

THE WORK AT HEIGHT REGULATIONS (WAH)

If, as an installer you work at building sites or the larger type of commercial premises and you have not come into contact with these Regulations, you soon will.

The Work at Height Regulations cover all types of access equipment and work platforms, regardless of the duration of the work or the height involved. Although WAH covers a wide range of access equipment, one of its aims is to reduce the inappropriate use of ladders and stepladders ('steps'). For a given job, WAH will require companies to assess if it is reasonably practicable to use a safer alternative to ladders or steps. While these are still the preferred equipment for some short or tricky jobs, there are many situations where other means of working at height can and should be chosen.



Planning And Risk Assessment

Your clients may already be instructing you not to bring ladders or steps on-site. However, banning them does not remove the hazard, namely a fall from height. Where ladders and steps are restricted or banned, clients and contractors need to work together to agree on suitable alternatives. Under WAH, when conducting risk assessments on the type of access to work at height to be used, the Company has to consider factors such as the:

- o job/task
- o job/task duration
- o degree of hazard (notably, how high)
- o number of people required for the job/task
- o the number of times the job/task needs to be performed
- o equipment to be used (including stability and barriers)
- o conditions on-site (e.g. ground conditions need to be clear enough to allow access equipment to be deployed)
- o location (e.g. near site traffic, under live power, near edges, etc)
- o environment (e.g. poor lighting that effects vision and mobility)
- o associated risks, e.g. transporting, installing and dismantling access equipment
- o competence of operatives, the level of training and supervision required
- o physical condition of the 'end user' (e.g. age, fitness, vertigo etc)
- o people who work 'on the tools' and
- o safety of passers-by

The safe use of access equipment is particularly dependent on the following factors:

- o good quality equipment/components, conforming to a recognised standard
- o correct assembly by a competent person
- o a trained end user and
- o suitable and sufficient work area/space

On large projects, where different types of work are to be carried out (e.g. installation of CCTV cameras on building elevations, cabling on cable trays etc), detailed organisation of the order in which the work takes place, ('job sequencing') must occur. This is necessary to avoid confusion where different workers, carrying out different tasks, and using their own equipment, all try and access the work area at the same time. If adequate job sequence planning occurs in the early stages, you will be able to achieve installation of the most appropriate equipment (as and when it is required) and oversee its set up and maintenance until all work at height is completed.

Where reasonably practicable, WAH requires equipment for work at height to provide:

- o a flat, suitable sized, working platform
- o barriers or rails and
- o good stability

In addition, working platforms must:

- o be big enough to allow room to work, safe passage (if needed), and the safe use of equipment and materials
- o prevent feet from passing through the flooring, or feet and objects passing over the edge (e.g. by using toe boards)
- o be clean and tidy (e.g. dust or rubbish must not build up on the platform)
- o provide the same security as working from the ground and
- o allow safe working with both hands

Ladders and steps usually fail to meet these criteria. For many situations (though not all), there are reasonably practicable alternatives for working at height. A search for a safe working platform will find equipment such as:

- o podium steps and towers
- o scaffold cradles
- o trestles or gantries
- o and mobile elevating work platforms (MEWPs), such as scissor lifts, cherry pickers or self-propelled booms.



When using towers, podiums, or steps:

- o the person using the equipment should be properly trained and competent
- o those who aren't supposed to use the equipment must be clearly advised that they should stay off it
- o the equipment should be properly maintained and regularly inspected (particularly if it is used or stored outside)
- o the equipment should be inspected visually before use every day
- o ensure light tools are carried in a shoulder tool bag or holster attached to a belt so that both hands are free for climbing
- o heavy or bulky loads should not be carried up or down access equipment – lifting equipment should be used instead and
- o work should not require extended periods in difficult postures.

Getting To The Job

For smaller jobs, a very practical consideration is often, "how do I get my access equipment to the workplace?" Several products on the market, notably podium steps, can be folded and carried, in reasonably sized vehicles. However, some access products are quite bulky and you will need to consider if and how, the equipment can be transported. If you can get the equipment to the job, engineers will need to know if the access equipment can be transported safely on-site to and from the work area. There may be obstructions – for example, doorways, other equipment and debris.

