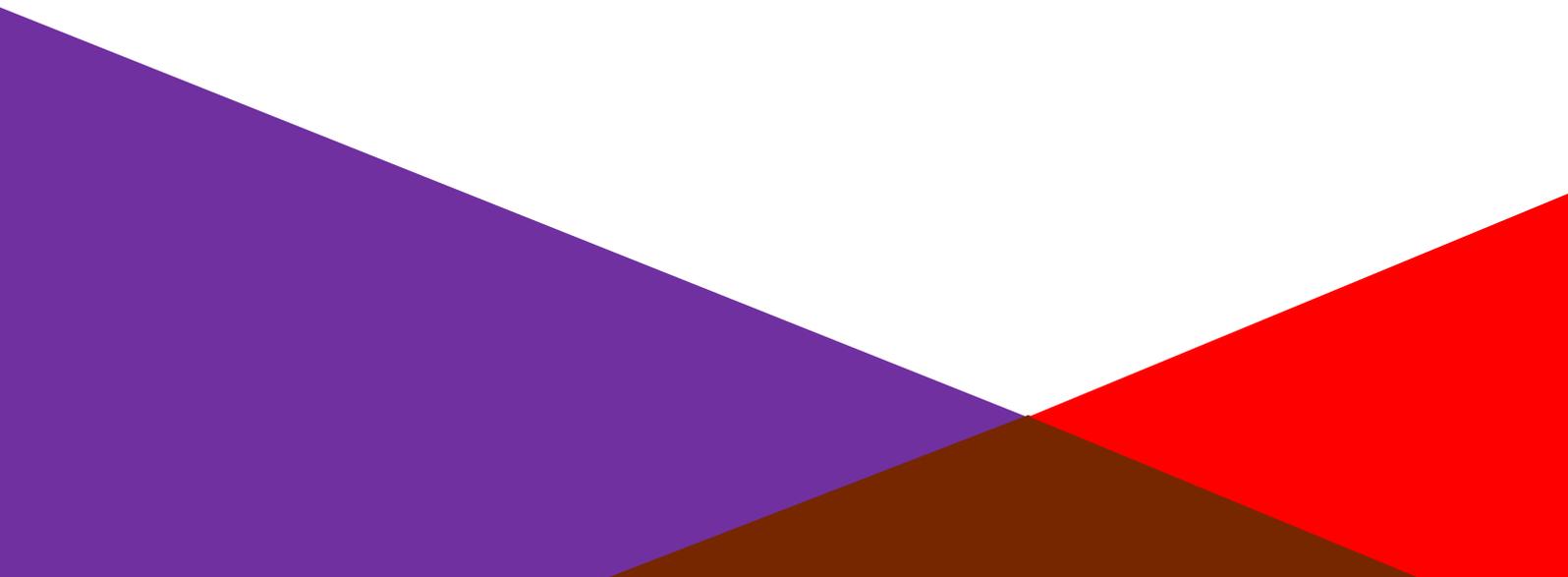


SAFETY ON CONSTRUCTION SITES



Risk Control Guide

Introduction

This Risk Control Guide provides general health and safety information and guidance on some of the common risk exposures in the construction industry. There are a diverse range of exposures within the construction sector and the hazards covered in this document are not intended to be exhaustive, rather intended to raise awareness.

The construction industry remains a hazardous place to work. The sector employs 6% of the UK workforce and within 2014/2015, 1.7 million days were lost and there were 35 fatalities.

This Guide is based on United Kingdom regulation and practice. References are from UK sources.

Main Causes of Ill Health and Injury in the Construction Sector:

Falls from Height

Falls from working at height remain the biggest cause of accidents and accounted for 45% of fatalities in 2013/2014 in the UK construction sector. The Work at Height Regulations came into force in 2005 to reduce the number of deaths and injuries from falls and the UK Health and Safety Executive (HSE) have developed a Work at Height Access equipment Information Toolkit (WAIT).

