Work at Height / Falling Objects

Introduction

This information sheet gives employers and employees practical advice on work at height and falling objects and how to eliminate or reduce the risk of harm or damage occurring. It will assist you in identifying activities in your workplace that involve work at height or where there is a risk of objects falling.

It also outlines the risk assessment process in relation to work at height and falling objects and gives examples of how to eliminate or reduce the risk of people falling from a height or being struck by a falling object.

What is Work at Height?

Work at height is working in a place where a person could be injured by falling from it, even if it is at or below ground level.

Examples of work at height include:

- Using a ladder, kick stool or stepladder in a stock room or store cupboard
- Using trestles or ladders to paint or clean
- Changing light bulbs or ceiling tiles in an office
- Working on the back of a lorry to cover a load
- Working close to an open excavation or cellar trap door

HEALTH AND SAFETY AUTHORITY

Figure 1 *Lighting rigging*

Figure 2 *Retail displays on a mezzanine ledge*

Figure 3 *Window cleaning*

- Rigging lighting for a concert or stage production (see Figure 1)
- Working on a roof
- Dressing retail displays on a mezzanine edge (see Figure.2)
- Window cleaning (see Figure 3)

What do I have to do as an employer?

- All activities involving work at height have to be risk assessed and control measures have to be put in place so that work at height is avoided whenever possible, e.g. can windows be cleaned using an extendable pole while staying on the ground instead of climbing a ladder?
- The risk of falling is minimised where work at height is unavoidable, e.g. make sure there is a parapet or double handrail around a work area at height or use suitable work equipment
- Where falls cannot be prevented, suitable work equipment is used to minimise the distance someone could fall and the consequences of the fall, e.g. safety nets, bean bags
- All work at height is properly planned, organised, supervised and carried out
- The place where work at height is done is safe, and employees can get to that place safely, taking account of weather conditions if the place is outdoors
- Employees involved in work at height are instructed and trained, e.g. in the safe use, storage and maintenance of appropriate personal protective equipment such as safety harnesses
- Equipment for work at height is inspected and records are kept
- The risks from fragile surfaces and falling objects are controlled

What do employees have to do?

Employees also have responsibilities in relation to preventing accidents including:

- Protecting their own health and safety and that of anyone who may be affected by what they do or don't do
- Co-operating with their employer in relation to carrying out work at height safely
- Not being under the influence of any intoxicant to the extent that they could be a danger to themselves or others

- Not engaging in any improper conduct or behaviour that could endanger themselves or others
- Participating in health and safety training
- Making proper use of all equipment and machinery, including personal protective equipment, provided and not misusing same
- Reporting any defects in the place of work, equipment, etc.

How do I carry out a risk assessment for work at height?

- A risk assessment is a careful examination of what could cause harm to people as a result of a work activity. It allows you to put in place arrangements and controls for eliminating or minimising risks from working at height
- Safe systems of work for organising and carrying out work at height
- Safe systems for selecting suitable work equipment to perform work at height
- Safe systems for protecting people from the consequences of work at height

The precautions taken must be proportionate to the risk involved, i.e. how serious the harm would be if no action was taken.

The following are the steps involved in carrying out a risk assessment:

1. Look at the hazards
2. Decide who might be harmed and how
3. Evaluate the risks and decide whether the existing control measures are adequate or whether more should be done

Figure 4 opposite gives an example of a control measure being implemented. This employer is putting in place an 'up and over' guard rail on a storage mezzanine edge. Once completed it will allow pallets of product to be removed or put into storage without exposing the employees to the risk of falls from an open edge.

The employees involved in the work activity at height, and those who may be affected by the work, must be informed of the hazards and control measures to be used.

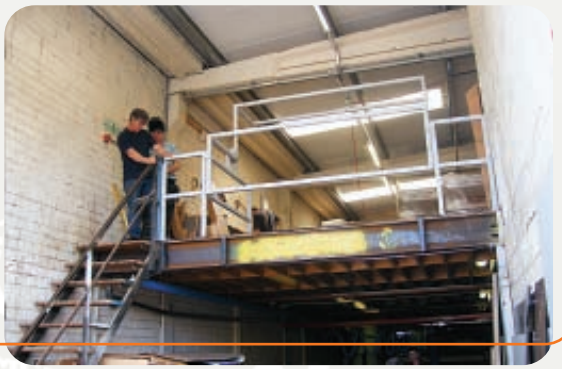

Figure 4 *Fabrication of an up and over handrail*

For some work at height activities it may be necessary to have emergency plans or procedures in place before work starts such as a rescue plan, e.g. if, in the absence of a safer work method, an appropriate fall arrest system is used, a rescue plan must be in place in case an employee falls and becomes suspended.

How do I decide what work equipment is suitable for work at height?

The choice of equipment will depend on the risk assessment. There is a wide range of work equipment suitable for different environments and different activities. Whatever equipment is selected it must be fit for purpose, in good condition, strong enough and free from defect.

