

Work at height, a risk for most industries.

Introduction

Work at height is defined as **any** place of work, where, if precautions are not taken, a person could fall a distance liable to cause personal injury. This could include:

- > Work above (or below) ground floor level
- > Work adjacent to a surface that does not offer protection against falls (i.e. fragile surfaces)
- > Work next to holes in the ground (i.e. manholes)

For many years, work at height has been the primary cause of workplace fatalities in the UK. In the period 2019/2020¹, there were a total of 111 workplace fatalities and of these, 29 (26%) were caused by falls from height. In the period between 2009 to 2020, the number of people killed by falls from height was 137².

Historically, fatal falls from height have occurred primarily in the construction and agriculture, forestry and fishing industries, but 2019/2020 also saw a total of 6 fatal falls in the administrative and support services industry³, so it is clear that work at height presents a risk to many different UK industry sectors, and not just those that are stereotypically considered to be the most dangerous.

In addition to the human impact of a serious workplace injury or fatality, which includes loss of income, pain and suffering, worry, stress, damage to staff morale and lost productivity, there are also huge financial implications, which can include:

- > Fines
- > Increased insurance costs
- > Retraining
- > Loss of management time

Prevention of falls from height is very often simple to achieve by ensuring that the work is properly planned and supervised, those involved are competent and that the correct and most appropriate equipment is provided.

¹ <https://www.hse.gov.uk/statistics/fatals.htm>

² <https://www.hse.gov.uk/statistics/pdf/fatalinjuries.pdf>

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Legal duties

The Health and Safety at Work etc Act 1974 (HSWA etc) requires employers to ensure the health and safety of all employees and anyone affected by their work, so far as is reasonably practicable. Employees have a duty to take care of their own health and safety and that of others.

The Work at Height Regulations 2005 apply to all work at height activity and is specifically intended to prevent death and injury caused by falls from height. The Regulations place duties upon a wide range of individuals, including employers and workers, but also on those responsible for controlling work at height, for example, building owners or managers who may bring in others to carry out maintenance activities on their behalf.

Employers and those in control of any work at height activity must make sure work is properly planned and supervised and that it is carried out by suitably trained and competent workers. This includes using the right type of equipment for working at height. Low-risk, relatively straightforward tasks will generally require less effort when it comes to planning, and a simple risk assessment is always the first step towards ensuring that the work is carried out safely, regardless of the complexity of the task.

The Regulations stop short of specifying a height at which they will apply, so it should be considered that they are applicable to any and all work at height, above or below ground level when a risk of injury is possible from someone or something falling.

Fragile roofs

Fragile roofs are a huge problem in the UK, and every year, they account for a fifth¹ of all fatal workplace accidents in the UK as a result of people falling through them, with many suffering from permanent disability.

Fragile roofs are most prevalent in factories, warehouse and farm buildings and in some older domestic properties. They take various forms, and the most common are:

- > Roof lights;
- > Liner panels on built-up sheeted roof
- > Non-reinforced fibre cement sheets
- > Corroded metal sheets
- > Glass (including wired glass)
- > Rotted chipboard
- > Slates and tiles

Falls from or through fragile roofs are relatively easy to prevent and this can be achieved by implementing a series of basic control measures that prohibit access until a safe system of work has been implemented. Typically, this might include providing a proper means of stair or ladder access, limiting the work area on the roof by using barriers and the use of a proprietary lightweight decking system that spans the purlins and provides a safe work area for those who require access.

All work at height must be planned, managed and carried out by competent people, who have a good knowledge of the risks of working at height, and the task to be undertaken. For this reason, training is essential at every stage of the work at height process.

Planning

Taking time to plan work at height can save lives and offer significant cost savings. Getting things right is usually far cheaper than getting things wrong!

Work at height takes very many different forms and therefore, there is no single 'one size fits all' solution for all work at height activity. For this reason, careful assessment of the task that is to be carried out, by somebody who knows what the work will involve, is a critical step in ensuring that the most appropriate means of fall protection are used. If work at height can be avoided, it should be!

The Work at Height Regulations requires that a hierarchical approach is taken when planning work at height and the image below shows how that requirement is typically interpreted.

