Working at Height

February 2022

A guide to preventing falls from height

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Introduction

Falls during work at height are the most common cause of fatalities at work in Britain, resulting in the deaths of 35 workers in Britain in 2020-21 alone.

As a result, UK employers have a strict legal duty to take all reasonably practicable measures to prevent anyone at work falling a distance that could kill or injure them. In short, this means assessing the risks from work at height and ensuring it is properly planned, supervised and carried out by competent people using the most suitable equipment and methods.

This guide provides an overview of the key steps to take to ensure safe work at height, and provides some basic advice on the use of some of the more common types of access equipment. It is based on guidance from the Health and Safety Executive (HSE) and some of the leading trade associations for work at height. See the back pages for further details.

Thomas Tevlin
Editor

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Working at Height

Working at height is one of the most dangerous tasks that people are required to carry out at work, with official figures showing that 25 per cent of all fatal injuries to workers in Britain in recent years were caused by falls from height.

In fact, figures from the Health and Safety Executive (HSE) show that during the five-year period from 2016–2021, 34 British workers lost their lives every year on average in falls from height, with more than half of the deaths occurring in the construction industry. Falls from height are also a major cause of non-fatal injuries, with British employers reporting over 4,000 injuries to employees in falls from height in 2020–21, with over half of these the most serious injuries, such as broken bones. Indeed, around one in six of the most serious ('specified') injuries to British employees reported under RIDDOR in 2020–21 were due to falls from height.

Although work at height is often associated with the construction industry – such as tasks carried out on roofs or scaffolds – anyone can be at risk of being killed or seriously injured while working at height if adequate and suitable precautions are not taken. For instance, workers accessing high areas of plant, equipment and goods in workplaces such as factories and warehouses – and staff carrying out work at height in environments such as shops, offices and schools – can all be at risk of falling.

Clearly, apart from the terrible suffering these incidents can wreak on the workers involved and their families, friends and colleagues, fall from height injuries can impose huge costs on employers and society, through impacts such as sickness absence and healthcare costs.

It is therefore crucial that those in charge of work at height take adequate and appropriate precautions to prevent workers falling a distance that could cause them injury. This means avoiding risky work at height whenever possible, but, if this proves impractical, ensuring the risk of a fall is eliminated or reduced, as far as is reasonably practicable.

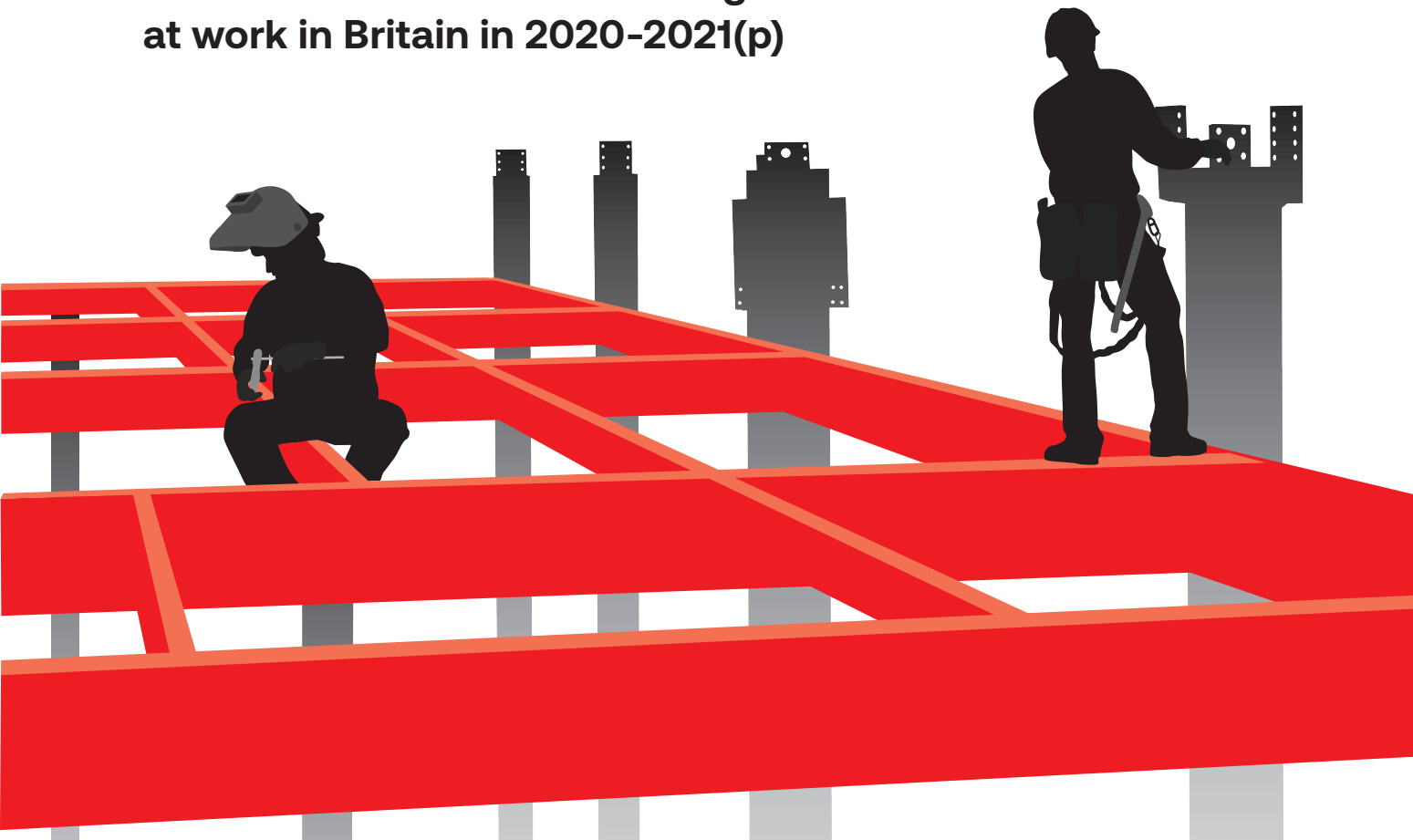
This guide provides an overview of employers' legal duties to protect workers from the risk of falls from height. It also provides some basic tips on how to work safely at height, using the more common and simple types of access equipment.

