

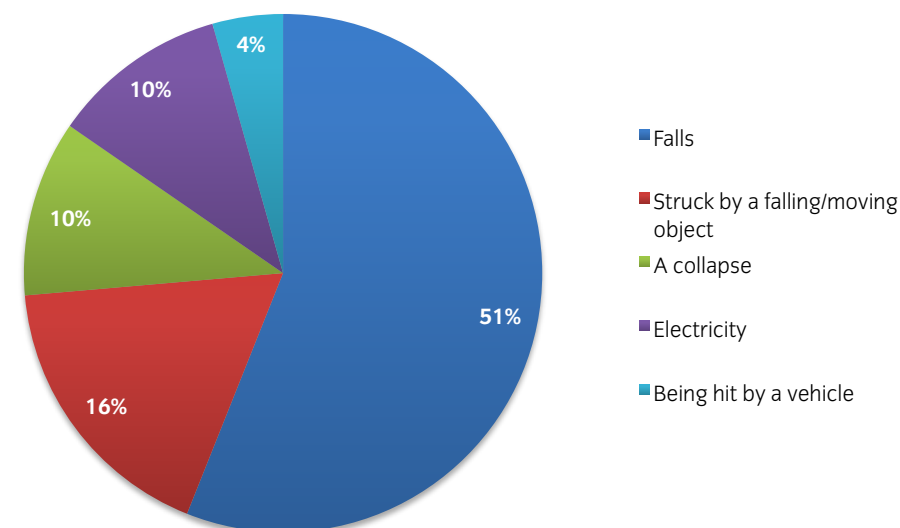
HEALTH AND SAFETY LEGISLATION

According to the Health and Safety Executive (HSE) figures, in 2011/12:

- Forty-nine construction operatives were fatally injured. Twenty-three of these operatives were self-employed. This compares with an average of 59 fatalities over the previous five years, of which an average of 19 fatally injured construction operatives were self-employed.
- The rate of fatal injury per 100,000 construction operatives was 2.3, compared with a five-year average of 2.5.
- Construction industry operatives were involved in 28% of fatal injuries across all industry sectors and it accounts for the greatest number of fatal injuries in any industry sector.



Number and rate of fatal injuries to workers in construction (RIDDOR)



Proportion of fatalities in 2011/12 in construction

Health and safety legislation and great efforts made by the industry have made workplaces much safer in recent years. It is the responsibility of everyone involved in the building industry to continue to make it safer. Statistics are not just meaningless numbers – they represent injuries to real people. Many people believe that an accident will never happen to them, but it can. Accidents can:

- have a devastating effect on lives and families
- cost a lot financially in injury claims
- result in prosecution
- lead to job loss if an employee broke their company's safety policy.

Employers have an additional duty to ensure operatives have access to welfare facilities, eg drinking water, first aid and toilets, which will be discussed later in this chapter.

If everyone who works in the building industry pays close attention to health, safety and welfare, all operatives – including you – have every chance of enjoying a long, injury-free career.

UK HEALTH AND SAFETY REGULATIONS, ROLES AND RESPONSIBILITIES

In the UK there are many laws (legislation) that have been put into place to make sure that those working on construction sites, and members of the public, are kept healthy and safe. If these laws and regulations are not obeyed then prosecutions can take place. Worse still, there is a greater risk of injury and damage to your health and the health of those around you.

The principal legislation that relates to health, safety and welfare in construction is:

- Health and Safety at Work Act (HASAWA) 1974
- Control of Substances Hazardous to Health (COSHH) Regulations 2002
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 2013
- Construction, Design and Management (CDM) Regulations 2007
- Provision and Use of Work Equipment Regulations (PUWER) 1998
- Manual Handling Operations Regulations 1992
- Personal Protective Equipment (PPE) at Work Regulations 1992



Standard construction safety equipment

- Work at Height Regulations 2005 (as amended)
- Lifting Operations and Lifting Equipment Regulations (LOLER) 1998
- Control of Noise at Work Regulations 2005
- Control of Vibration at Work Regulations 2005.

HEALTH AND SAFETY AT WORK ACT (HASAWA) 1974

The Health and Safety at Work Act (HASAWA) 1974 applies to all workplaces. Everyone who works on a building site or in a workshop is covered by this legislation. This includes employed and self-employed operatives, subcontractors, the employer and those delivering goods to the site. It not only protects those working, it also ensures the safety of anyone else who might be nearby.