Mobile Towers And Other Temporary Access

When working at height more than a short time, alternatives such as mobile towers should be actively considered since many offer a range of mobile benefits. A variety of mobile towers is available and the best designs allow easy access either by climbing through the tower or using a properly designed and integral tower ladder. Even so, mobile towers do not always allow access to 'the right height' and this, plus other factors such as mobility, means that using towers – of any size – often requires planning. Towers that offer various working heights are also available.

Podium Steps

There are many types of podium steps (sometimes called 'pulpit' steps) which are being used in a wide range of building and maintenance projects. They are usually made of aluminium and they are not particularly heavy (some podium steps weigh just over 20kg). Podiums offer a stable working platform with barriers to prevent falls and the ability to work in any direction (360 degrees) and two handed. A locking barrier usually completes a four-sided 'cage' for the worker. Many types of podium step can pass through a standard doorway, although taller towers must be set up close to the work area. Dismantled mainframes can be folded into a unit that can pass through single doorways, or into lifts, etc. Some equipment can be passed through a door or other 'pinch point' and extending feet than give extra width and stability. Podium steps provide a raised working platform of up to two metres or so, although for some models, stability can be an issue over 1.5 metres.

Towers

Towers are used extensively in open areas but generally they are not practical in smaller or confined spaces. Many tower products offer quick assembly with foldout frames and snap/click fittings. Some towers can provide a working platform of up to 2.9 metres (or more with guardrails) but as with podiums, stability rapidly becomes an issue over 1.5 metres. Access towers can usually support more than one worker at a time, and some specialist towers are designed to overarch obstructions on the floor (such as office furniture).

Platform Steps

There are products that are more closely related to steps than towers but are designed

to be safer than steps because they offer a good working platform and handrails. Platform steps encourage the worker to face the job, further reducing the risk of a fall. Some of these products are effectively high-stability ladders (stability is often achieved with outriggers), with a proper working platform and guardrails. 'Aircraft steps' are another type of 'platform and handrail' step. They usually have a wider base than stepladders which makes them more stable. Additionally, they have a large, stable working platform, guarded on three sides by rails. This reduces the risk of falling although it is still possible to fall down the stairs if the operative steps backwards.

Powered Access Units (Mobile Elevating Work Platforms - MEWPS)

An ongoing problem is the time taken to get down from access equipment, move it to the next job, and the go up again. While large towers can provide some mobility at height before a move is needed, powered access units, or mobile elevating work platforms (MEWPs) take away the need to continually get down from height. MEWPs also tend to allow access to greater heights than other access equipment. However, MEWPs are only feasible on sufficiently large, stable and clear surfaces (such as empty conference rooms or outside). There are a number of practical and safety issues to consider (such as stability) and job planning is essential. MEWPs have relatively high initial cost, they require significant maintenance, and are heavy. Not all floors will take a MEWP and liaison with main contractor or Client is essential.

When using a MEWP, a safe system of work should include:

- o planning the job to be aware of overhead hazards and any passing traffic, including the effect on workers and others if there is a collision
- o floor loading and stability issues
- o use of trained/experienced operator(s)
- o possible use of harnesses and
- o instructions in emergency procedures (notably getting down safely if the power fails).

MEWPs must be thoroughly examined by a competent person once every six months or in accordance with an examination scheme drawn up by a competent person. They must also have routine maintenance in accordance with manufacturer's instructions. All this means that MEWPs are relatively expensive option but may still be the best one for the job.

Human Factors

There are several options for access equipment but whichever is chosen, safe and efficient use by the end user is essential. Supervisors and engineers must be competent to use the equipment and the

provision of proper information, instruction and training is crucial. Engineers must know the limitations of the equipment they use and, if they are required to set up, or adjust the equipment, they should be properly trained. Defective access equipment must be reported to their supervisor, be clearly identified, and be taken out of use.

Engineers may have used virtually nothing else but ladders and steps in their working life, so there may be an attitude that supports their continued extensive use. One way of helping to ensure that alternatives to ladders and steps are actually used is to involve employees in decisions about which equipment to buy or hire. Asking employees about the sort of equipment they are able to work with will help introduce practical alternatives to steps in time for the new regulations.