> **"Anyone can be at risk of being killed or seriously injured while working at height.**

Some facts and numbers

35

workers killed in falls from height at work in Britain in 2020-2021(p)



25%

of all fatal injuries to workers in Britain in the five-year period 2016-2021(p) were due to falls from height – an average of 34 fatalities per year

4,143

specified (i.e. serious) and over-seven-day (i.e. seven-day absence) non-fatal injuries due to falls from height to British employees reported by employers under RIDDOR in 2020-21(p)

50%

of all fall from height deaths among workers in Britain in the five-year period 2016-2021(p) were in the construction industry – an annual average of 18 deaths

Source: HSE, hse.gov.uk/statistics (p = provisional)

Employers must take suitable measures to prevent workers falling a distance that could result in injury.

It is based on guidance from Britain's workplace safety regulator, the HSE, and from some of the leading trade associations for work at height. Both offer much more detailed safety advice – see the back pages for the relevant links.

What the law says

Under the Work at Height Regulations 2005 (WAHR) – and related legislation, such as the Health and Safety at Work Act 1974 (HSWA) – UK employers are required to take all reasonably practicable measures to protect employees (and if necessary other workers operating under their control), from the risk of being killed or injured in a fall from height.

Under the WAHR, work at height means work in any place where, if precautions were not taken, a person could fall a distance liable to cause them injury. Typical examples include:

- Work above ground or floor level – such as on roofs, scaffolds and ladders
- Work where someone could fall from an unprotected edge, or through an opening or fragile surface – such as from a mezzanine floor in a warehouse or through a fragile roof
- Work in locations where someone could fall into an opening in a floor or a hole in the ground, like an excavation.

As well as the more obvious risks during taskslike work on ladders, scaffolds, mobile elevating work platforms and roofs, work on vehicles may also pose a risk of a fall – for example, when someone stands on a lorry trailer while loading or unloading materials from it.

However, work at height does not include a slip or a trip on the level, as a fall from height has to involve a fall from one level to a lower level. It also does not include walking up and down a permanent staircase in a building.

The WAHR require those in control of work at height that could cause a fall leading to injury to ensure the work is properly planned, supervised and carried out in a safe manner by competent people, using the most appropriate equipment and methods.

This means assessing the risks to identify the most appropriate precautions to both prevent people or materials from falling. Employers should take into account factors such as:

- The height of the task
- The distance and consequences of a potential fall
- How long the work will last and how often it will be undertaken
- The condition of the surface being worked on
- The competence of the workers
- The most suitable equipment for the task
- Any relevant weather conditions.

In general, HSE says employers should take a "sensible, pragmatic approach" when deciding on the most suitable precautions for working safely at height.

Hierarchy of controls

The WAHR set out a hierarchy of control measures for deciding how to work safely at height. This must be followed systematically and only when one level is not reasonably practicable may the next level be considered. This means:

- Avoiding work at height that could cause a fall resulting in injury where it is reasonably practicable to do so
- Where work at height cannot be avoided, preventing falls by using either an existing place of work that is already safe or the correct type of equipment
- If the risk of a person falling cannot be eliminated, minimising the distance and consequences of a potential fall by using the right type of equipment.

Employers should first seek to avoid the need for work at height by working from the ground or a safe location. For example, it may be possible to use extendable tools while positioned at ground level. For instance, telescopic tools can be used for window cleaning; a camera attachment on a telescopic pole can be used to carry out a roof inspection; or a roof can sometimes by inspected from a safe area on an adjacent building using binoculars.

However, if work at height cannot be avoided and a risk of a fall leading to injury remains, employers must seek to prevent falls by using an existing place of work that is already safe. Common examples include:

- Working on a non-fragile flat roof fitted with existing edge protection, such as a permanent high parapet wall or permanent perimeter guard rails
- Ensuring that plant or machinery have fixed guard rails positioned around them to prevent falls
- Ensuring that mezzanine floors in areas

such as warehouses have suitable guarding or fencing.

If it is not practicable to work from an existing safe place at height, suitable work equipment should be used to prevent workers falling. Common examples include a general access scaffold, a tower scaffold or a mobile elevating work platform (MEWP) fitted with guard rails to prevent a fall, or podium steps.

It may also be necessary to consider using work equipment that prevents an individual from falling. For example, it may be appropriate to provide a work-restraint system in the form of a personal harness and a short lanyard that prevents the worker from getting into a position where they could fall, such as the edge of a roof.