Further information and guidance is available from:

<http://www.hse.gov.uk/pubns/priced/hsg150.pdf> - Health & Safety in Construction

<http://www.hse.gov.uk/work-at-height/wait/wait-tool.htm> - WAIT Toolkit

Slips, Trips and Falls

It is important to keep a construction site clear of trip hazards with good housekeeping, waste management and materials controls. Resources such as cleaning equipment and suitable waste receptacles should be provided, and all waste containers and skips should be emptied regularly. Care must be taken to avoid creating excessive dust when cleaning work areas, and dust suppression measures such as damping down dusty materials and waste, should always be considered.

Housekeeping should be audited as part of the planned inspection schedule which should include constant visual monitoring by all employees, daily inspections of work areas by relevant supervisions, and planned inspections of the whole site e.g. on a weekly basis. A record should be kept of all such inspections.

Further information and guidance is available from:

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<http://www.hse.gov.uk/construction/campaigns/fallstrips/booklet.pdf> - Watch your step in the construction industry

Excavations

Most construction projects will involve excavations works of some form for foundations, sewers and drainage or other necessary earth removal. They may vary in depth, but are always considered potentially high risk activities. Excavations can be affected by diverse factors such as rainfall, weather (hot and cold), adjoining structures, ground conditions and vibration or other external loading factors. All excavations should be adequately protected against collapse.

Risks associated with buried cables and underground services present an electrical, fire or explosion hazard and must be suitably assessed and managed.

Visual inspections of the excavation and any support structure or edge protection should be carried out daily, and before entering. Formal recorded inspections should be carried out by a suitably qualified and experienced competent person at least every 7 days, following any alternations, or when any conditions increasing the risk of collapse may have occurred.

Some excavations may also be classed as confined spaces and therefore will need additional precautions. All work involving excavations should be closely supervised and controlled by an appropriate permit to work. Entry to excavations should be kept to an absolute minimum and restricted to specifically trained and authorised personnel only.

Further information and guidance is available from:

<http://www.hse.gov.uk/pubns/cis64.pdf> - Excavation

<http://www.hse.gov.uk/construction/safetytopics/excavations.htm> - Structural stability during excavations

<http://www.hse.gov.uk/pubns/priced/hsg47.pdf> - Avoiding Danger from Underground Services

Struck by Vehicles

In the five years from 2011-2015 there were 21 fatalities in construction in the UK, where someone was struck by a moving vehicle and a further 26 injured due to being trapped by something collapsing, overturning or out of control. The majority of these deaths could have been avoided by effective planning, segregation of pedestrians, control of mobile plant operations, inspection and maintenance of the plant, and thorough training assessment and briefing of site personnel.

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Further information and guidance is available from:

<http://www.hse.gov.uk/pubns/priced/hsg144.pdf> - Safe Use of Vehicles on Construction Sites

Occupational Health

0.5 Million employees suffered from musculoskeletal disorders which equated to 1.2 million days lost during 2014/ 2015. Health risks within the construction industry also include, however are not limited to hand-arm vibration, noise-induced hearing loss, dermatitis and asbestos related diseases (including lung disease and mesothelioma).

Where employees are exposed to hazardous substances in accordance with the Control of Substances Hazardous to Health (COSHH) Regulations 2002, employers have a legal duty to assess and prevent exposure, or adequately control.

Exposures may be associated with handling cement, solvents or the hazard in which work activities create hazardous substances e.g. silica dust.

Hazardous substances may be in the form of fumes, vapours or dust. Specific regulations include the Control of Asbestos Regulations 2012 and the Control of Lead at Work Regulations 2002.

Further information and guidance is available from:

Health and Safety in Construction (HSG150) <http://www.hse.gov.uk/pubns/priced/hsg150.pdf>
RSA Occupational Health Risk Control Guide (RCG012)

Construction (Design and Management)

The main regulations with regard to managing health and safety in construction are the Construction (Design and Management) Regulations 2015. These regulations specify the duties of:

- Commercial Clients
- Domestic Clients
- Designers
- Principal Designers
- Principal Contractors
- Contractors
- Workers

Further information and guidance is available from:

<http://www.hse.gov.uk/construction/cdm/2015/summary.htm>

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Fire Safety on Construction Sites

Each year there are hundreds of fires on construction sites, endangering lives and damaging property. Good fire safety practice is essential to prevent fires from starting and minimising the impact of those fires that do occur.

The UK HSE provides a comprehensive guide to construction site fire safety.

