Roofwork Safety Requirements

February 2024

Competency

When employing a company to carry out any form of roofwork it is essential that the company and its workers are competent. Competency includes:

- Knowledge of the work being undertaken
- Experience of the latest techniques, standards, and materials so that the work can be carried out safely. This would ideally be through membership to a relevant trade organisation so that they are updated regularly on changes to legislation and standards.
- Training or accreditation by a recognised training body. Training should include safe working practices as well as health and safety issues relating to their work such as COSHH, asbestos, manual handling, risk assessments, work at height and work at height rescue.

Risk Assessments & Method Statements (RAMS)

You have a legal duty to assess the risks to the health and safety of your employees (and risks to the health and safety of persons not in your employment) to which they are exposed while they are at work.

In carrying out a risk assessment:

You should consult employees and health and safety representatives. It is a valuable way of involving the staff who do the work. They know the risks involved and scope for potentially dangerous shortcuts and problems. Employees are more likely to understand why procedures are put in place to control risks and follow them if they have been involved in developing health and safety practices in their workplace.

A method statement should be prepared by a competent person before any form of work commences. This should identify risks, what control measures are required in addition to working positions, access routes to and on the roof and necessary training.

Safe access to the roof

Safe access to the work area must be carefully planned in order to select the correct equipment.

In selecting the correct equipment, you should employ the ERIC Hierarchy of Control

Eliminate

The first step in the hierarchy is to eliminate the risk wherever possible. However, this should not be used as an excuse not to complete a task. Instead, the risk should be eliminated from the task so it may still be performed. For example, if there is a risk of trips and falls from trailing cables, you could provide more power sockets so less cables are required. Remember, you need to check that you have not introduced other potential risks and hazards.

Reduce

One way you can reduce risk is by substituting it. You may not be able to fully eliminate risk completely, but you might be able to change the risk so it's less harmful. For instance, you could pre-fabricate elements at ground level to reduce work at height, or you could swap a harmful chemical out for a less harmful one, or you could reduce the voltage of electrical equipment.

Isolate

Much as many of us experienced during the Covid-19 pandemic, a risk might need to be isolated to keep people safe. This could involve putting guards on machinery to prevent injury, or fencing off an area to keep people away from dangerous areas.

Controls

Controls can be engineering-, organisational- or procedural-based. For instance, installing a ventilation system to control dust in the workplace would be an engineering-based control, whereas managing the time spent exposed to a risk would be an organisational/procedural based control.

The ERIC hierarchy of control is a funnel-based model, meaning that the first step, Elimination, is the most effective change you can make for your safety, whereas PPE is the least effective measure out of these options. That's because the controls at the top end of the hierarchy rely less on individual effort than the controls at the bottom. It is also important to remember that any control you implement should be reasonably practicable, meaning that you can balance the costs, time, effort and inconvenience of implementing a control against the risk reduction benefit gained from it. If the risk reduction benefit is not worth the cost, time effort or inconvenience, then you can reconsider.

Controls could include:

- Surveys being carried out with remote controlled drones
- General access scaffolds – must be designed, erected, altered, and dismantled by competent people.
- Tower scaffolds and stair towers – the manufacturer or hirer must provide an instruction manual explaining how to erect the equipment safely. Anyone erecting the scaffold or tower must be trained and competent.
- Mobile access equipment (MEWPs) – All equipment must be maintained in a safe condition. If being used as a means of access to the roof, safe access from the MEWP to the roof must be an integral part of the equipment's design.
- Ladders – A third of all falls from height involve ladders and stepladders. Ladders must be appropriate for the task and maintained so that they are safe to use. Anyone using a ladder must be trained in correct selection and usage.

Rescue procedures

Rescue of a person or people must be planned for under the Work at Height Regulations 2005. The proposed method must be proportionate to the risk and may include simple measures such as using a MEWP or ladder to reach the victim, or simply lowering them to safety by following the safety procedures identified in your rescue plan. This is the preferred option as it overcomes manual handling issues, but whatever method is chosen it is essential that all those who are likely to be involved are fully trained.