KEY EMPLOYER RESPONSIBILITIES

The key employer health and safety responsibilities under HASAWA are to:

- provide a safe working environment
- provide safe access (entrance) and egress (exit) to the work area
- provide adequate staff training
- have a written health and safety policy in place
- provide health and safety information and display the appropriate signs
- carry out risk assessments
- provide safe machinery and equipment and to ensure it is well-maintained and in a safe condition
- provide adequate supervision to ensure safe practices are carried out
- involve trade union safety representatives, where appointed, in matters relating to health and safety
- provide personal protective equipment (PPE) free of charge, ensure the appropriate PPE is used whenever needed, and that operatives are properly supervised
- ensure materials and substances are transported, used and stored safely.

PPE

This is defined in the Personal Protective Equipment at Work Regulations 1992 as 'all equipment (including clothing affording protection against the weather) which is intended to be worn or held by a person at work and which protects against one or more risks to a person's health or safety.'

Risk assessments and method statements

The HASAWA requires that employers must carry out regular **risk assessments** to make sure that there are minimal dangers to their employees in a workplace.

Risk assessment

An assessment of the hazards and risks associated with an activity and the reduction and monitoring of them

Risk Assessment

Activity / Workplace assessed: Return to work after accident
 Persons consulted / involved in risk assessment
 Date:
 Reviewed on:

Location:
 Risk assessment reference number:
 Review date:
 Review by:

Significant hazard	People at risk and what is the risk Describe the harm that is likely to result from the hazard (eg cut, broken leg, chemical burn etc.) and who could be harmed (eg employees, contractors, visitors, etc)	Existing control measure What is currently in place to control the risk?	Risk rating Use matrix identified in guidance note Likelihood (L) Severity (S) Multiply (L) * (S) to produce risk rating (RR)				Further action required What is required to bring the risk down to an acceptable level? Use hierarchy of control described in guidance note when considering the controls needed	Actioned to: Who will complete the action?	Due date: When will the action be completed by?	Completion date: Initial and date once the action has been completed
Uneven floors	Operatives	Verbal warning and supervision	L 2	S 1	RR 2	L/M/H m	None applicable	Site supervisor	Active now	Ongoing
Steps	Operatives	Verbal warning	2	1	2	m	None applicable	Site supervisor	Active now	Ongoing
Staircases	Operatives	Verbal warning	2	2	4	m	None applicable	Site supervisor	Active now	Ongoing

Likelihood				
	1 Unlikely	2 Possible	3 Very likely	
Severity	1 Slight/minor injuries/minor damage	1	2	3
	2 Medium injuries/significant damage	2	4	6
	3 Major injury/extensive damage	3	6	9

Likelihood
 3 – Very likely
 2 – Possible
 1 – Unlikely

Severity
 3 – Major injury/extensive damage
 2 – Medium injury/significant damage
 1 – Slight/minor damage

1 – Low risk, action should be taken to reduce the risk if reasonably practicable
 2, 3, 4 – Medium risk, is a significant risk and would require an appropriate level of resource
 6 & 9 – High risk, may require considerable resources to mitigate. Control should focus on elimination of risk, if not possible control should be obtained by following the hierarchy of control

123 type risk assessment

A risk assessment is a legally required tool used by employers to:

- identify work hazards
- assess the risk of harm arising from these hazards
- adequately control the risk.

Risk assessments are carried out as follows:

- 1 Identify the hazards. Consider the environment in which the job will be done. Which tools and materials will be used?
- 2 Identify who might be at risk. Think about operatives, visitors and members of the public.

- 3 Evaluate the risk. How severe is the potential injury? How likely is it to happen? A severe injury may be possible but may also be very improbable. On the other hand a minor injury might be very likely.
- 4 If there is an unacceptable risk, can the job be changed? Could different tools or materials be used instead?
- 5 If the risk is acceptable, what measures can be taken to reduce the risk? This could be training, special equipment and using PPE.
- 6 Keep good records. Explain the findings of the risk assessment to the operatives involved. Update the risk assessment as required – there may be new machinery, materials or staff. Even adverse weather can bring additional risks.

Method statement

A description of the intended method of carrying out a task, often linked to a risk assessment

INDUSTRY TIP

The Construction Skills Certification Scheme (CSCS) was set up in the mid-'90s with the aim of improving site operatives' competence to reduce accidents and drive up on-site efficiency. Card holders must take a health and safety test. The colour of card depends on level of qualification held and job role. For more information see www.cscs.uk.com

ACTIVITY

Think back to your induction. Write down what was discussed. Did you understand everything? Do you need any further information? If you have not had an induction, write a list of the things you think you need to know.

INDUSTRY TIP

Remember, if you are unsure about any health and safety issue always seek help and advice.

