

Policy Guidance for
Working at Height

Roof Access/Roof
Work

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1.0 Introduction

Working on roofs is always a high-risk activity. Approximately 50% of fatal falls are from or through roofs and frequently involve fragile materials. Any fall from a roof will inevitably result in a serious injury and the risks are substantial however long or short the duration of work.

High safety standards are essential for roof access/work and the nature of the precautions required must be assessed for each individual job. This procedural guidance sets out responsibilities, precautions and provides general guidance for good practice relevant to all roof access/work.

2.0 Scope

This procedural guidance applies to all roof access/work on CorpHealth & Safety premises.

3.0 Purpose

The purpose of this procedural guidance is to

- ensure: roof access/work is avoided where possible;
- When roof access/work is unavoidable, all hazards are considered and sufficient safe systems of work are in operation that will actively reduce the risk of injury to all persons involved;
- Compliance with relevant legislative requirements; **Best practice is adopted.**

4.0 Definitions

4.1 Fragile roofs

A fragile roof is one that does not safely support the weight of a person and any load they may carry. The fragility of a roof does not depend solely on the composition of the structure. The following factors are also important:

- Thickness of the
- material; span between
- supports; sheet profile;
- Type, number, position and quality of fixings;
- design of the supporting structure (e.g. the
- purlins); age of the material within the roof structure.

The entire roof may be fragile or only part of it (e.g. roof lights). The roof structure may be temporarily fragile (e.g. during build-up operations). Sometimes fragility of a roof may be disguised, for instance when old roofs have been painted over.

4.2 Short duration work

Short duration work is measured in minutes rather than hours. It includes jobs such as replacing a few tiles, making minor adjustments to equipment, inspections and access to other areas/locations. Work on a roof is still dangerous even if it lasts for a short time and appropriate safety measures are essential.

4.3 Sloping Roofs

A sloping roof is defined as a roof with a pitch of greater than 10°.

4.4 Flat Roof

A flat roof is defined as a roof with a pitch of less than 10°.

4.5 Safe systems of work (Safe Working Procedures)

A safe system of work is a method of completing a job which eliminates identified hazards and controls risks. Good planning can significantly reduce the risks involved in roof access/work and a safe system of work achieves the controlled completion of the work, with the minimum of risk for the individuals involved. All roof access/work must be done under a safe system of work, guidance for which is detailed in section

4.6 Unauthorized access to all roofs must be prevented.

5.0 Legal Requirements

5.1 Best Practice guidelines for working at height 4-2012 and working on roofs 6-2012 – :

The overriding principle of these guidelines is that employers must do all that is reasonably practicable to prevent anyone falling. The hierarchy for managing work at height is as follows:

- Avoid work at height where possible;
- Use work equipment or other measures to prevent falls where working at height cannot be avoided;
- Where the risk of falling cannot be eliminated, use work equipment or other measures to minimize the distance and consequences of any fall.

Remember there is no 3 meter rule.

All work at height must be properly planned and organized

- Ensure that no work at height is carried out if it is safe and reasonably practicable to do it other than at height;
- Ensure that the work at height is properly planned, supervised and carried out as safely as is reasonably practicable;
- Ensure that emergencies and rescue procedures are planned for;
- Take account of the risk assessment findings carried out under Regulation 3 of the Management of Health and Safety at Work Regulations.

All work at height must take account of weather conditions that could pose a risk to the health and safety of any person working at height

- Ensure that any work is postponed until the weather improves sufficiently.

Anyone involved in working at height must be competent and appropriately trained

- If a person is being trained they must be supervised by a competent person; Competency and training refers to anyone involved in organization, planning, supervision and the supply/maintenance of equipment in respect of working at height;
- Where a risk of falling remains, ensure that those persons working at height are trained in how to avoid falling and how to avoid or minimize any injuries should they fall.

The place where work at height is undertaken must be safe

- The place of work and the means of access must have features to prevent falls from height.