Once the rescue has been completed, the casualty should be laid down and standard first aid guidance for the post recovery of a semi-conscious or unconscious person should then be followed by a competent first aider.

If a conscious casualty cannot be released immediately from a suspended position, their legs should be elevated by either the rescuer or casualty themselves, to help suspension tolerance.

Types of work

People need to access a roof for a variety of reasons, for example;

- Inspection: If remote inspection is not possible then access to the roof must be planned and any risks must be assessed, and appropriate action taken to reduce the dangers. If a fall protection system is already installed, ensure that the system has been maintained and inspected properly and that only trained and competent people use the system.
- Refurbishment & re-roofing: This type of work accounts for many accidents. Careful attention must be paid to fragile or potential fragile surfaces and measures put in place to prevent material falling.
- Ancillary works: These might include adjusting television or satellite aerials. This type of work must only be undertaken after the relevant work at height training has been carried out.
- Maintenance & cleaning: This work is often short term and so tends to be carried out by those with little or no experience of working at height. Anyone carrying out this type of work must receive relevant health and safety training including specific areas such as fragile materials and PPE (Personal Protective Equipment) and be properly supervised during the work.
- Roof cleaning: This could include cleaning valley gutters on a fragile surface such as asbestos cement. Systems designed to provide long term protection or temporary protection systems should be considered.
- Stripping & dismantling roofs: An independent scaffold to provide safe access to the roof must be provided and measures taken to prevent internal falls. Harnesses should be seen as a last option and only used with a suitable anchorage point and sufficient clearance around the area should a person fall.
- Short duration work: These are tasks that take minutes rather than hours and can include minor adjustments to aerials or replacing a roof tile. Safe access and a safe means of working on the roof must be provided. Mobile access equipment or proprietary access systems can be used to provide a suitable working platform or if this is not suitable then a fall restraint system which prevents the operative reaching a fall position or fall arrest system could be considered. If harnesses are being used then individuals should be professionally trained on how to fit and use them, they must be attached to a suitable anchorage point and have enough space below for a fall to be arrested safely.
- Appropriate rescue plans and procedures must also be in place.

Demarcation of access routes and work areas

Where edge protection is not practical around a large section of roof, demarcation placed at least 2m from the edge will provide sufficient protection if any work in the area is supervised in order to ensure people do not go beyond the demarcated area. Demarcation must be durable and easily seen.

Fragile roofs

22% of all fatal accidents are because of falls through fragile surfaces. Typical fragile surfaces include; roof lights, non-reinforced fibre cement sheets, corroded metal sheets, glass (including wired glass), slates and tiles.

All roofs should be assumed to be fragile until a competent person has confirmed that they are not.

Where possible you should not work near fragile materials. If this is not possible then the area needs to be clearly identified, the information recorded, and measures put in place to prevent or minimise the effect of a fall. The recommended hierarchy for working on fragile roofs is:

- To work underneath the roof using a suitable work platform
- Where this is not possible, a MEWP with basket can be used to carry out the work without accessing the roof itself.
- If access cannot be avoided, perimeter edge protection should be installed with staging to spread the load. If work is not taking place on the staging or platform with guardrails, then safety nets or a harness system should be used.
- If harnesses are being used, ensure there are adequate anchorage points and proper training, and supervision is undertaken. Harnesses and lifeline systems must only be used if you are sure there is adequate clearance around the area.

Workers must be properly supervised and trained and a safe working platform as well as safe access be provided. For example, guardrails or coverings can be used to prevent someone who is working near to or passing by fragile material from falling through. Demarcation or boundaries placed at least 2m from the fragile material can be used to identify safe areas.

Gas flues

People can be exposed to carbon monoxide if a flue is damaged, blocked, restricted, badly fitted or poorly serviced and so roofing contractors need to make sure they have taken the proper precautions and advice should they come across a flue.

