

Working at Height – Health and Safety Regulations

The Health & Safety Authority, in order to provide guidance on the Safety, Health and Welfare at Work (General Application) Regulations 2007, has issued a comprehensive guide on Part 4 of the regulations relating to working at height.

We have outlined below some of the relevant pieces of Part 4, in particular as they apply to working with ladders, which are not intended to be a legal interpretation of the legislation.

General

The objective of Part 4 of the regulations is to reduce deaths and injuries at work caused by falls from height as these account for a significant percentage of workplace fatalities and serious injuries each year.

Part 4 of the regulations sets out the basic principles for safe work at height for all sectors of employment and provides a fundamental framework for safe working at height based on risk assessment, applicable to the wide range of work activities carried out at height.

The Work at Height Regulations applies to all work at height where there is a risk of a fall liable to cause personal injury.

Definition

Work at height means working in a place (except a staircase in a permanent workplace) where a person could be injured by falling from it, even if it is at or below ground level.

Duties of the Employer

An employer must do all that is reasonably practicable to prevent anyone falling a distance liable to cause personal injury. The regulations set out a simple hierarchy for managing work at height:

- Avoid work at height where this is reasonably practicable;
- Use work equipment or other measures to prevent falls where you cannot avoid working at height; and
- Where you cannot eliminate the risk of a fall, use work equipment or other measures to minimise the distance and consequences of a fall.

The Regulations also require employers and the self employed to ensure that:

- All work at height is properly planned, organised, supervised and carried out
- The place where work at height is done is safe

- All work at height takes account of weather conditions
- Those involved in work at height are instructed and trained
- Equipment for work at height is appropriately inspected
- The risks from fragile surfaces are properly controlled
- Injury from falling objects is prevented

Duties of Employee

The Safety, Health and Welfare at Work Act 2005 places duties on employees to:

- Comply with statutory provision such as the Work at Height Regulations
- Protect their own safety and health, as well as the safety and health of anyone who may be affected by their acts or omissions at work
- Ensure that they are not under the influence of any intoxicant to the extent that they could be a danger to themselves or others while at work
- Cooperate with their employer with regard to safety, health and welfare at work
- Not engage in any improper conduct that could endanger their safety or health or that of anyone else
- Participate in safety and health training offered by their employer
- Make proper use of all machinery, tools, substances etc and of all personal protective equipment provided for use at work
- Report any defects in the place of work, equipment etc which might endanger safety and health

Requirements for Working at Height

Part 4 of the regulations requires employers to carry out a risk assessment for all work conducted at height and to put in place arrangements for:

- Eliminating or minimising risks from working at height
- Implementing safe systems of work for organising and performing work at height
- Implementing safe systems for selecting suitable work equipment to perform work at height
- Implementing safe systems for protecting people from the consequences of work at height

The risk assessment and the action taken should be proportionate to the harm that could occur if no action was taken. It should include a careful examination of what harm could be caused from working at height with a view to taking the necessary steps to reduce the

likelihood of this harm occurring, either through avoiding the activity or, where this is not reasonably practicable, by carrying it out in a safe manner using the appropriate work equipment.

Work at Height

The regulations do not specify a minimum height requirement for work at height. Part 4 applies to all work activities where there is a need to control a risk of falling a distance liable to cause personal injury. This is regardless of the work equipment being used, the duration the person is at a height, or the height at which the work is performed. It includes access to and egress from a place of work.

Regulation 95 – Organisation, planning and risk assessment

Regulation 95 requires employers to plan their work properly to ensure it is appropriately supervised and that it is carried out in a safe manner. Planning includes the selection of work equipment and preparing for emergencies. Employers should:

- Plan the work and use suitable work equipment
- Provide supervision proportionate to the findings of the risk assessment and the experience and capability of the people involved in the work
- Make sure those affected understand the risk assessment and what they must do to comply with it
- Plan for emergencies and rescue
- Involve employees or their representatives. Consulting the workforce will encourage them to be more aware of risks from work at height and their duties under safety and health legislation

Regulation 96 – Checking of places of work at height

Regulation 96 requires that the surface conditions and other permanent features where work at height will be taking place are checked before use and at appropriate intervals during use in order to identify whether there are any obvious defects. This would include, for example, checking the ground surface on which a tower scaffold or a portable ladder was to be placed. If an employer is unable to do this personally, he or she should ensure that a competent person carries out the necessary checks. The results of such checks need not be recorded.