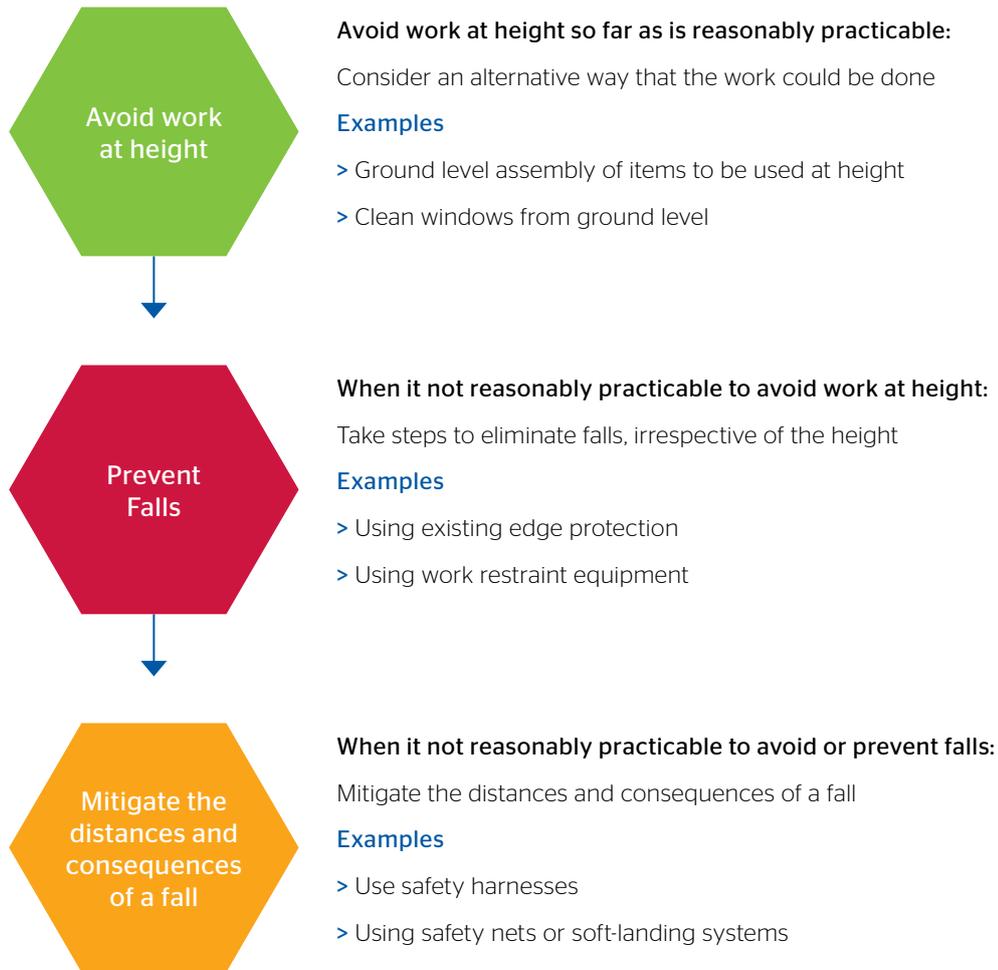
Other considerations to be made when planning work at height include:

- > Weather conditions – current and forecast conditions should be considered.
- > Inspection arrangements for the area where work at height will take place.
- > Means to control the risk of objects falling from height.
- > Rescue arrangements – what needs to be done to retrieve casualties who are working at height.

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Hierarchy of planning work at height

For each step, it is important to consider what is reasonably practicable in the circumstances. 'Collective' protection measures (i.e. those that protect more than one person, such as fixed edge protection) should be used in preference to 'personal' protection.



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Methods of protecting against falls

Collective protection should be prioritised

When planning work at height, preference should always be given to using collective protection measures over those that offer only personal protection.

Many of the means of offering collective protection against falls from height also offer a means of access. These include:

- > Fixed and mobile scaffolds
- > Podium steps
- > Mobile Elevating Work Platforms (MEWPS)
- > Barriers
- > Walkways

Scaffolding should always be constructed and modified by qualified persons, usually those holding CISRS qualifications (for fixed scaffolding) or PASMA qualifications (for mobile aluminium towers).

Scaffolding is commonly used for access around the world, and this is because whilst it provides collective protection against falls, it also provides a safe working platform for those working at height.

In the UK, scaffolding that forms a working platform must be inspected by a competent person upon completion, every seven days thereafter and after any event that might compromise its stability or safety.

Personal protective measures rely upon the use of personal fall protection equipment (PFPE) and they only protect the user. The most common example of PFPE is safety harnesses. It is important to note that only the individual user is protected by PFPE and that a high level of personal discipline is required to ensure the equipment is worn and used correctly.

Types of personal fall protection equipment

Broadly, there are four different varieties of PFPE. These are:

1. Fall restraint systems
2. Rope access systems
3. Work positioning systems
4. Fall arrest systems

Regardless of whether collective or personal protection is chosen, all work at height requires those carrying it out to be competent and therefore adequate training supervision and instruction is essential. The training should include emergency situations and what needs to be done if someone needs rescuing from height, whether that be someone whose fall has been arrested, or someone who suffers a medical emergency at height.