Equipment used for working at height must be appropriately inspected

- If it is not reasonably practicable to include features to prevent a fall and they would not allow the worker to carry out the work safely, equipment must be provided to prevent a fall occurring (as far as reasonably practicable);
- If the risk of falling cannot be entirely eliminated, the potential distance and effect of the fall must be minimized;
- Equipment provided for work at height must be the most suitable available, provide collective measures (e.g. guard rails) with priority over personal protection (e.g. safety harnesses), and take account of the working conditions and risks to the safety of all persons at the place where the equipment is to be used;
- Equipment, temporary structures and safety features must comply with requirements.
- Ensure that each location where work at height is to be undertaken is checked on every occasion before that place is used. This must take account of checking the surface of every parapet, permanent rail, etc.
- Ensure that any equipment is inspected after assembly or installation and as often as is necessary thereafter to ensure safety;
- Any equipment from another business must be accompanied with a clear indication that the last inspections have been carried out. Likewise for any equipment leaving the employers business;
- Any work platform where a person could and be injured **(There is NO 3m rule)** must be inspected in-situ prior to use (but not more than 7 days before). Any mobile platform must be inspected at the site of use. The person inspecting the platform must prepare a report before going off duty providing the required details and provide a copy within 24 hours to the person who requested the inspection. Reports should be available at the construction site until the work is completed;
- General inspection records should be kept until the next inspection has been completed.

The risks posed by fragile materials must be properly controlled

- Ensure that employees do not go onto or near to a fragile surface unless it is the only reasonably practicable way for the work to be completed safely taking into account the demands
- of the task, equipment and working environment; Any person working on or near to a fragile surface must be provided with suitable work platforms, coverings, guard rails, etc. to minimize any risks and employers must do all that is

reasonably practicable to minimize the distance and effect of a fall.

Ensure that the risks from falling objects are properly controlled

- In order to prevent any potential injuries employers must do all that is reasonably practicable to prevent anything falling;
- Alternatively, ensure that no-one is injured by anything falling;
- Ensure that nothing is thrown or tipped from height if it is likely to injure a person or be stored by such a method that its movement is likely to injure anyone;
- Any workplace where there is a risk of personal injury by a falling object or person, ensure that the area is clearly indicated and that authorized people are excluded and unable to reach it.

5.2 The Working at Height Guidelines April 2012

These guidelines make the following requirements:

- Fixed ladders should be of sound construction, properly maintained and securely fixed. Rungs should be horizontal, provide adequate foothold with stiles extending at least 1100mm above the landing;
- Precautions which may include fall-arrest devices, crawling boards, etc. should be taken where there is a risk of falling off or through a roof;
- Access should be limited to authorized persons and in high risk situations a written permit to work system should be adopted as part of a safe system of work.
- Every place of work to be made and kept safe, including safe access and egress.

5.3 The Provision and Use of Work Equipment

All equipment provided for use at work must be:

- Suitable for the intended
- purpose; safe for use;
- Maintained in a safe state of repair and regularly checked;
- Provided for use to persons who have received adequate information, instruction and training in the equipment's safe operation/use;
- Fitted with all necessary suitable safety measures or protective devices e.g. warnings and guards;
- Used within correct safe working load specifications.

5.4 New Zealand/Australian Standards

All equipment used must meet the relevant AS/NZS Standards. For example:

- Wooden ladders;
- Aluminum ladders, steps, trestles and lightweight
- Pre-fabricated mobile access and working towers

6.0 Hazards

A hazard means anything that can cause harm. Falls can occur from the edges of roofs, through gaps or holes in roofs, through fragile roof materials (roof lights) and whilst accessing a roof structure. In addition, serious injury can result from material falling or being thrown from roofs. Accidents occur not only to people building roofs, but also to people maintaining, cleaning, demolishing and inspecting them.

7.0 Procedural Guidance

(Please refer to section 5.1 for specific requirements.)

7.1 Necessity of roof access/work

The best way to avoid a fall from or through a roof is to make sure nobody ever goes on or near to it. Therefore roof access/work should always be avoided where possible by asking:

- a. *'Do we need to do the work?'*
- b. If the work needs to be done, can it be completed without going onto the roof? *For example, if a roof needs to be inspected, can it be done from a powered access platform?*

7.2 Precautions for all roof access/work

The following precautions are required for all roof access/work. It is the responsibility of the Facilities or Operations Manager or duly authorized person to ensure all aspects of this section have been carried out prior to work commencing and to ensure that a safe system of work (SWP) to include a working at height permit is fully implemented.

7.2.1 Risk assessment, method statements and working at height permits

Prior to roof work commencing a risk assessment must be undertaken by a competent person and be recorded in line with BPS risk assessment procedure. Any person requested by their manager to assist in the risk assessment process will be competent and trained in the risk assessment process. It is the responsibility of the Facilities or Operations Manager to ensure that such persons receive appropriate information, instruction and training in risk assessment as required. The risk assessment must identify a safe system of work detailed in a SWP method statement being specific and relevant to the work to be undertaken. The risk assessment and method statement shall be signed by the competent person and communicated to all those involved in the roof access/work.

A permit to work covering the roof access/work must also be authorized and in operation for the duration of the task. A permit to work is a document which specifies the work to be done and the precautions to be taken. They form an essential part of safe systems of work for many maintenance activities. They allow work to start only after safe working procedures have been defined and they provide a clear record that all foreseeable hazards have been

considered.