If, despite the above, the risk of a person falling cannot be prevented, employers must use appropriate work equipment or other measures to minimise the distance and consequences of a fall should one occur. Ways of achieving this include installing safety nets and soft-landing systems, such as inflatable air bags, close under the work surface. Employers may also need to consider using work equipment that will arrest any fall, such as a personal fall arrest system with a secure anchorage point.

It may be acceptable and appropriate to use ladders and stepladders, if the risk assessment shows that using other work equipment that offers a higher level of fall protection is not justified because of the low risk and short duration of use; or where there existing workplace features which cannot be altered.

Crucially, when selecting the most appropriate controls and equipment for work at height, employers must always first consider using 'collective protection' measures that safeguard everyone before measures that only protect the individual worker ('personal protection' measures).

Collective protection protects everyone at risk and, once installed or in place, does not require the person or people working at height to act for it to be effective. Examples include a general access scaffold; permanent or temporary guard rails installed around the edge of a flat roof; a tower scaffold; a MEWP; safety nets; and soft-landing systems.

However, personal protection equipment, such as a fall arrest harness that the user connects, via an energy-absorbing lanyard, to a suitable anchorage point, must be lower down the hierarchy of measures because it requires the individual to act for it to be effective.

The WAHR also place a number of other duties on those in control of work at height. These include:

- Ensuring workers can get safely to and from the area where they will work at height
- Ensuring all access and safety equipment is suitable, stable and strong enough for the job; and maintained and checked regularly
- Taking account of weather conditions that could affect workers' safety (the WAHR specifically state that work at height must not be carried out if weather conditions, such as strong winds, could endanger workers)
- Ensuring workers do not overload or

Free guidance:

HSE, and the various work at height trade associations, have published a range of free guidance on safe work at height.

HSE

Health and Safety Executive

Working at height

A brief guide

This is a web-friendly version of leaflet INDG401(rev2), published 01/14

Introduction

This brief guide describes what you, as an employer, need to do to protect your employees from falls from height. It will also be useful to employees and their representatives.

Following this guidance is normally enough to comply with the Work at Height Regulations 2005 (WAHR). You are free to take other action, except where the guidance says you must do something specific.

Falls from height are one of the biggest causes of workplace fatalities and major injuries. Common causes are falls from ladders and through fragile roofs. The purpose of WAHR is to prevent death and injury from a fall from height.

Work at height means work in any place where, if there were no precautions in place, a person could fall a distance liable to cause personal injury. For example you are working at height if you:

- are working on a ladder or a flat roof;
- could fall through a fragile surface;
- could fall into an opening in a floor or a hole in the ground.

Take a sensible approach when considering precautions for work at height. There may be some low-risk situations where common sense tells you no particular precautions are necessary and the law recognises this.

There is a common misconception that ladders and stepladders are banned, but this is not the case. There are many situations where a ladder is the most suitable equipment for working at height.

Before working at height you must work through these simple steps:

- avoid work at height where it is reasonably practicable to do so;
- where work at height cannot be avoided, prevent falls using either an existing place of work that is already safe or the right type of equipment;
- minimise the distance and consequences of a fall, by using the right type of equipment where the risk cannot be eliminated.

Figure 1 gives further guidance and examples for each of the above steps to help you comply with the law.

You should:

- do as much work as possible from the ground;
- ensure workers can get safely to and from where they work at height;
- ensure equipment is suitable, stable and strong enough for the job, maintained and checked regularly;

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HSE's guidance is at:

hse.gov.uk/work-at-height

overreach when working at height
- Taking adequate precautions when working on or near fragile surfaces, such as fragile roof lights
- Drawing up suitable plans to deal with an emergency or rescue during work at height – for example, to recover a worker if they fall while wearing a fall arrest harness and lanyard and are left suspended above the ground
- Taking appropriate steps to prevent people from being injured by falling materials and objects – such as ensuring that materials, objects and tools are stored safely at height.

Those in charge of work at height must also ensure that the workers carrying out and planning the task have the appropriate skills, knowledge and experience to do so safely.

HSE says in the case of low-risk, short duration tasks involving ladders for instance, ensuring competence might simply mean making sure that workers receive adequate instruction and training on how to use the equipment safely. However, work that requires a higher level of competence – such as erecting and working on a tower scaffold or using a mobile scissor lift – will clearly require more detailed information and training.

Working platforms

The WAHR define a working platform as virtually any surface from which work at height is carried out. This includes roofs, general access scaffolds, tower scaffolds, MEWPs and trestles.

The regulations set specific

requirements for working platforms to ensure there are suitable fall protection features in place to prevent or reduce the risk of workers falling off the platform, such as guard rails and toe boards.

Generally speaking, the law requires guard rails, toe boards or equivalent barriers to be provided on working platforms – such as general access scaffolds and tower scaffolds – to prevent workers from falling from the platform edge, when necessary and practicable. In particular, on working platforms used for construction work:

- The top or main guard rail must be at least 950mm above any edge that people could fall from
- A sufficient number of intermediate guard rails (or suitable alternatives) must be provided so that any unprotected gap is no bigger than 470mm
- Toe boards must be suitable and sufficient to prevent any person, object or material falling (HSE says they should be usually at least 100mm high).

For guard rails on working platforms used for non-construction work, HSE says there is no specific legally required height. Instead, the guard rails, toe boards and other collective means of protection must generally be of a suitable dimension to ensure a person or object cannot fall through or over them. However, HSE says that guard rail heights on platforms used for non-construction activities should generally be a minimum of 950mm, and any protection below this height should be justified on the basis of a risk assessment.