Regulation 97 – Weather conditions

Regulation 97 requires employers to ensure that work at height is carried out “only when the weather conditions do not jeopardise the safety and health of employees”. The risk assessment and planning arrangements should, therefore, take into account the effect that the weather can have on outdoor work at height.

The regulations require that work equipment be suitable for the conditions intended and that suitable and sufficient lighting be provided at any place where work equipment is in use. Regular work breaks may reduce the risk of an accident occurring.

Regulation 100 – Selection of work equipment for work at height

The regulations recognise that work at height can be performed safely in a number of different ways, using a wide range of work equipment. The choice of equipment will depend on the risk assessment – different types of equipment will have advantages and disadvantages depending on the task and the environment in which the work is to be performed.

Ladders

Ladders, including fixed ladders and stepladders, are commonly used in most employment sectors. However, people often seriously underestimate the risks involved in using them and falls from ladders account for many of the serious work-related injuries each year. In a typical year, two fatalities and 220 other injuries involving ladders and resulting in four or more day's absence from normal work are reported to the Authority. The actual number of non-fatal injuries is a multiple of this. Most of the injuries were falls from a height but other accident triggers were lifting and carrying the ladder, slipping or falling while carrying it, or the ladder itself collapsing or falling.

Ladders should only be used as work equipment, either for access and egress or as a place from which to work, where a risk assessment shows that the use of other work equipment is not justified because of the low risk and the short duration of the job or unalterable features of the work site. The risk assessment is essential and should consider not only those using the ladder but others who could be affected, such as passers-by. The safety of lone workers who use ladders, such as window cleaners, depends significantly on their correct use and the provision of adequate training is essential. Safety should not be compromised by haste to complete the job. All ladders must be used in accordance with the manufacturer's instructions.

The regulations do not ban ladders but require consideration to be given to their use. They require that ladders should only be considered where the use of other more suitable work equipment such as towers, mobile platforms, scaffolds or temporary stairs is not appropriate. Ladders, for example, are frequently used during fit-out installations, but in most cases other work equipment is more appropriate. Where ladders and stepladders are used, they should only be used as a workplace for light work that is low risk and of short duration.

Where work at height is necessary you need to justify whether a ladder or stepladder is the most suitable access equipment compared to other access equipment options. You do this by using risk assessment and the hierarchy of controls.

When considering whether it could be appropriate to use a ladder or stepladder, you need to consider whether the activity is suitable for the use of a ladder. As a guide, only use a ladder or stepladder:

- Where the work is of short duration. Ladders are not suitable for work where they are in one position for 30 minutes or more
- Where the risk is low, i.e. because the nature of the work makes a fall unlikely or where there is a fall that the nature of the fall would be unlikely to cause injury
- For "light work". Ladders are not suitable for strenuous or heavy work

- For work that does not involve carrying heavy or awkward tools or equipment
- Where a handhold is available both for climbing the ladder and in the working position
- Where you can maintain three points of contact (hands and feet) at the working position. On a ladder where you cannot maintain a handhold, other than for a brief period of time, other measures will be needed to prevent a fall or reduce the consequences of one. On stepladders where a handhold is not practicable, a risk assessment will have to justify whether it is safe or not

On a ladder or stepladder **do not**:

- Overload it. The person and anything they are taking up should not exceed the highest load stated on the ladder
- Overreach. Keep your belt buckle (navel) inside the stiles and both feet on the same rung throughout the task

You should avoid holding items when climbing, for example, by using tool belts:

- On a ladder where you must carry something you must have one free hand to grip the ladder

If ladders are to be used to work from, and not just for access or egress, make sure that:

- A secure handhold and secure support are available at all times
- The work can be reached without stretching
- The ladder can be secured to prevent slipping

When working from an A frame ladder, never straddle the ladder.

It is tempting to try to ensure that all the work is completed without having to go down the ladder and move it, but overreaching while working from a ladder is a major cause of falls, even for experienced workers.

