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## **Health and Safety Specialised Topic Guide S7**

# **Working at Height**

## Issue and Amendment Record

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# **Working at Height**

### **Preface**

The purpose of this guide is to provide a brief introduction, overview and summary of one of the principal health and safety topics which has implications for many of the operations carried out by BMF members. It identifies some particular aspects which need to be taken into account and provides references and links for further information you may require. However a brief guide cannot be definitive or comprehensive, or include the detailed information you might need. Members need to ensure that their own safety management systems adequately address the risks in their own business and are consistent with legal requirements.

These Specialised Topic Guides assume that the reader is familiar with the general principles of managing health and safety as discussed in BMF's 'Guide to Members' and with the associated sector guidance.

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## 1 Introduction

Falls from height remains the biggest single cause of workplace deaths in the UK.

Working at height risks are frequently associated with the construction industry where the majority of the fatalities occur, and much of the legislation and guidance reflects this. Nevertheless, working at height occurs in many different aspects of the marine industry's work, some of which pose particularly difficult challenges in producing safe systems of work that will stand up to robust scrutiny. The marine industry also has to deal with construction related risks particularly relating to achieving access for building maintenance.

This specialised topic guide is based around the main legal requirements<sup>1</sup> and associated guidance<sup>2</sup>. References to further supporting guidance are given.

This guide and the regulations on which it is based deal primarily with the risks of people falling from height and how the likelihood and consequences of this can be minimised. They also deal with objects dropped from height.

## 2 Nature of the hazards

“Working at Height” is any situation where it is possible to fall, even if it is at ground level. The arbitrary rule which sets 2 metres as the height above which measures should be taken has now been dispensed with, the current approach being based on risk<sup>3</sup>. Typical examples within the marine industry include:

- working on boats out of the water
- mast access
- operation of lifting cradles
- dry docks
- handling moulds
- building maintenance (*including fragile roof issues*)
- materials handling

## 3 Duties and responsibilities

Working at height is now on a modern risk-based footing where employers can develop working arrangements which suit their own businesses and circumstances.

The employer is responsible for ensuring that work at height is:

- properly planned (including the selection of work equipment)
- adequately supervised
- carried out in a safe way by competent people, as far as is reasonably practicable

The potential for materials or objects falling from height must also be considered. Where these cannot be prevented, measures must be taken to prevent people being injured by their fall. These could include demarking ‘danger areas’.

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<sup>1</sup> Work at Height Regulations 2005

<sup>2</sup> The Work at Height Regulations 2005 – A Brief Guide. HSE Guidance INDG401

<sup>3</sup> 2m is still used as the height above which a platform used for construction work must be inspected.

Every person has a duty to report any defect or activity likely to endanger a person, and to use any equipment provided in accordance with the training and instruction given.

## 4 Risk Assessments

The employers risk assessment needs to consider working at height issues and outline the control measures to be taken.

### 4.1 Exceptions

The regulations do not apply to:

- the master and crew of a ship<sup>4</sup> carrying out normal shipboard activities which do not present a risk to other persons at work
- certain dock operations<sup>5</sup>
- persons engaged in fish loading operations in specified places<sup>6</sup>
- provision of instruction or leadership in caving or climbing activities by way of sport, recreation, team building etc.

## 5 Risk Control

### 5.1 Hierarchy of Risk Control

The approach to risk control follows the hierarchy of preferred solutions consistent with that found throughout health and safety management:

1. **Avoidance.** Look for ways to avoid working at height
2. **Reduce the likelihood.** Use measures to prevent falls
3. **Reduce the consequences.** Measures which reduce the consequences of a fall, should it occur

Existing places of work and means of access at height are expected to comply with the generality of the requirements, which is they must:

- be stable and of sufficient strength and rigidity
- rest on stable, strong surfaces
- be of adequate size
- have suitable means for preventing a fall
- have a surface which prevents persons, objects or materials falling through
- be constructed, used and maintained and maintained to minimise the risk of slips, trips, or getting trapped against adjacent structures
- be prevented from moving whilst work is in progress

### 5.2 Work Equipment

“Work equipment” is used here in a general sense to cover anything that can be used to reduce the likelihood of a fall or prevent it, or to reduce the consequences should a fall occur.