Additionally the Joint Code of Practice is published by the Fire Protection Association, administered under the RISC Authority Scheme in conjunction with UK Insurers and the construction insurance industries to provide detailed guidance and a framework for construction site fire safety assessment and control. The Joint Code of Practice provides guidance in relation to emergency procedures, fire protection, temporary buildings and accommodation, arson, security, fire extinguishers, storage of flammables and stored materials, hot work, utilities, waste, plant and machinery, smoking, high-rise and large timber framed buildings.

Key issues associated with construction site fire safety include:

- **Fire Safety Management**

All fire safety and fire prevention arrangements together with details of fire hazards that could not be eliminated should be documented within a Fire Safety Management plan.

Suitable individuals should be formerly appointed and trained in specified fire safety roles.

- **Timber Framed Buildings**

Fire hazards should be carefully managed and in the UK timber frame should be constructed by a contractor registered with the Structural Timber Association Society (STA).

- **Hot Work**

Hot work (welding and cutting and grinding generating heat and sparks) is a major cause of fire on construction sites. Where possible hot work should be avoided, i.e. replaced with alternative cold work options. Where hot work cannot be avoided, this should be carried out under strict procedures and supervision incorporating comprehensive hot work permits.

- **Arson**

Construction sites are particularly vulnerable to arson attack. Suitable physical security precautions, guarding and arrangements to eliminate or reduce susceptible combustible materials will significantly reduce the risk.

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- **Waste Management/ Housekeeping (including storage of flammable liquids and gases)**

Good housekeeping and waste management will reduce the amount of combustible materials stored on site which are susceptible to fire from accidental or malicious ignition. Similarly superior storage arrangements for hazardous materials such as flammables liquids and gases will improve construction site fire safety. The above should be supported by regular inspections and audits. Suitable storage arrangements must be made for liquids on site with consideration for bunding, refer to RSAs Hazardous Materials Risk Control Guide (RCG016).

- **Smoking**

Another major cause of fire on construction sites is smoking. Ideally this should be prohibited throughout all construction sites. Where smoking can not be eliminated, designated smoking areas may be acceptable provided that they are very carefully controlled.

- **Temporary Covering Materials and Installations (including gas / electrics/ heating etc.)**

A common feature of construction sites are temporary coverings used to protect finished surfaces, fixtures and fittings that are susceptible to abrasion or similar damage. These should be non-combustible or fire retardant. Similar considerations should be applied to scaffolding netting and sheeting.

Temporary buildings and utility supplies should be sited and arranged to minimise fire hazards. For example combustible temporary-cabins should be located a safe distance from the building under construction and readily accessible emergency shut-off valves should be provided for flammable gas supplies.

- **Fire Protection and Emergency Planning (fire fighting equipment)**

Suitable provisions should be made for fire risk assessment, evacuation, fire alarms, fire escape signage and lighting, fire detection, fire-drills and escape routes and portable fire fighting equipment. Consideration should be made to changes during all stages of the build and for complex construction projects suitable liaison should take place with the local Fire Brigade.

- **Plant and Vehicles**

Fire hazards associated with plant and vehicles on construction sites, include flammable fuel, hot exhaust pipes and other hot engine surfaces. Suitable management of this equipment and fuel storage is therefore essential.

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Sources of Guidance and Information

There are numerous freely available leaflets and booklets on construction site fire safety available from the HSE website; <http://www.hse.gov.co.uk>

These include:

<http://www.hse.gov.uk/pubns/books/l153.htm> - Managing Health & Safety in Construction

<http://www.hse.gov.uk/pubns/priced/hsg168.pdf> - Fire Safety in Construction

A copy of the Joint Code of Practice (JCoP) can be purchased from the RISC Authority:

<http://www.thefpa.co.uk/shop/>

Further information in relation to workplace noise, asthma and hand/arm vibration is available within RSA's Occupational Health Risk Control Guide (RCG12).

The Construction Industry Training Board (CITB) website is www.citb.co.uk

CITB has comprehensive and up to date construction site health & safety guidance and welfare information.

European Guidelines for Fire Prevention on Construction Sites are available from:

<http://cfpa-e.eu/cfpa-e-guidelines/guidelines-fire-protection-form/>

Disclaimer

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