- During your initial survey, look for any suspect flue and include the potential cost for a Gas Safe Registered engineer in your quote.
- Check if your work requires a permit.
- Assume all flues are live.
- Carry out a risk assessment, not only for the safety of the customers within the property where the appliance is located, but also for you and your team.
- Contact the Axis M&E Team for advice before starting work.
- If anyone is asked to work on a flue system, then they MUST be an Axis Employed Gas Safe Registered engineer or an Axis approved Gas Safety Registered Contractor
- STOP WORK if during your works you come across a potentially live gas flue that you were not aware of and take advice from the Axis M&E Team
- STOP WORK if you suspect that gas safety has been compromised and contact the Axis M&E Team. This is essential if you have disturbed or damaged a gas flue.

Leading edge protection

Precautions must be put in place to prevent a person falling from roof edges and working ('leading') edges. Nets and birdcage scaffolds are the preferred option, but if this is not possible then lifeline systems or temporary barriers such as trolley systems at the leading edge can be used.

Lifeline systems with a suitable harness can be attached to the structure, a mobile anchorage point or to a suitable working platform. These systems must be designed and tested to ensure they are fit for the required purpose.

If using an inertia reel system, the anchorage point should be directly above the user (vertical plane) to avoid the possibility of the line sheering over the horizontal edge or the pendulum swing should a person fall.

Whenever lifeline and harness systems are used, operatives must be trained in the correct usage and inspection of the system and associated PPE. A comprehensive rescue procedure must also be in place before anyone uses the system.

All PPE and rescue equipment must be checked thoroughly before use in accordance with the manufacturer's instruction. This should include both visual and tactile inspections by a competent person.

Controlling health risks

Health and safety in roofwork is not just limited to falls from height, other areas that need assessing and require relevant training for both workers and those responsible for the work include:

- Manual Handling: Construction has one of the highest rates of musculoskeletal disorders (MSDs). This can be caused by lifting or carrying objects as well as from repetitive tasks, twisting when lifting a load or holding a load awkwardly. The Manual Handling Operations Regulations 1992 require employers and the self-employed to assess a task and then either remove or alleviate the risks.
- Hazardous substances: these include Asbestos (e.g. cement profiled sheets, guttering, pipes, and floor tiles), Lead, Silica, Bitumen and asphalt, Glues, and solvents and biological hazards. The Control of Substances Hazardous to Health Regulations (COSHH) 2002 require employers to identify hazardous substances while designers should always try not to use hazardous materials in their designs. If this is not possible then the least hazardous materials should be used. Hazardous substances must be clearly identified and those working where a hazardous substance is present must be professionally trained in the risks and how to deal with them.
- Physical agents: risks from exposure to vibration, noise, ultraviolet radiation, and heat exposure must be prevented or controlled. Employers are required to provide a suitable health surveillance where the risk assessment has identified a risk to workers' health.

Training and competence of roof workers

All those working on a roof need to have the appropriate knowledge, skills, and experience to carry out the work safely and competently. Those who are training or less experienced will require supervision by a competent person.

Competency is an ongoing process which is developed through work experience and regular training. Workers must be trained in all health and safety issues specific to their trade, including the risks they might encounter such as asbestos or fragile materials.

Training for roof workers should ideally include the relevant health and safety disciplines including Work at Height (covering the regulations, risk assessments, selection of work equipment and rescue training), PPE, ladders, MEWPs, and PASMA in addition to more specialist areas such as first aid, asbestos awareness, COSHH, risk assessor and fire safety.

Rescue training must be provided for people who are likely to be involved with a rescue. Initial training should be carried out by the supplier of the rescue system and should include a simulated exercise to assess the trainee's competence. Refresher training must be carried out every six months and should include an assessment of competence by carrying out a simulated rescue.

Further reading and requirements can be found in the HSG33 Publication which has been used as a source for the development of this summary.

The Axis H&S Team