In deciding on risk controls and appropriate work equipment, employers should:

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<sup>4</sup> Every description of vessel used in navigation.

<sup>5</sup> See regulation 7(6) of the Docks Regulations 1988.

<sup>6</sup> Regulation 5(3) of the Loading and Unloading of Fishing Vessels Regulations 1988.

- give priority to measures which provide **collective protection** (e.g. guard rails) over those which protect individuals (e.g. fall arrest systems),

and take account of:

- foreseeable working conditions, including the weather
- the height to be negotiated, and the consequences of a potential fall
- duration and frequency of use
- needs for evacuation and rescue
- any additional risks posed by the use, installation or removal of the work equipment or by evacuation from it

### 5.3 Risk control measures

Note that (a) to (c) below are ‘collective’ measures which provide risk control to all likely to be affected. Section (d) describes measures providing personal protection.

#### (a) Collective fall protection<sup>7</sup>

Examples include guard rails and toe boards. The regulations give specific dimensions for these when used in construction work.

These should be of sufficient size, strength and rigidity, and securely fixed. They should be placed to prevent, as far as practicable, the risk of a person, object or material falling.

Openings shall only be provided where there is an access way, or where temporary removal is necessary to gain access or carry out a particular task providing it is replaced as soon as practicable and work is not carried out in the meantime unless compensatory measures are put in place.

#### (b) Working Platforms<sup>8</sup>

- The supporting structure, which could include wheeled plant, must be of sufficient strength, stability, and rigidity and prevented from slipping or rolling.
- The platform must be of sufficient strength, robustness and rigidity, and be capable of safe erection and dismantling.
- The platform must be large enough to provide a safe working area, and have a surface through which no persons, objects or materials could fall, or which creates other types of risk.
- During erection and use the platform will be used and maintained to minimise the risk of slips, trips, getting caught between the platform and other structures, and overloading.
- Specific requirements for the design, erection, use and modification of scaffolding structures are given in the regulations<sup>9</sup>. Particular competences are required.

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<sup>7</sup> Schedule 2 Work at Height regulations.

<sup>8</sup> Schedule 3 Work at Height regulations.

<sup>9</sup> Schedule 2(a), Work at Height regulations

Mobile elevation work platforms (MEWP) are an increasingly popular and flexible way of providing occasional access.

**(c) Collective fall arrest<sup>10</sup>**

These include such as nets or airbags which provide protection for a group of people.

- These types of risk control should only be used where a risk assessment shows that the work can be done safely without affecting the functioning of the arrest system, and where a safer solution is not practicable.
- People using the systems must be adequately trained, which will include rescue techniques.
- Attachments and anchors must be of adequate strength for their purpose including the carrying out of a rescue.

**(d) Personal Fall Protection<sup>11</sup>**

These include work restraints, work positioning, fall arrest, and rope access, and are discussed further below. They should only be used where they can provide adequate levels of safety and where other, safer, means are not practical.

The persons using the equipment and those who may be required to effect a rescue, must be adequately trained.

The equipment must be of sufficient strength taking account of all foreseeable loading conditions and must fit the user properly. There must be at least one anchor, the strength of which, including means of attachment, must be of adequate strength and stability for all foreseeable loads.

**Work positioning systems** enable a user to work supported in tension or suspension in a way which prevents or restricts a fall. For these systems the rope(s) moves with the user as with a bosun's chair

**For *Rope access and positioning techniques*:**

- The system will comprise at least two separately anchored lines (the working and safety lines). Single ropes can only be used where the risk assessment shows that the second line will result in higher risk, and that appropriate measures have been taken. *Note that the rope(s) are static and do not move with the user (otherwise this would be a 'work positioning' system).*
- The user has a suitable harness connected to the working and safety lines.
- The working line has a safe means of ascent/descent and is fitted with a self-locking system.

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<sup>10</sup> Schedule 4, Work at Height regulations.

<sup>11</sup> Schedule 5, Work at Height regulations

- The safety line is fitted with a mobile fall protection system connected to the user.