General risk assessments and method statements may be used for routine roof access/work and operations. A working at height permit must be completed on every occasion where roof access/work is necessary.

Roof Access Permits may be for **a single or for multiple access** depending on the work required.

7.2.2. Getting on and off the roof

Getting on and off the roof is a major risk. A properly secured ladder is the minimum requirement for this type of activity.

7.2.3 Edge protection

Wherever a person could fall from height and sustain personal injury, the first line of defense is to provide adequate edge protection. This must meet the minimum legal standards...

A roof parapet may provide adequate protection but if it doesn't additional protection must be provided.

7.2.4 Work platforms

Where necessary an adequate and secure work platform must be provided. Generally the roof structure itself will provide this but if it doesn't, a platform should be provided (e.g. when working on a chimney on a pitched roof). Work platforms must be erected by appropriately trained and competent persons only.

7.2.5 Fall arrest equipment

Providing platforms and edge protection may not always be possible or reasonably practicable. In such situations either safety nets or harnesses will be required. This equipment does not stop people falling, but will minimize potential injuries if they do. Any nets provided must be properly installed by competent riggers as close as possible below the roof involved to minimize the potential fall distance. Rescue plans must be in place should a person fall into a net.

If harnesses are used, they must be securely attached to sufficiently strong anchor points and **MUST ALWAYS BE WORN**. This requires user training and active monitoring by management.

N.B. All control measures to avoid a person falling must be

considered first. 7.2.6 Falling material

Housekeeping is of paramount importance and can prevent material accumulating with the potential to fall and cause injury. **NOTHING SHOULD EVER BE THROWN FROM A ROOF** and waste material should either be lowered to the ground in a controlled manner or

dropped down an enclosed rubbish chute. Access to areas underneath or adjacent to roof work should be prohibited. Where this cannot be reasonably maintained debris netting, fans, covered walkways or similar safeguards to stop falling material causing injury should be used. *Particular care is needed where there is public access close to roof work. If possible, try to arrange for work to be carried out when the number of passers-by will be minimal e.g. out of hours.*

7.2.7 Training.

Persons undertaking roof access/work must have the appropriate knowledge, information, instruction, skills, training and experience to work safely, or be under the supervision of a designated competent person. Competence must be assured in the following areas:

- Be able to recognize the risks and necessary controls to complete the work safely;
- Be fully conversant with the agreed safe system of working, including where necessary the installation/wearing of safety harnesses, requirements/installation of edge protection and operation of mobile access platforms.

Competence is demonstrated by the completion of a “certified” training programme such as:

- *Site Safe Certification*
- *Height and Harness Safety*
- *Training for Working at Heights*

All such training should be recorded and repeated

as necessary. 7.2.8 Weather conditions

Adverse weather conditions need to be anticipated and suitable precautions planned. A roof should always be inspected prior to access/work commencing to determine whether conditions have changed and to enable safe working. When deciding whether to continue or suspend work consideration should be given to:

- Wind speed;
- Controls already in place to prevent falls from the roof;
- The position/height of the roof in respect of any
- material being handled

The work being undertaken.

Do not work on roofs in icy, wet or windy conditions. Avoid excessive exposure to sunlight by wearing appropriate clothing, using sun-creams and wearing sun glasses to avoid excessive reflective glare.

7.2.9 Short duration work

It may not be reasonably practicable to provide full edge protection for short duration work, but it still needs to be considered during the risk assessment process. Where it is not reasonably practicable to

provide full edge protection, a securely attached safety harness must be used by all personnel accessing or working on the roof. All personnel who wear a safety harness must be trained in its correct use.

Mobile access equipment provides both edge protection and a working platform and may be suitable for short duration/minor work.

7.2.10 Worker considerations

Any person requested to access or work on roofs will be physically fit and provided with suitable PPE to include non-slip footwear. University managers are responsible for identifying such members of staff within their line management for occupational health referral to the University's occupational health provider prior to undertaking any such works for the first time and at regular intervals thereafter.

7.3 Fragile roofs

See section 4.1 for the definition of a fragile roof. The fragility of a roof must be confirmed before work starts. If there is any doubt, the roof must be treated as fragile unless, or until, confirmed that it is not.

7.3.1 Prevent unauthorized access

Make sure unauthorized access to all fragile roofs is prevented. This will be achieved by implementing a permit-to-work system or by blocking off roof access to the area(s) concerned. Ensure appropriate warning signs are clearly displayed on all existing fragile roofs and at roof access points.