Access Points

The Work at Height Regulations (WAH) have focused minds on the whole subject of work at height recently but the scaffolding and access industry as a whole has struggled to deal with certain issues relating to prevention of falls from height for some time now, since the introduction of the Construction (Health, Safety & Welfare) Regulations 1996. The regulations use the phrase "persons shall be prevented from falling" and thereby established a principle and has become a key requirement of the proposed WAH. Under the new regulations, when selecting WAH equipment, the risks associated with the installations, use, dismantling and rescue of that equipment must be taken into account.

It must be remembered that traditional build methods employed throughout the assembly and dismantling having to stand on a platform or board with nothing around them but fresh air. It is in addressing this issue that it becomes apparent a rethink on what has previously been the accepted practice is necessary. Consequently, manufacturers and designers have begun to apply the ingenuity and inventiveness that necessity often induces. This has resulted in a variety of approaches to the problem, as each manufacturer wrestles with the issues in relation to particular design characteristics of their product. This has undoubtedly produced some very creative and innovative solutions.

Assembly & Dismantling Towers

There are three acceptable methods: the "staggered platform" method, the "through the hatch" method and the "advance guardrail" method.

Tower scaffolds are generally built using a number of modules, usually around 2m high,

one on top of the other, until the desired height is reached. The process begins by inserting adjustable legs and castors, or base plates, to the bottom frames. These bottom frames are then formed into a module by the addition of, firstly, horizontal braces and then diagonal braces to form a triangulated box structure. Depending on the intended height of the structure, stabilisers or outriggers are affixed at this stage. In the traditional method, a platform is then placed at the top of this module (it is at the point that the "fresh-air guardrail" is evident) and the process is repeated, adding frames and a combination of horizontal and diagonal braces, platforms at the top of the module (more fresh-air guardrails), concluding in the final working platform. Here, the guardrails frames, braces and toeboards are applied, making the finished structure safe for subsequent use by site personnel.

The staggered platform method

Most manufacturers are likely to favour this method because it meets some basic criteria for them. Firstly, it allows the enormous amount of equipment which is already on the market to continue to be used without modification, and secondly, it uses additional standard equipment to achieve the desired level of protection.

To begin, assemble the first module in the usual way. The first platform is then placed not at the top of the module but at the mid-point, so that the top metre of the module is above the platform, and the horizontal brace(s) is installed to act as a guardrail. The operative then climbs on to the platform and begins installing the second module from the relative safety of one metre below. A platform is positioned to the open side, which then acts as a guardrail, and a horizontal brace(s) is placed ahead of that platform, so that it is in place before the operative gets on to the platform.

The methodology is then repeated at one-metre intervals through the entire build sequence, leapfrogging platforms in the process, until the desired height is reached.

The through hatch method

The second method meets much of the same criteria of the first in that it allows existing and standard equipment to be used, and arguably affords increased fall prevention for some tower types. It also involves the use of the hatch in a hatch or trapdoor platform to provide protection from falls, as the operative works through the open hatch.

In this method, the starting point is again the first module, where the platform is placed at one metre or thereabouts, depending on how high the tower is to be built. Thereafter, however, the platforms are placed ahead of the operative at two-metre intervals, with the

operative then working through the open hatch of the platform to install guardrail brace(s) ahead of the operative before ascending.

The advance guardrail method

The third method incorporates the use of separate and independent guardrail system, which is positioned in advance of the platform. Although proponents of this method argue that it provides universal fall prevention, thus placing it almost at the top of the hierarchy of measures, its detractors argue that it does not meet their basic criterion of using standard equipment. Towers are assembled in much the same way as traditionally but the build sequence is overlaid with the installation and repositioning of the advance guardrails ahead of the platforms so that the operative is prevented from falling while the operative installs the permanent guardrail measures, which will remain in place in the finished structure.

Use of Ladders and Steps

If all else fails and the use of ladders and steps is either permitted and/or there is no other alternative, then the following must be taken account of when using.

- Use of Ladders or steps must NOT exceed 15 minutes duration at any one time with a minimum of 30 minutes duration period of non-use before re-using.
- Other work activities not involving use of ladders or steps should be undertaken during these 30 minute break periods.
- Under the WAH Regulations, three (3) points of contact with the ladder must be maintained at all times. These will compromise of the operatives two feet and either one hand or a suitable body restraint (in cases where both hands are required for the work task).