The WAHR also require employers to take adequate steps to prevent objects that are used, stored or created during work at height – such as building materials, tools and debris – from falling and injuring people below, such as workers or members of the public.

For example, toe boards or similar types of protection must be installed on working platforms such as general access and tower scaffolds if there is a risk of objects falling, rolling or being kicked off the edge of the platform and hitting and injuring people below.

Other ways of preventing objects falling during work at height – or ensuring that they are caught so they do not strike people below – include:

- Fitting debris netting to general access scaffolds
- Erecting a scaffold fan (a scaffolding-type structure that is fitted to the perimeter of a building or a scaffold to capture falling objects and prevent them landing on people below)
- Minimising the amount of materials that are stored at height – for example, during roof work – and ensuring waste materials do not build up in the work at height area
- Lowering waste materials to the ground in suitable containers or using enclosed rubbish routes (workers must be instructed to never throw materials such as roof slates from height)
- Creating exclusion zones underneath the work at height to keep people out of the danger area
- Arranging for work at height to be carried out when passers-by are not present

- Ensuring that, if a platform such as a MEWP or a cradle features a mesh floor, the mesh is fine enough to prevent materials, such as nails and bolts, from slipping through it.

Safety inspections

The WAHR also require that, if the safety of work equipment used for work at height – including working platforms such as general access scaffolds, tower scaffolds and MEWPs; guard rails and toe boards; safety nets; and personal fall protection systems – depends on how it is installed or assembled, the equipment must not be used after its installation and assembly until it has been inspected in that position by a competent person.

All equipment used for work at height – such as general access scaffolds, tower scaffolds, MEWPs, safety nets, ladders and personal fall protection systems – exposed to conditions that may cause it to deteriorate, resulting in a dangerous situation, must also be inspected at suitable intervals appropriate to the environment and use. An inspection of the work at height equipment must be carried out after any event that may have affected its safety or stability, such as adverse weather or accidental damage.

Also, any working platform used for construction work from which a person could fall more than two metres (such as a general access scaffold, tower scaffold or MEWP), must be inspected:

- After assembly in any position
- After any event liable to have affected its stability and safety
- At intervals not exceeding seven days.

In the case of a mobile working platform, such as a tower scaffold or MEWP, a new inspection and report is not required every time it is simply moved to a new location on the same work site.

However, if a tower scaffold has to be significantly altered to make the move, or re-assembled at the new location, it must be re-inspected by a competent person to ensure it has been correctly re-assembled. Also, if anything happens when moving a tower scaffold that may have affected its safety it should be re-inspected at the new location by a competent person.

The results of the inspections of all types of work at height equipment must be recorded and retained, including for:

- Guard rails, toe boards, barriers or similar collective means of protection
- Working platforms that are fixed (such as a scaffold around a building) or mobile (such as a MEWP or a tower scaffold)
- Personal fall protection systems (for example, work restraint and fall arrest systems)
- Ladders.

The results of the inspections must be kept until the next inspection is carried out and recorded. However, there are more stringent rules around completing and retaining inspection reports for working platforms that are used for construction work and from which a person could fall two metres or more. See HSE's guidance at www.hse.gov.uk/work-at-height for more details.

Safety Steps documents issued to help when drafting work at height safety messages

Free documents that can be used to produce a variety of materials on safe work at height – such as worker toolbox talks – have been launched by the Construction Industry Advisory Council (CONIAC) and the Access Industry Forum (AIF).

The *Safety Steps* documents set out the key actions that five main groups – designers, clients, managers, supervisors and workers – need to follow to ensure safe work at height during construction and maintenance tasks. The messages are designed to be used in full or in part by those wishing to produce materials for the five target audiences – such as training courses, rules and guidelines, checklists, toolbox talks and social media campaigns.

Each document contains general messages on safe work at height, rather than giving instructions on specific, technical matters – such as the correct assembly and use of scaffolds. The idea is to avoid the need for those who create guidance for the five key audiences to have to continually re-create the essential work at height safety messages everyone should follow.

Safety Steps was created by CONIAC, a voluntary group that advises HSE on how best to control health and safety risks in the construction industry. It was produced with the support of the AIF, a forum for all the principal trade associations and federations involved in work at height.

See:
accessindustryforum.org.uk/safety-steps

If an inspection of any work at height equipment shows that it is potentially unsafe to use, the work must be stopped until the fault is corrected.

Employers must also ensure that before using any equipment – such as a MEWP – which has come from another business or a rental company, it is accompanied by an indication (that is clear to everyone involved), of when the last 'thorough examination' has been carried out, where there is a legal requirement for the equipment to undergo a thorough examination by a competent person at suitable intervals.

Tower scaffolds

One form of access equipment that can provide safe means of gaining access to and carrying out work at height is a tower scaffold, sometimes known as a mobile access scaffold or mobile access tower.

Like any form of access equipment, a tower scaffold must only be specified

and used if the risk assessment shows it is the most suitable item of equipment for the job. For example, in its guidance on construction work, HSE says a tower scaffold might be a suitable and safe solution for carrying out work to the first-floor windows of a building. However, the guidance warns that a tower scaffold will generally be more difficult to use safely for work that has to be done at varying height, such as underneath a sloping factory roof.

Like all access equipment, tower scaffolds must only be erected, used and dismantled by trained and competent people. This is important because the safety and stability of a tower can be easily affected, which could either cause workers to fall from the tower or cause the tower to overturn. For example, workers can fall from a tower if the platform guard rails are missing and towers can easily overturn if they are used incorrectly, such as by placing a ladder on top of the platform.