**Fall arrest systems** incorporate a suitable means of absorbing energy whilst limiting the forces applied to the body. They should not be used where there is a risk of the line being cut, where there is insufficient space for its proper functioning (taking account of the line swinging), or where there is any other factor which makes its use unsafe.

**Work restraint systems** prevent the user getting into a position where a fall could occur.

**Ladders and step-ladders**<sup>12</sup>. Contrary to popular myth, the regulations do not ban the use of ladders, however they should only be used where the risk assessment shows that other measures cannot be justified because of the low risk, the short duration of its use, or features of the work site which cannot be altered. The following are the main requirements for the safe use of a ladder:

- a stable, firm and sufficiently strong surface which keeps the rungs or steps horizontal.
- positioning the ladder to ensure stability.
- suspended ladders shall be securely attached.
- portable ladders shall be prevented from slipping by securing the stiles, anti-slip or other device, or other similarly effective arrangements.
- the ladder will protrude above the landing sufficiently to provide a handhold unless other measures are in place.
- extension or interlocking ladders must have their sections prevented from moving against each other whilst in use.
- mobile ladders must be prevented from moving before being stepped on.
- where the rise is over 9 metres above the base, landing areas or rest platforms must be provided.
- a secure handhold and support is always available to the user, and a handhold can be maintained whilst carrying a load, except where the use of a **step-ladder** has been justified by the low risk and short duration of use.

## 6 Inspection

Regular and systematic inspection (and any associated testing) is essential to ensure that equipment and systems are fit for use and where appropriate, have been correctly assembled and installed.

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<sup>12</sup> Schedule 6, Work at Height regulations.



Every place of work at height and its fall protection measures must be inspected and recorded on each occasion before use.

Refer to the regulations<sup>13</sup> for the specific inspection and recording requirements for construction work.

## 7 Training

Everyone involved in work-at-height must be competent, or if being trained, be under the supervision of a competent person.

## 8 Further information sources

The principal information sources referred to in this guide are listed below together with other reference material which members may find useful.

Work at Height regulations 2005. <http://www.opsi.gov.uk/si/si2005/20050735.htm>

The Work at Height Regulations 2005 (as amended) – A brief guide. INDG401. Free from HSE website [www.hse.gov.uk](http://www.hse.gov.uk).

HSE Falls from Height website [www.hse.gov.uk/falls](http://www.hse.gov.uk/falls) (*Includes links to solutions for a limited range of situations and useful references to mobile elevating work platform (MEWP) issues.*)

Safe use of Ladders and Stepladders. HSE. INDG402 Free from HSE website [www.hse.gov.uk](http://www.hse.gov.uk) (*Note: Does not cover fixed ladders*)

ACOLAR LOLER:2007. The Lifting Operations and Lifting Equipment Regulations 1998 (LOLER). How they apply to rope access systems for working at height. <http://www.hse.gov.uk/falls/downloads/ropeaccess.pdf> (*Provides information on good practice*)

Working at Height Safety Association. [www.wahsa.co.uk](http://www.wahsa.co.uk) (*The association was formed in 2005 by manufacturers of equipment for working at height. Technical Guidance Notes on equipment are amongst other information provided on their website*)

International Powered Access Federation. [www.ipaf.org](http://www.ipaf.org) (*Information on manufacturers, users, trainers, suppliers, etc*)

Industrial Rope Access Trade Association. [www.irata.org](http://www.irata.org) (*Useful information on companies providing services and training sources*)

National Access and Scaffolding Confederation. [www.nasc.org.uk](http://www.nasc.org.uk) (*Scaffolders trade association*)

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<sup>13</sup> Schedule 7, Work at Height regulations.

## **Appendix. Examples of Working at Height Issues in the Marine Industry**

The BMF Technical Department is committed to sharing experience amongst members in the interests of encouraging adoption across the industry of good standards of safety management and business-efficient solutions to safety issues. We intend to keep these documents up-to-date in the light of members' experiences and developments in 'best practice' and legislation.

Of particular interest in the management of working at height are:

- Working over inverted moulds
- Working on boats in dry store, including visitors, etc
- Mast access

Members with specific queries or suggestions for sharing best practices should contact the Technical Department on 01784 473377 , or email [www.britishmarine.co.uk](http://www.britishmarine.co.uk)