A **method statement** is required by law and is a useful way of recording the hazards involved in a specific task. It is used to communicate the risk and precautions required to all those involved in the work. It should be clear, uncomplicated and easy to understand as it is for the benefit of those carrying out the work (and their immediate supervisors).

Inductions and tool box talks

Any new visitors to and operatives on a site will be given an induction. This will explain:

- the layout of the site
- any hazards of which they need to be aware
- the location of welfare facilities
- the assembly areas in case of emergency
- site rules.

Tool box talks are short talks given at regular intervals. They give timely safety reminders and outline any new hazards that may have arisen because construction sites change as they develop. Weather conditions such as extreme heat, wind or rain may create new hazards.

KEY EMPLOYEE RESPONSIBILITIES

The HASAWA covers the responsibilities of employees and subcontractors:

- You must work in a safe manner and take care at all times.
- You must make sure you do not put yourself or others at risk by your actions or inactions.

- You must co-operate with your employer in regard to health and safety. If you do not you risk injury (to yourself or others), prosecution, a fine and loss of employment. Do not take part in practical jokes and horseplay.
- You must use any equipment and safeguards provided by your employer. For example, you must wear, look after and report any damage to the PPE that your employer provides.
- You must not interfere or tamper with any safety equipment.
- You must not misuse or interfere with anything that is provided for employees' safety.

FIRST AID AND FIRST-AID KITS

First aid should only be applied by someone trained in first aid. Even a minor injury could become infected and therefore should be cleaned and a dressing applied. If any cut or injury shows signs of infection, becomes inflamed or painful seek medical attention. An employer's first-aid needs should be assessed to indicate whether a first-aider (someone trained in first aid) is necessary. The minimum requirement is to appoint a person to take charge of first-aid arrangements. The role of this appointed person includes looking after the first-aid equipment and facilities and calling the emergency services when required.

First-aid kits vary according to the size of the workforce. First-aid boxes should not contain tablets or medicines.



First-aid kit

INDUSTRY TIP

The key employee health and safety responsibilities are to:

- work safely
- work in partnership with your employer
- report hazards and accidents as per company policy.

INDUSTRY TIP

Employees must not be charged for anything given to them or done for them by the employer in relation to safety.

INDUSTRY TIP

In the event of an accident, first aid will be carried out by a qualified first aider. First aid is designed to stabilise a patient for later treatment if required. The casualty may be taken to hospital or an ambulance may be called. In the event of an emergency you should raise the alarm.

ACTIVITY

Your place of work or training will have an appointed first-aider who deals with first aid. Find out who they are and how to make contact with them.

ACTIVITY

Find the first-aid kit in your workplace or place of training. What is inside it? Is there anything missing?

SOURCES OF HEALTH AND SAFETY INFORMATION

Source	How they can help
Health and Safety Executive (HSE)	A government body that oversees health and safety in the workplace. It produces health and safety literature such as the Approved Code of Practice (ACoP) .
Construction Skills	The construction industry training body produces literature and is directly involved with construction training.
The Royal Society for the Prevention of Accidents (ROSPA)	It produces literature and gives advice.
The Royal Society for Public Health	An independent, multi-disciplinary charity that is dedicated to the promotion and protection of collective human health and wellbeing.
Institution of Occupational Safety and Health (IOSH)	A chartered body for health and safety practitioners. The world's largest health and safety professional membership organisation.
The British Safety Council	It helps businesses with their health, safety and environmental management.

HEALTH AND SAFETY EXECUTIVE (HSE)

The HSE is a body set up by the government. The HSE ensures that the law is carried out correctly and has extensive powers to ensure that it can do its job. It can make spot checks in the workplace, bring the police, examine anything on the premises and take things away to be examined.

If the HSE finds a health and safety problem that breaks health and safety law it might issue an **improvement notice** giving the employer a set amount of time to correct the problem. For serious health and safety risks where there is a risk of immediate major injury, it can issue a **prohibition notice** which will stop all work on site until the health and safety issues are rectified. It may take an employer, employee, self-employed person (subcontractor) or anyone else involved with the building process to court for breaking health and safety legislation.

Approved Code of Practice

ACoP gives practical advice for those in the construction industry in relation to using machinery

INDUSTRY TIP

There are many other trade organisations, eg the Timber Research and Development Association (TRADA), which also offer advice on safe practices.

ACTIVITY

You have been asked to give a tool box talk because of several minor injuries involving tripping on site. What topics would you include in this talk?

INDUSTRY TIP

To find out more information on the sources in the table, enter their names into a search engine on the internet.

