ROOFWORK

INTRODUCTION

On average 28 workers are killed each year and several hundred are seriously injured as a result of working on roofs. Members of the public are also killed and injured when hit by materials falling or thrown carelessly from roofs. Nearly all roofwork fatalities could have been prevented by the provision and proper use of readily available equipment and by following recognised safety procedures.

Booklet HS(G)33 "Health and Safety in Roof Work" gives extensive guidance on how to work safely on roofs. It covers new buildings, repair, maintenance, cleaning work and demolition. The principal problems are falls through fragile roofing materials, roof lights, gaps or holes and falls from unprotected roof edges. Maintenance work may be undertaken by people with little or no experience of roof work or of working at height. It is important therefore to ensure adequate:-

- planning (risk assessment)
- instruction
- training and
- supervision (to an enhanced standard).

The following advice is summarised from HSG33.

WORKING SAFELY - GENERAL ISSUES

1. Safe place of work on the roof-safety method statements should be prepared covering all safety aspects.

   Use of suitable safeguards (in a hierarchy):-

   (i) avoid work at height if possible. If unavoidable,
   (ii) use safe working platform,
   (iii) use fall arrest systems (safety net preferably or harnesses).

2. Safe access to the roof (via independent scaffolds, fixed or mobile scaffold towers, mobile access equipment or ladders).

3. Escape in case of fire.

4. Materials handling.

5. Mechanical handling (e.g., cranes, lifting appliances).

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6. Falling materials (eliminate or reduce risk by appropriate programming of work, "birdcage" scaffold or debris netting).

7. Weather conditions.

8. Electricity at work - power lines/portable tools.

TYPES OF WORK

1. Inspection - from (remote) safe place or in safe manner.

2. Refurbishment - needs careful planning as is always high risk i.e.,
   - identify fragile elements
   - identify precautions
   - establish close liaison with client
   - may need structural survey
   - carry out risk assessment

3. Maintenance and Cleaning - often by people with no experience of, or aptitude for, work at height. Need a suitable risk assessment, proper planning and supervision.

4. Stripping and dismantling of roofs – resources include the time needed to plan and carry out the work safely. Consider how and where the materials stripped from the roof will stored if they are to be reclaimed. As the roof is stripped, steps must be taken to prevent internal falls.

5. Short duration work - precaution will depend on an overall assessment of the risks involved, which considers: duration/complexity/pitch of roof/condition of the roof/weather conditions/risk to those putting up edge protection/risk to other workers and the public.

Where mobile access equipment is not practicable, travel restraint or fall arrest systems should be considered. These must be installed by competent riggers and are subject to frequent preventative maintenance checks.

TYPES OF ROOF

1. Flat roofs

   - where the roof design does not provide permanent edge protection then temporary edge protection will normally be required.

   - where limited work is being carried out on sections of a large roof a simple form of distance barrier could be used (usually at least 2m from the edge) supported by a high level of supervision and discipline.

2. Sloping roofs

- On most sloping roofs, suitable roof ladders or crawling boards will be essential, in addition to edge protection. The anchorage at the top of the roof ladder should be by some method that does not depend on the ridge capping. The anchorage should bear on the opposite slope by a ridge iron or be secured by some other effective means.
- As an alternative to roof ladders, timber battens used for slated/tiled roof can provide a reasonably secure foothold provided they meet certain safety criteria.

3. Fragile roofs

- Falls through fragile materials are a particular problem in building maintenance. Work should, if possible, be arranged so as to avoid working on or passing near fragile material. If this is unavoidable, it is essential to identify all fragile materials and implement necessary stringent precautions.
- Preventing falls may involve
  - safe working platform or covering on the roof (and safe access to the working position); use of stagings (of a min. 600mm width) fitted with guard rails.
  - where it is not practicable to maintain guard rails on both sides of the staging, other precautions will be required (e.g., safety nets and birdcage scaffolding).
  - harness and line systems.
  - permanent protection along sides of valley gutters (up to 2m depending on roof pitch).
  - not locating roof lights within 2m of valley gutters.
  - prevent unauthorised access.
  - display warning signs (black on yellow background).

  - guarding or covering and marking roof lights where people need to approach within 2 metres.

4. Industrial roofs - covered also in HSG33.

PROTECTING THE PUBLIC

Firstly, need to prevent materials falling.

Secondly, need to prevent people from being struck by any materials or tools which do fall. Use of birdcage scaffolds, debris netting or sheeting of scaffold boards should be evaluated and used where necessary. Skips, baskets or enclosed debris chutes should be used to remove waste materials.

Warning signs should be displayed.

CONTROLLING HEALTH RISKS

Relevant health risks may involve any of the following:-

- manual handling
- hazardous substances
- asbestos
- lead
- bitumen and asphalt
- glues and solvents
- ultraviolet radiation

Advice on these issues can be found within other elements of this manual or in HSG33.

TRAINING AND SUPERVISION

- All workers should be trained in safe working practices; to include risks encountered and systems of work to control them.

- Managers and supervisors will need competence to deliver safety standards on site. Health and safety training should help secure this.

- Relevant courses are organised by national federations, industry training boards etc.

CHECKLIST - ROOFWORK

ROOFWORK

1.	Do you know the construction details of your roofs?	YES	NO
2.	Have you identified hazards associated with roofwork at your premises and taken appropriate measures to minimise any risks?	YES	NO
3.	Have you erected warning notices regarding any fragile materials within your roofs?	YES	NO
4.	Do you liaise closely with building contractors regarding roofwork at your premises?	YES	NO
5.	Do you train and supervise any employees who may need to gain access to roofs at your premises?	YES	NO

REFERENCE/FURTHER DETAILS

*1. Booklet HS(G)33 - Safety in roof work (HSE) ISBN 0-7176-1425-5 (1998)

*2. HSE Information Sheets
* Construction Sheet No 2(Rev) - Safe use of ladders
* Construction Sheet No 10(Rev)(1997) - Tower scaffolds
* Construction Sheet No 49 - General access scaffolds and ladders

3. Working at heights in the broadcasting and entertainment industries: Entertainment Sheet No 6 HSE 10/98

4. Managing construction for health and safety -Construction (Design and Management) Regulations 1994 Approved Code of Practice L54 HSE Books 1995 ISBN 0 7176 0792 5

5. Safe erection of structures: Part 3 working places and access.GS28/3.HSE Books 1986 ISBN 0 11 883530 0

6. Health and Safety in Construction HSG 150 HSE Books 1996 ISBN 0 7176 1143 4

7. Working on Roofs (HSE) INDG284 (3/02)

8. 'High designs' HSE Videos Tel: 0845 741 9411; Fax: 01937 541083

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* Available to view by prior arrangement at Nuneaton and Bedworth Borough Council, Environmental Health Services, Council House, Coton Road, Nuneaton. CV11 5AA

** Free copy available from Nuneaton and Bedworth Borough Council at the above address.

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