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It is a legal requirement to inspect equipment used for work at height and while the specifics of the inspection regime may vary depending on the type of equipment being used, all equipment should be inspected at the required intervals, to ensure it remains in a condition that is fit for purpose.

There are many different varieties of **Personal Fall Protection Equipment (PFPE)** that is designed to suit many different work at height scenarios. Selection of the right equipment is essential, and this can often be achieved by engaging with those who will actually carry out the work. Provision of the wrong type of PFPE can have fatal consequences and therefore, considerable effort should be put into establishing that the correct equipment is specified and used, and that those using it are adequately trained.

The principle of **preventing falls** should always be preferred to arresting falls, and therefore **work restraint** equipment should be used where possible. Equipment of this nature physically prevents the user from placing him/herself in a position where they could become exposed to a fall from height.

Most typically, this equipment includes 'mansafe' restraint systems used in roof work and they involve the user wearing a harness to which a fixed-length lanyard is attached, which prevents the encroachment into danger areas.

Some work at height requires the use of **work positioning** systems. These are primarily seen in the telecoms sector, and are used by Engineers who are required to work with their hands free, in supported or partly supported positions, that would without such equipment be deemed unsafe.

Work positioning systems require the use of a back-up fall protection system, to ensure user safety in the event that the primary system fails.

Some work at height tasks lend themselves to being carried out by specialist rope access technicians, where ropes and specialist equipment is used to gain access to the work location and allow the user to remain suspended there. Rope access requires a high level of competence and is should only ever be carried out by specialists who have received all of the right training and equipment.

Fall arrest harnesses are perhaps the most commonly used form of **PFPE**, and they are most commonly used by Scaffolders and others in the construction industry. Technological advancements mean that modern fall arrest systems allow a limited degree of user movement and therefore they are often viewed as being a practical option.

Fall arrest harnesses rely on the identification and use of a secure anchor point and although they permit a fall to occur, they mitigate the consequences of any falls through a shock absorbing lanyard that connects the user to the anchor point and reduces the impact of the fall when they are activated. In the event of an arrested fall, it is likely that the user will be suspended by his fall arrest equipment and therefore it is essential that a rescue plan is in place before the work commences.

Other equipment used at height

Ladders can often provide a quick solution for some work at height tasks, however, their use must always be justified by risk assessment and they should only ever be used for lightweight tasks that can be performed with one hand, so that one hand remains free for the worker. If this is not possible, or it cannot be justified by a risk assessment, then the likelihood is that another form of access should be used.

Podium steps can provide a lightweight and convenient means of gaining low-level access to height. They are often viewed as being a safer alternative than ladders, because they are often mobile, they provide fall protection on all four sides and they free up both hands for users and they provide a lower risk alternative than ladders.

Falling materials

Those planning work at height should also consider the required steps for preventing materials falling from height, and this extends to the tools being used by those carrying out the work. Tool tethering is now common during work at height activities, and involves the tools being used being secured to an anchor point to prevent them from falling if they are dropped.

Remember! Taking the time to plan and organise work at height will ensure that the correct training, equipment and processes are used, and doing so can have a huge impact on preventing falls from height and the costs that are associated with them!

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Case study

As their business involved building staging and other structures in the events industry, a UK-based company identified that a significant proportion of their activities involved operatives working at height, installing modular components, and as such, the largest single hazard faced by their staff was the potential for falling from height, whilst connecting the modular components in their final position.

The company reviewed their processes and implemented a strategy which aimed to reduce the quantity of work at height that was being undertaken to the lowest practicable level. To achieve this, they engaged their workforce and formed a review committee, which studied each particular task and identified alternatives to work at height.

The committee identified that approximately 60% of the company's work at height could be undertaken from ground level, if lifting equipment was used to raise component parts to the required areas and therefore, exposure to potential falls would be significantly reduced. As a result of their new strategy, the company has seen a reduction in workplace risk and an increase in productivity.

Conclusion

Implementing a strategy to control work at height can have many benefits. By taking the relatively simple steps of ensuring that work at height is properly assessed and planned, and that it is carried out by competent people, who are well supervised with the right equipment, the physical risk to workers and the hidden consequences of workplace accidents can be greatly reduced¹.

When working through the development of a Work at Height management system there are a number of documents in the QBE Work at Height Toolkit that can be referred to. These documents include:

- > Work at Height policy and hierarchy risk assessment
- > Toolbox talks for managers and employees
- > Risk Essentials Guidance notes on Fall Protection, Fall Arrest, Ladders and Fragile Roofs
- > Work at Height Equipment Inspection Record
- > Work at Height audit template

If you have any further queries about developing a Work at Height management system, please get in touch with your QBE Risk Solutions contact.

¹ Produced in conjunction with Simian Risk Group

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