Improvement notice

Issued by an HSE or local authority inspector to formally notify a company that improvements are needed to the way it is working

Prohibition notice

Issued by an HSE or local authority inspector when there is an immediate risk of personal injury. They are not issued lightly and if you are on the receiving end of one, you are clearly breaking a health and safety regulation

The HSE provides a lot of advice on safety and publishes numerous booklets and information sheets. One example of this is the Approved Code of Practice (ACoP) which applies to wood-working machinery. The ACoP has a special legal status and employers and employees are expected to work within its guidelines.

The duties of the HSE are to:

- give advice
- issue improvement and prohibition notices
- caution
- prosecute
- investigate.

CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH (COSHH) REGULATIONS 2002

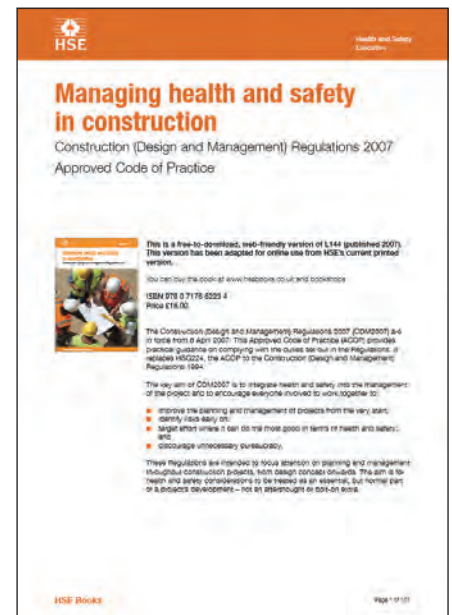
The Control of Substances Hazardous to Health (COSHH) Regulations 2002 control the use of dangerous substances, eg preservatives, fuels, solvents, adhesives, cement and oil-based paint. These have to be moved, stored and used safely without polluting the environment. It also covers hazardous substances produced while working, eg wood dust produced when sanding or drilling.

Hazardous substances may be discovered during the building process, eg lead-based paint or asbestos. These are covered by separate regulations.

When considering substances and materials that may be hazardous to health an employer should do the following to comply with COSHH:

- Read and check the COSHH safety data sheet that comes with the product. It will outline any hazards associated with the product and the safety measures to be taken.
- Check with the supplier if there are any known risks to health.
- Use the trade press to find out if there is any information about this substance or material.
- Use the HSE website, or other websites, to check any known issues with the substance or material.

When assessing the risk of a potentially dangerous substance or material it is important to consider how operatives could be exposed to it. For example:



The Approved Code of Practice booklet is available free online

MATERIAL SAFETY DATA SHEET
Cement Kiln Dust

STATEMENT OF HAZARDOUS NATURE
This product is classified as hazardous according to criteria of Workplace Australia

Supplier Information:
Cockburn Cement Limited
Russell Road
Hamilton
WESTERN AUSTRALIA 6103
Phone: (08) 9417 1000

IDENTIFICATION

Product name:	Cement Kiln Dust
Other names:	CEM, SAC, Calnex
UN number:	None Allocated
Dangerous goods class and subsidiary risk:	None Allocated
Hazard code:	None Allocated
Poisons schedule number:	None allocated
Use:	Cement Kiln Dust is used predominantly for acid neutralisation, pH control and as a raw material for cement production where a solid residue is not a concern. Calnex can also be used in place of lime for soil stabilisation.

Physical Description/Properties

Appearance:	Off-white to grey coloured powder.
Boiling point / melting point:	Some components begin to melt above 1200°C.
Vapour pressure:	Not applicable
Specific gravity:	2.4 to 2.9
Bulk Density:	800 to 1800 kg/m ³

Date of issue: 03/04/07
Page: 1 of 2 pages

Example of COSHH data sheet

- more than 30 working days or
- 500 working days in total, ie if 100 people work for 5 days (500 working days) the HSE will have to be notified.

DUTY HOLDERS

Under the CDM Regulations there are several duty holders, each with a specific role.