The manufacturer or supplier of a tower scaffold has a legal duty to provide a manual providing information such as the correct assembly sequence and the height to which the tower can be safely erected to. Also, towers should only be assembled and dismantled using one of two methods recognised as safe by HSE and PASMA, the trade association for the mobile access tower industry. These are:

- **The advanced guard rail system (AGR)** – where temporary guard rail units are locked in place from the level below and moved up to the platform level, meaning there is collective fall prevention in place before the worker accesses the platform to fit the permanent guard rails.
- **Through-the-trap (3T)** – where the worker positions themselves in the open trap door of the platform, from where they can add or remove the components which act as guard rails on the level above the platform. This avoids the need to stand on an unguarded platform.

Tower scaffolds must also feature suitable edge protection, such as double guard rails and toe boards, to prevent people or materials falling from them. There must also be a safe way of getting to and from the working platform, such as a built-in internal ladder.

To ensure the stability of the tower, it must be placed on firm, level ground with the locked castors or base plates properly supported. The stabilisers or outriggers must also be installed when required by the instruction manual.

Other general points to remember for the use of mobile access towers include:

- The tower must never be erected to a height above that recommended by the manufacturer
- Towers must never be used in strong winds as they can overturn (PASMA recommends stopping work on a tower if the wind speed reaches 17mph)
- The tower's working platform must never be used as a support for ladders, trestles or other access equipment
- The working platform must not be overloaded
- The storage of materials and

equipment on the working platform should be minimised
- If towers are used in public places, it may be necessary to take additional precautions, such as erecting barriers at ground level to prevent people from walking into the work area.

HSE adds that, if a mobile tower needs to be moved after it has been assembled:

- There must be no people or materials present on it
- The move should not be attempted in windy conditions
- The height should be reduced to a maximum of 4m
- There should be no nearby dangerous obstructions, such as overhead electric power lines
- The ground must be firm, level and free from potholes
- The move should only be carried out using manual pushing or pulling from the base.

See PASMA's website for guidance on the safe use of mobile access towers: pasma.co.uk

Ladders and stepladders

One of the most commonly used forms of work at height equipment is the ladder, both leaning ladders and stepladders. However, although ladders can be a suitable and cost-effective option for low-risk, short-duration tasks, they are involved in many fall accidents each year.

The WAHR state ladders can be used for work at height where a risk assessment shows the use of equipment with a higher level of fall protection – such as podium steps, a mobile tower scaffold or a MEWP – is not justified because of the low risk and short duration of use, or because there are existing workplace features which cannot be altered.

However, HSE says the short duration of a task should not be the deciding factor in whether a ladder is an acceptable form of access, and employers must consider the risks from the work and the most suitable of access equipment for the job and situation.

As a general guide, HSE says that if the task involves staying up on a leaning ladder or stepladder for more than 30 minutes at a time, alternative access equipment should be considered.

HSE adds that ladders should also only be used in situations where they can be used safely – for example, where the ladder will be level and stable, and the ladder can be secured (where it is reasonably practicable to do so).

In July 2021, the Ladder Association – the trade association for ladder manufacturers, suppliers and training providers in the UK and beyond – published a revised guidance leaflet on the safe use of ladders and stepladders, with the support of HSE. *Safe Use of Ladders and Stepladders – a brief guide* (LA455), replaced a HSE publication of the same name, known as INDG455. Although much of the advice is unchanged, the new leaflet features additional guidance on the importance of user training and new advice on the correct use of telescopic, combination and multi-purpose ladders. The new leaflet can be found at: www.

ladderassociation.org.uk/la455/ and some general tips on the safe use of leaning ladders and stepladders can also be found on HSE's website.

For example, the leaflet reminds employers and workers of the importance of ensuring that any ladder or stepladder is both suitable for the task (for example, strong and robust enough for the job), and is in a safe condition before using it.

For instance, the Ladder Association and HSE both recommend the user should always carry out a pre-use check to spot any obvious visual defects. A pre-use check should be carried out:

- At the beginning of the working day
- After something has changed – for example, if a ladder has been dropped or moved from a dirty area to a clean area (the user should check the state or condition of the feet).

The pre-use check of a ladder, stepladder, telescopic or combination ladder should cover areas such as:

- The stiles – if they are bent or damaged, the ladder could buckle or collapse
- The feet – if they are missing, worn or damaged the ladder could slip
- The rungs – if they are bent, worn, missing or loose, the ladder could fail
- The locking mechanism – if the mechanism does not work properly, or the components or fixings are bent, worn or damaged, the ladder could collapse. The locking bars must also be fully engaged
- The stepladder platform – if it is split or buckled, the ladder could become unstable or collapse
- The steps or treads on stepladders – if they are contaminated, they could be slippery; and if the fixings are loose on the steps, they could collapse.

The Ladder Association/HSE leaflet also provides tips on the correct and safe use of various types of ladder. For instance, it says that before using a ladder, the user should always have access to the instructions from the manufacturer in case they need to refer to them.