7.3.2 Working on fragile material

At no time may anyone work on, from or pass over fragile material, unless platforms, coverings or other similar safe means are provided that adequately support and protect the individual. Support platforms must be at least 600mm wide and of greater width if the work requires it. Platforms must be long enough to provide adequate support across roof members and must span at least two purlins. There must be adequate platforms and support to do the job safely. Precautions are required to prevent people and materials falling from the platform. Edge protection comprising of a top rail, intermediate rail and toe-board is required.

Safety netting installed beneath the roof surface will provide collective fall protection in the area that it covers. Harnesses will also provide fall protection but will require adequate attachment points. Information, instruction, training and supervision for roof workers is essential.

7.3.3 Working near fragile material

Protection must be provided when anyone passes or works less than 2 m from a fragile material. In such situations fragile

materials must be securely covered, or full edge protection provided to the perimeter or along the full length of the fragile material to prevent access to it. Appropriate precautions are to be taken when installing such protection (e.g. safety netting or harnesses). Where it is not reasonably practicable to provide such protection for example, in cases where proximity to the fragile material is irregular or for a short time span, use of safety harnesses may be appropriate.

Designated boundaries can be established that are useful in identifying safe work areas and/or routes to and from them. If these are used:

- The boundary should be at least 2m from the fragile material;
- The boundary does not need to comply with full edge protection standards, but there should be a physical barrier (a painted line or bunting is not acceptable);
- All persons should receive appropriate information, instruction and training.

7.4 Working on sloping roofs

On traditional sloping (pitched) roofs the

- majority of falls occur: from the eaves;
- Slipping down the roof and then falling
- over the eaves; through the roof internally during build-up;
- From gable ends.

7.4.1 Edge protection

Full edge protection at eaves level is required for work on sloping roofs. The edge protection needs to be strong enough to withstand a person falling against it. If the work requires access within 2m of the gable end, then edge protection is required to protect from falls at this point. See Appendix 1 – Sloping roof edge protection. Powered access platforms can provide a good access alternative to fixed edge protection.

7.4.2 Roof ladders

Slates and tiles do not provide a safe footing. Appropriately designed roof ladders or crawling boards must be used when working on sloping roofs. They must be long enough to span the supports i.e. at least three rafters and be securely located. Anchorages for roof ladders should bear on the opposite roof and not rely on the ridge tiles for support. Guttering should not be used for ladder support.

7.4.3 Short duration work on sloping roofs

Short duration work involves tasks measured in minutes rather than hours and may include jobs such as replacing a few tiles, adjusting an aerial, etc. However, work on a roof is still a high risk even if it only lasts for a short time. Where reasonably practicable, full edge protection should be provided or an alternative method

adopted (e.g. powered access platform). The minimum requirement for short duration work on a roof includes:

- A safe means of access to roof level;
- A properly constructed and supported roof ladder.

7.5 Working on flat roofs

Work on a flat roof is still high risk. People can fall from the edge of an existing roof, or through openings and gaps where work is being carried out.

7.5.1 Edge protection

Unless a roof parapet provides equivalent safety, temporary edge protection will be required for the majority of work on flat roofs. The roof edge and any openings must be protected. It will often be more appropriate to securely cover openings rather than erect edge protection. Any edge protection provided must be:

- In place from start to finish of the works;
- Strong enough to withstand people and materials falling against it.

Where possible, edge protection should be supported at ground level to avoid fixings causing obstructions on the roof. Where this cannot be achieved edge protection may be supported by frames, counterweights or scaffolding on the roof. See example in Appendix 3.

7.5.2 Demarcating safe areas

Full edge protection may not be necessary if limited work on a larger roof involves nobody going any closer than 2m to an open edge. In such cases demarcated areas need to be established, outside of which nobody must venture during the work. Demarcated areas must be:

- Limited to areas from which nobody can fall;
Indicated by an obvious physical barrier (painted line or bunting is not acceptable);
- Subject to tight supervision to ensure nobody strays outside the demarcated area;
- All users of such to be provided with information, instruction and training.

7.5.3 Short duration work on flat roofs

Short duration work means a matter of minutes rather than hours. If it is not reasonably practicable to provide edge protection during short duration work, then safety harnesses must be worn by anybody working within 2m of any unguarded edge.

Where safety harnesses are used they must be:

- Appropriate for the user and be maintained in good condition;
- Be securely attached to an anchorage point of sufficient strength;

- Fitted with as short a lanyard as possible that enables the wearer to effectively carry out their work task;
- Be used – information, instruction, training and supervision are essential management tools to ensure this.

Revised 9-2019