Duty holder	Role
Client	<p>This is the person or organisation who wishes to have the work done. The client will check that:</p> <ul style="list-style-type: none"> ■ all the team members are competent ■ the management is suitable ■ sufficient time is allowed for all stages of the project ■ welfare facilities are in place before construction starts. <p>HSE notifiable projects require that the client appoints a CDM co-ordinator and principal contractor, and provides access to a health and safety file.</p>
CDM co-ordinator	<p>Appointed by the client, the co-ordinator advises and assists the client with CDM duties. The co-ordinator notifies the HSE before work starts. This role involves the co-ordination of the health and safety aspects of the design of the building and ensures good communication between the client, designers and contractors.</p>
Designer	<p>At the design stages the designer removes hazards and reduces risks. The designer provides information about the risks that cannot be eliminated. Notifiable projects require that the designer checks that the client is aware of their CDM duties and that a CDM co-ordinator has been appointed. The designer will also supply information for the health and safety file.</p>
Principal contractor	<p>The principal contractor will plan, manage and monitor the construction in liaison with any other involved contractors. This involves developing a written plan and site rules before the construction begins. The principal contractor ensures that the site is made secure and suitable welfare facilities are provided from the start and maintained throughout construction.</p> <p>The principal contractor will also make sure that all operatives have site inductions and any further training that might be required to make sure the workforce is competent.</p>
Contractor	<p>Subcontractors and self-employed operatives will plan, manage and monitor their own work and employees, co-operating with any main contractor in relation to site rules. Contractors will make sure that all operatives have any further training that might be required to make sure they are competent. A contractor also reports any incidents under RIDDOR to the principal contractor.</p>
Operatives	<p>Operatives need to check their own competence: Can you carry out the task you have been asked to do safely? Have you been trained to do this type of activity? Do you have the correct equipment to carry out this activity? You must follow all the site health and safety rules and procedures and fully co-operate with the rest of the team to ensure the health and safety of other operatives and others who may be affected by the work. Any health and safety issues must be reported.</p>



A client, a contractor and an operative looking over building plans ahead of construction



ACTIVITY

What would you do if you spotted any of these hazards?



WELFARE FACILITIES REQUIRED ON SITE UNDER THE CDM REGULATIONS

The table below shows the welfare facilities that must be available on site.

Facility	Site requirement
<p>Sanitary conveniences (toilets)</p> 	<ul style="list-style-type: none"> ■ Suitable and sufficient toilets should be provided or made available. ■ Toilets should be adequately ventilated and lit and should be clean. ■ Separate toilet facilities should be provided for men and women.
<p>Washing facilities</p> 	<ul style="list-style-type: none"> ■ Sufficient facilities must be available, and include showers if required by the nature of the work. ■ They should be in the same place as the toilets and near any changing rooms. ■ There must be a supply of clean hot (or warm) and cold running water, soap and towels. ■ There must be separate washing facilities provided for men and women unless the area is for washing hands and the face only.



Boiler suit

PERSONAL HYGIENE

Working in the construction industry can be very physical, and it's likely to be quite dirty at times. Therefore you should take good care with your personal hygiene. This involves washing well after work. If contaminants are present, then wearing a protective suit, such as a boiler suit, that you can take off before you go home will prevent contaminants being taken home with you.

You should also wash your hands after going to the toilet and before eating. This makes it safer to eat and more pleasant for others around you. The following steps show a safe and hygienic way to wash your hands.



Hand cleaner



STEP 1 Apply soap to hands from the dispenser.



STEP 2 Rub the soap into a lather and cover your hands with it, including between your fingers.



STEP 3 Rinse hands under a running tap removing all of the soap from your hands.



STEP 4 Dry your hands using disposable towels. Put the towels in the bin once your hands are dry.

WORKING WITH ELECTRICITY

Electricity is a very useful energy resource but it can be very dangerous. Electricity must be handled with care! Only trained, competent people can work with electrical equipment.

THE DANGERS OF USING ELECTRICAL EQUIPMENT

The main dangers of electricity are:

- shock and burns (a 230V shock can kill)
- electrical faults which could cause a fire
- an explosion where an electrical spark has ignited a flammable gas.

VOLTAGES

Generally speaking, the lower the voltage the safer it is. However, a low voltage is not necessarily suitable for some machines, so higher voltages can be found. On site, 110V (volts) is recommended and this is the voltage rating most commonly used in the building industry. This is converted from 230V by use of a transformer.

230V (commonly called 240V) domestic voltage is used on site as battery chargers usually require this voltage. Although 230V is often used in workshops, 110V is recommended.

400V (otherwise known as 3 phase) is used for large machinery, such as joinery shop equipment.

Voltages are nominal, ie they can vary slightly.

BATTERY POWER

Battery power is much safer than mains power. Many power tools are now available in battery-powered versions. They are available in a wide variety of voltages from 3.6V for a small screwdriver all the way up to 36V for large masonry drills.

The images on the next page are all examples of battery-powered tools you may come across in your workplace or place of training.



110V 1 phase – yellow



230V 1 phase – blue



400V 3 phase – red