For leaning ladders that are used to carry out a task, the advice includes:

- Only carry light materials and tools – read the manufacturer's labels on the ladder and assess the risks
- Don't overreach – the worker's belt buckle (navel area) should stay within the stiles
- Ensure the ladder is long enough or high enough for the task
- Don't overload the ladder – the worker should consider their weight and the equipment or materials they will be carrying
- Position the ladder at a 75° angle (approximately one unit out for every four units up) to reduce the risk of it slipping outwards
- Always grip the ladder and face the ladder rungs when climbing or descending
- Don't try to move or extend the ladder while standing on the rungs
- Don't work off the top three rungs (they are there to provide a hand-hold)
- Try to make sure that the ladder extends at least 1m (three rungs) above where the person is working
- Avoid holding items when climbing –

for example, by using a toolbelt
- Don't stand ladders on movable objects, such as pallets, bricks, lift trucks, tower scaffolds, excavator buckets, vans or MEWPs
- Use a non-conductive ladder (for example, fibreglass or timber) for any electrical work.

When climbing a leaning ladder – and whenever possible at the work position – the user should maintain three points of contact (this means a hand and two feet).

If the user cannot maintain a hand-hold, other than for a brief period (such as holding a nail while starting to knock it in), the Ladder Association/HSE say the employer will "need to take other measures to prevent a fall or to mitigate the consequences if one happened".

Generally speaking, leaning ladders should also be secured to prevent them slipping outwards or sideways or from falling. The options for securing a leaning ladder are:
- Tie the ladder to a suitable point, making sure both stiles are tied
- If this is not practical, secure the ladder with an effective ladder stability device (this prevents the ladder from slipping)
- If this is not possible, securely wedge the ladder – for example, by wedging the stiles against a wall)
- If none of the above are possible, get a co-worker to 'foot' the ladder (though footing should be the last resort).

Leaning ladders must also have a strong upper resting point and should not be rested against weak upper surfaces, such as glazing or plastic roof gutters. A 'stand-off' device can be used to avoid this if necessary.

Another type of leaning ladder is a telescopic ladder – an extendable ladder which packs down to a small size. The Ladder Association has published free guidance on the use of extendable ladders, which provides important safety advice, and the manufacturer's instructions must also be referred to and followed when using them.

For example, the Ladder Association says that users must always read the instructions before using a telescopic ladder as not all telescopic ladders work in the same way. It says the user needs to fully understand the instructions for extending and closing the ladder, otherwise it could collapse during use or trap their fingers. The Association also warns that because telescopic ladders have significantly more safety-critical parts than ordinary ladders, they need more careful pre-use checks and more rigorous thorough inspections at more frequent intervals. For instance, the Association says that each time a worker use a telescopic ladder, they should check that all of the locking mechanisms have operated correctly and that each extended section is properly locked at both ends of the rung.

For guidance on telescopic ladders, see the Ladder Association's website: ladderassociation.org.uk/guidance

Stepladders

The Ladder Association/HSE leaflet also contains advice on the safe use of stepladders. For example, it says

stepladders should generally be positioned to face the work activity rather than side-on, to help prevent the worker from falling or the ladder overturning. However, it says there may be occasions where a risk assessment shows it is safer to work side-on. An example might be when working in a retail stock room with narrow aisles, where space constraints mean it is not possible to extend the stepladder and engage its locks to work face-on but the steps can be extended and fully locked to work side-on.

Stepladders are not designed for any degree of side loading and are relatively easily overturned. Therefore, the user should try to avoid any work on a stepladder that imposes a side loading, such as side-on drilling through sold materials like bricks or concrete. However, if side loading cannot be avoided steps should be taken to prevent the stepladder from tipping – for example, by tying the steps. Otherwise, a more suitable type of access equipment should be used.

Stepladder users should also maintain three points of contact at the working position. This means two feet and one hand, or when both hands need to be free for a brief period, two feet and the body supported by the stepladder.

When deciding if it is safe to carry out a task on a stepladder where the user cannot maintain a hand-hold, the decision must be justified, taking into account factors such as the height of the work; whether a hand-hold is available for the user to steady themselves before and after the task; and whether the task does not require overreaching or side loading.

Other points to remember for stepladders include:

- Check all four stepladder feet are in contact with the ground and the steps are level
- Only carry light materials and tools
- Don't overreach
- Ensure any locking devices are fully engaged
- Don't stand and work on the top three steps (including a step forming the very top of the stepladder), unless there is a suitable hand-hold available.

Meanwhile, other general points to remember for leaning ladders and stepladders include only using them:

- On firm and level ground or surfaces
- On clean, solid surfaces (such as paving slabs, floors etc) – the surface should generally be free of contamination and loose material (such as oil, moss, leaf litter and packaging material) so the feet can grip properly
- Where the ladder will not be struck by vehicles (it may be necessary to protect the area using barriers/cones)
- Where they will not be pushed over by other hazards such as doors or windows being opened – for example, by securing the doors and windows
- Where the general public are prevented from using them, walking underneath them or being at risk because they are too near to them (use barriers, cones or, as a last resort, a person standing guard at the base).

Employers also need to take steps to ensure ladders are safe to use and are adequately maintained. As stated, the

Ladder Association and HSE recommend the user carries out a pre-use check to spot any obvious defects at the start of each working day or shift and if anything changes that could affect the equipment's safe use.

In addition, all ladders must undergo a regular detailed visual inspection by a competent person to spot any faults. The frequency of the inspections will depend on factors such as the risk of the ladder being damaged, and ladders must also be inspected following any event that could have affected their safety or stability, such as accidental damage. A record must also be kept of the regular, detailed visual inspections of ladders. However, there is no legal duty to make a record of the pre-use checks carried out by users.

