Do not compromise any existing health and safety controls.**







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essential materials  
sustainable solutions

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