Where possible you must choose equipment that protects all the people working at height in preference over equipment that protects them one by one, e.g. handrails around the edge of the work area at height instead of safety harnesses with lanyards.

The choice of equipment has to be practical for the work environment, and the type and duration of the task. Equipment chosen to access the work area at height will depend on the use, e.g. frequent use, bulky or heavy materials to be carried. Employees must not have to climb over guardrails or step over gaps to get to the work area.

Work equipment used for the lifting of persons is subject to a detailed comprehensive inspection, called a thorough examination, which should be carried out by a competent person at least every six months.

Accessories for attaching to lifting equipment, e.g. slings, chains, etc., must also be examined every 6 months. All lifting equipment must be inspected weekly by the owner or user and records of these and all related inspections and examinations must be kept. Proper maintenance is also essential in ensuring that equipment is safe to use.

Figure 5 show an example of work equipment used for the lifting of persons

Figure 5
Boom hoist

Ladders

Ladders are commonly used in most workplaces. However the risks involved in using ladders is usually underestimated. Falls from ladders account for many serious work-related injuries each year. Lifting or carrying ladders and ladders collapsing or falling also cause many injuries. Ladders should only be used where the risk assessment shows other work equipment is not suitable and where the work activity is light work, low risk and of short duration.

Do's

- ✔ Do a daily pre-use check
- ✔ Do secure it
- ✔ Do set up on firm ground, never on a moveable surface, e.g. pallets, blocks, etc
- ✔ Do have a strong upper resting point
- ✔ Do have ladder at a safe angle (1 out for every 4 units up)
- ✔ Do use for short duration work only
- ✔ Do use for light work only
- ✔ Do grip the stiles while climbing

Don'ts

- ✖ Don't overreach, keep your belt buckle between the stiles, both feet on same rung
- ✖ Don't carry out work which causes sideways loadings
- ✖ Don't work on top three rungs, or top two steps for stepladders
- ✖ Don't straddle an A frame ladder
- ✖ Don't move a ladder while standing on the rungs
- ✖ Don't slide down the stiles
- ✖ Don't extend a ladder while standing on the rungs

Figure 6 gives an example of a well secured ladder.

Figure 6 *Ladder security*

Other Equipment

Consider the use of work platforms with handrails on the steps and guardrails on the platform instead of ladders. Figure 7 gives an example of a work platform.

Figure 7
Work platform

Guardrails may be required to make a work platform or other place of work safe by preventing falls. They must be strong enough and secured to prevent them breaking or moving if someone falls against them. The rails should not allow a person to fall over, under or between them.

Equipment designed to catch a falling person, e.g. safety nets, bean bags, must be erected by a competent person in accordance with the manufacturer's instructions. A rescue plan will be needed if this type of equipment is used.

Personal fall protection equipment, e.g. lanyards, safety harnesses and work positioning equipment should only be used if the risk assessment demonstrated that the use of other, safer equipment is not practical. They must be strong enough, correctly adjusted and fitted and suitably anchored. A rescue plan will be needed if this type of equipment is used.

This equipment must be visually checked before each use and must be inspected by a competent person at least every six months. Where such work equipment is used in more demanding environments it is suggested that the inspection frequency be increased to a least every three months.

How do I control the risk from fragile surfaces?

As part of the risk assessment process employers must identify any potential fragile surfaces in or on their premises.

A fragile surface is a surface where there is a risk of a person or object falling through, e.g. fragile roofs, ceilings and skylights. Employers must prevent employees passing across or near, or working on or near a fragile surface where it is practical do so, e.g. can the work be done from a suitable work platform below/underneath the fragile surface?

The surface may be strong enough to take a persons weight but what if they are carrying a load or if they fall from a height onto the surface? How has age, weather, environment impacted on the strength of the surface?

If passing near or on, or working near or on, a fragile surface is impossible to avoid then measures must be put in place to prevent falls from height or minimise the distance of a fall using the risk assessment as before. If regular or occasional access is required to or near a fragile surface then permanent fencing or guardrails should be put in place.

How do I control the risk from falling objects?

As part of the risk assessment process employers must take suitable steps to prevent the fall of any material or object where necessary to prevent injury to employees or others.

The risk of falling materials should be minimised by keeping workplaces at height clear of loose materials and stacking or storing materials well back from edges. Materials stored at height should be secured to prevent them being dislodged by the wind or knocked over. Review the storage of material at height to keep only small amounts at height and store the rest at ground level.

Ways of preventing objects rolling or being kicked off an edge might include the use of toeboards (boards put lengthways at edge of storage area) or solid barriers.

When using racking for storage as a general rule heavier items should be stored at lower levels with lighter items at higher levels. Racking or shelves must be checked regularly for damage. If damaged, they must not be used until replaced or repaired. Racks or shelves must not be overloaded and the maximum safe load must be prominently marked on all racks. Racking must be erected as per the manufacturer's instructions, including appropriate security and anchorage. Furthermore, uprights (legs) must be protected from impact.