Free guidance on the use of ladders is on the Ladder Association's website:
ladderassociation.org.uk/guidance

Tanks and pits

Although the main legislation covering the prevention of injuries due to falls is the Work at Height Regulations, employers also have duties under the Workplace (Health, Safety and Welfare) Regulations 1992 to ensure that tanks and pits in the workplace containing dangerous substances – such as silos and vats – are securely fenced or covered to prevent people falling into them.

Any barriers should be sufficiently high to prevent people falling over or through them, and the Approved Code of Practice (ACOP) on the regulations states that, as a minimum, the barriers should consist of a top and middle guard rail at suitable heights. The top of the barrier should be at least 1100mm above the surface from which a person could fall.

If covers are used, meanwhile, they should be capable of supporting all loads liable to be imposed on them.

For more information see the ACOP:
hse.gov.uk/pubns/priced/l24.pdf

Falls from vehicles

Although falls are generally associated with activities such as construction or maintenance work, workers can also be at risk of falling while working on or accessing vehicles – such as lorries, tankers, dumper trucks and vans.

For example, drivers and site-based staff can fall from the back of a lorry trailer or van while loading and unloading at a loading bay can slip or fall while walking on top of a load to sheet or cover it; and can fall when climbing on and off vehicles – for example, while climbing the vehicle's steps or a ladder to the driver's cab or to access the top of a vehicle.

Under the WAHR, employers must take suitable and effective measures to prevent anyone working on, or accessing, a vehicle from falling a distance likely to result in injury. In short this means:

- Avoiding work at height where it is reasonably practicable to do so
- Where work at height cannot be avoided, preventing falls using either an existing place of work that is already safe or the right type of equipment

- Minimising the distance and consequences of a fall by using the right type of equipment where the risk cannot be eliminated.

Employers should first try to avoid the need for people to work at height on vehicles. For instance, it may be possible to locate the gauges and controls for a vehicle so they are accessible from the ground. For example, HSE says where a road tanker delivers fuel to a petrol station, the employer of the delivery driver and the station operator should consider whether the driver needs to go on to the top of the vehicle to 'dip' or if the level of fuel can be measured from the ground.

Frequently, loads on vehicles have to be sheeted or covered – for example, to prevent loss of the load during transit and to protect the load from the weather. This often forces workers to climb onto the vehicle. As a result, employers should try to avoid the need for workers to climb onto a vehicle to cover it – for example, by using a curtain-sided vehicle that does not require sheeting or selecting a vehicle with an automated or mechanical sheeting system that is operated from the ground. It may also be possible to manually sheet a vehicle without climbing on it – for example, by throwing netting over the load from ground level.

However, if work at height on vehicles cannot be avoided, workers should be protected by equipment and site or vehicle features that prevent falls. If the risk of a worker falling remains, it may be necessary to use personal protective equipment to either prevent a fall or minimise both the distance and consequences of a fall should one occur.

In seeking to prevent falls, employers should always seek to use collective protection measures before considering personal protective measures. Collective protection measures protect everyone who could be at risk and generally do not require any action by the user for them to work effectively. Common examples include an integrated walkway with fall protection guard rails that is fitted by the manufacturer on top of a vehicle like a fuel tanker or tipper lorry; and permanent site-based platforms with guard rails that a vehicle can be parked alongside to either avoid the need to walk on the vehicle or load altogether, or to prevent workers falling between the vehicle and the platform edge while accessing the top of the vehicle from the platform.

If collective measures are not practical, employers may need to use personal protective equipment that protects an individual from falling (or mitigates a fall) but requires them to do something for it to work effectively. A common example is a site-based gantry that is fitted with either a personal work-restraint or fall-arrest system. The worker either puts on a safety harness and lanyard that is attached to an overhead beam on the gantry – and the work-restraint system prevents them from getting into a position on the vehicle where they could fall; or puts on a safety harness that is attached to an energy-absorbing lanyard that will arrest their fall and prevent an injury.

If people have to climb on and off vehicles and trailers – for example, to

access the top of the vehicle or reach the driver's cab – access should be via a well-constructed ladder or steps, which should generally form part of the vehicle itself. Workers climbing onto vehicles using ladders or steps should always try to maintain at least three points of contact with the vehicle (with their hands and feet) at all times. Also, they must not use parts of the vehicle which are not designed as hand or footholds, such as mudguards, bumpers, tracks or hooks.

However, if workers do have to stand on a vehicle or on a load, HSE says they should always ensure that:

- There are suitable measures in place to prevent a fall
- They do not walk or lean backwards, especially near the back or open sides of a vehicle
- They never stand on a load once it is attached to lifting equipment – such as a crane or a lift truck.

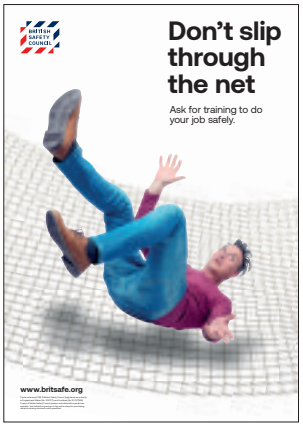
For more advice see:
hse.gov.uk/workplacetransport

Finally...

With falls from height remaining a major cause of deaths and serious injuries at work, it is vital employers take steps to eliminate or control the risks.

However, by ensuring work at height is properly planned, supervised and carried out by competent people using the most appropriate equipment, employers can keep everyone safe – and avoid the terrible human consequences of falls from height.