Regulation 114 - Ladders

There are many types and sizes of ladders including portable, suspended, step, interlocking, extension, mobile and fixed ladders. They all, regardless of their use, need to meet the requirements of the regulations. This would include, for example, a portable ladder that is tied in place for many months for access to an office on a building site. They should, for example, be strong enough to take the loads placed upon them. New ladders are marked in accordance with their conditions and class of use. Anyone, for example, using a ladder or stepladder for industrial work should ensure that it is marked in accordance with Irish, European or other appropriate standards, such as:

- EN 131 - 1 and EN 131 - 2 Ladders
- Timber BS1129: 1990 Kite marked Class 1 Industrial

- Aluminium BS2037: 1994 Kite marked Class 1 Industrial
- Glass Fibre BSEN131: 1993 Kite marked Industrial

All duty holders considering using a ladder to perform work at height, or as a means of access or egress, should carry out a risk assessment. The assessment should be proportionate to the risks involved. For example, a generic assessment may be quite suitable for simple, routine or repetitive tasks, but more complex work will need specific planning. Doing a written assessment will ensure that the risks are recorded. A risk assessment should cover factors such as the height to be negotiated, the site conditions (including weather), the duration and extent of the work and the frequency of access etc. It is important to remember that:

- Ladders should only be used as a place to work when other, potentially safer, means such as tower scaffolds are not reasonably practicable
- Ladders should only be used for access when putting in a staircase is not reasonably practicable

Many falls from ladders occur because the ladder moves unexpectedly during use. This is very often caused by the user overstretching or the feet of the ladder slipping due to inadequate grip. Maintenance issues such as ensuring it is free from mud or paint, and that the feet are still providing effective grip are vitally important. Research has indicated that the feet of a ladder are particularly susceptible to damage that can significantly reduce the grip, make them more vulnerable to movement and, as a result, increase the potential for falls.

Portable ladders (not step-ladders) should always be placed at the correct angle, which is around 75 degrees or roughly one metre out for every four metres up.

Portable ladders should be prevented from slipping during use, e.g. by:

- Tying the stiles effectively to an existing structure
- Using an appropriate ladder stabiliser or anti-slip devices
- Having another worker “foot” the ladder (this is where someone stands on the bottom rung, and is only suitable when it is not practicable to secure the ladder in another way, as it is not very effective)

As well as being properly maintained, regular visual checks should be made for damage such as cracked or bent stiles or rungs, corrosion and defective or missing fittings. The surface on or against which a ladder is placed must be strong enough to support any loads placed upon it. Plastic gutters and glass, for example, are unlikely to be able to support the weight of a ladder and worker. The surfaces onto which ladders are leant must be flat unless special provision is made, such as the use of a levelling device. Weather and other factors will affect the surface, e.g. ice, rain and wet leaves will reduce the friction of the surface. Where a worker needs to gain access to a platform, the stiles of the ladder should protrude sufficiently to enable a safe handhold and, if necessary, have a handhold when

working at the higher level. Even a stepladder should not be positioned where there is access to a doorway or where passing traffic is likely to strike it.

As well as the physical strength of the ladder, certain environments require additional thought. Ladders should not be used within six horizontal metres of overhead power lines unless they have been made dead or protected by insulation. Where it is essential that work be performed, workers in the vicinity of electrical circuitry should be using nonconductive access equipment, e.g. made of glass fibre. However, if the electricity is isolated, workers on an aluminium tower scaffold will get far greater protection from falling than from being on a ladder.

It is also important that the ladder is not only standing on a firm level surface, but also that the rungs remain horizontal whilst in use. There are a number of devices that now help solve this problem allowing for safer working on uneven ground or sloping surfaces. However, they should be carefully selected and used as directed by the manufacturer:

- Other factors that can improve the safe use of ladders include facing the ladder at all times when climbing or dismounting and maintaining contact with both feet and at least one hand. A secure handhold should be available which means that the user can grasp an upper rung or handrail on the ladder or stepladder (if, as recommended, the user is not working from the topmost two or three rungs or steps this should be possible). It does not mean that the user is expected to be holding the rung or handrail at all times as this would clearly make it impossible to carry out many tasks for which two hands are needed. Where two hands are needed to perform work on a ladder other protective measures, such as fall arrest or restraint systems, should be used to prevent or arrest a fall.

Overreaching while working from a ladder is a major cause of falls. Always go down and move the ladder rather than be tempted to over reach.

When the job is done, a portable wooden ladder needs to be protected from the weather in a covered, ventilated area. A ladder should not be hung by one of its rungs, as this could weaken it.

Fixed ladders should not be provided in circumstances where it would be practical to install a staircase.

Further details in relation to working at height can be downloaded from the Health & Safety Authorities Website at www.hsa.ie.