Get the poster:
Remind workers to take appropriate precautions when working at height.



British Safety Council members with the Tools and Templates membership module can download these posters from their online account. Log in at:
www.britsafe.org (UK & international)
www.britsafe.in (India)

Recommended reading

Health and safety toolbox
hse.gov.uk/toolbox

Working at height. A brief guide
hse.gov.uk/pubns/indg401.pdf

Working at height: step-by-step guide
hse.gov.uk/work-at-height/step-by-step-guide.htm

Safe use of ladders and stepladders – a brief guide
ladderassociation.org.uk/la455/

Health and safety in roof work
hse.gov.uk/pubns/priced/hsg33.pdf

Fragile roofs. Safe working practices
hse.gov.uk/pubns/geis5.pdf

Roof repair work. What you need to know as a busy builder
hse.gov.uk/pubns/site3.pdf

The selection, management and use of mobile elevating work platforms
hse.gov.uk/pubns/geis6.pdf

Mobile elevating work platforms (MEWPs) for tree work
hse.gov.uk/treework/safety-topics/height.htm
hse.gov.uk/pubns/afag403.pdf

A guide to the use of MEWPs in arboriculture
bit.ly/3g249AZ

Safety Steps (CONIAC/Access Industry Forum work at height guidance)
accessindustryforum.org.uk/safety-steps

Workplace (Health, Safety and Welfare) Regulations 1992. Approved Code of Practice and guidance
hse.gov.uk/pubns/books/l24.htm

Managing health and safety in construction. Construction (Design and Management) Regulations 2015. Guidance on Regulations
hse.gov.uk/pubns/books/l153.htm

Health and safety in construction
hse.gov.uk/pubns/books/hsg150.htm

The absolutely essential health and safety toolkit for the smaller construction contractor
hse.gov.uk/pubns/indg344.pdf

Workplace transport safety. A brief guide
hse.gov.uk/pubns/indg199.pdf

A guide to workplace transport safety
hse.gov.uk/pubns/priced/hsg136.pdf

Workplace transport inspection checklist
hse.gov.uk/workplacetransport/checklist/index.htm
hse.gov.uk/workplacetransport/wtchk1.pdf

Preventing falls from vehicles online guidance
hse.gov.uk/workplacetransport/vehicles/preventingfalls.htm

Preventing falls from vehicles: advice for workers
hse.gov.uk/pubns/indg413.pdf

Falls from vehicles – toolbox talk for construction workers
hse.gov.uk/construction/resources/toolboxtalks.htm

Falls from vehicles – construction industry checklist poster
hse.gov.uk/construction/resources/posters.htm

Shattered Lives posters (slips, trips and falls)
hse.gov.uk/slips/shattered.htm
hse.gov.uk/construction/resources/posters.htm

Inspecting fall arrest equipment made from webbing or rope
hse.gov.uk/pubns/indg367.pdf

Detailed guidance on working safely at height using various types of access equipment is available from the relevant UK and international trade associations for work at height. See the next page for some of the key ones.

Further information

Access Industry Forum (AIF)
A forum for the principal trade associations involved in work at height in the UK and globally. The website features videos on the safe use of various types of access equipment. It also hosts the Safety Steps work at height guidance from CONIAC, an advisory body for the UK construction industry, and AIF.

accessindustryforum.org.uk

Construction Plant-hire Association
Offers free guidance on the use of work at height access equipment such as MEWPs and hoists.

cpa.uk.net

FASET (Fall Arrest Safety Equipment Training)
Trade association and training body for the safety net rigging and temporary safety systems industry. Website features guidance and toolbox talks.

faset.org.uk

Health and Safety Executive (HSE)
Website offers free guidance on work at height.

hse.gov.uk

IRATA (Industrial Rope Access Trade Association)
Trade body that represents companies that offer industrial rope access services.

irata.org

IPAF (International Powered Access Federation)
Not-for-profit organisation that promotes the safe use of powered access equipment, such as MEWPs, globally. Offers free safety guidance, including publications, toolbox talks, webinars, videos, posters and a free mobile app. Also runs a confidential accident reporting portal for the worldwide reporting and monitoring of incidents involving powered access equipment..

ipaf.org

Ladder Association
Trade body that represents ladder manufacturers, distributors and trainers and promotes the safe use of all types of ladder. Oversees the content of ladder training courses that are available from its approved training centres. Also offers free online guidance on the correct use of ladders.

ladderassociation.org.uk

NASC (National Access & Scaffolding Confederation)
Trade body for access and scaffolding in the UK. Offers guidance on the safe use of scaffolding.

nasc.org.uk

No Falls Foundation
UK charity dedicated to preventing falls and helping people affected by a fall. The Foundation is backed by the AIF and offers a free support pack for people who are injured in falls at work.

nofallsfoundation.org

PASMA (Prefabricated Access Suppliers' and Manufacturers' Association)
International not-for-profit association for the mobile access tower industry. Sets the content of training courses on the safe assembly, use and dismantling of mobile access towers that are delivered by PASMA-approved training centres globally. Also provides free online guidance on all aspects of the safe use of mobile towers.

pasma.co.uk

SAEMA (Specialist Access Engineering and Maintenance Association)
National trade body for the permanent and temporary suspended access equipment industry. Provides guidance on the safe use of access equipment for the cleaning and maintenance of buildings and other structures.

saema.net

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