



Construction Safety

A guide to managing health and safety
in construction

March 2021



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Introduction

Although the UK's construction industry has made significant progress in recent years in reducing both the number and rate of injuries to its workers, the Health and Safety Executive (HSE) warns that construction remains a high-risk industry and accounts for a high percentage of fatal and major injuries to people at work. The regulator also warns that construction workers face a high risk of developing certain work-related illnesses and diseases, with research suggesting that 40 per cent of all occupational cancer deaths and cases in Britain occur among construction workers, for instance.

This guide provides some general advice on managing some of the key health and safety risks in the construction industry. It is largely based on guidance from HSE, and much more detailed advice can be found on HSE's website and on the websites of organisations such as the relevant construction trade associations.

Thomas Tevlin

Editor



The Guide is published by the British Safety Council,
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The UK construction industry has clearly made real progress in improving its health and safety record and culture, with the Health and Safety Executive (HSE) stating there have been “big improvements” over recent years in reducing both the number and rate of injuries to construction workers.

For example, HSE figures show that the rate of fatal injuries to construction workers in Britain in 2019/20 was 0.34 per 100,000 workers, compared to 2.1 per 100,000 in 1981. The rate of self-reported non-fatal injuries to workers also shows a downward trend since 2002.

However, construction remains a high risk industry, and the fatal injury rate for British construction workers is almost four times the ‘all industry rate’. In fact, 40 of the 111 fatal injuries to workers in Britain in 2019/20 occurred in the construction industry.

The HSE also warns that construction workers face a high risk of developing certain serious and fatal illnesses and diseases due to exposure to health hazards. For example, construction workers face a high risk of developing occupational cancer, with HSE-commissioned research showing that around 3,500 of the 8,000 occupational cancer deaths in Britain in 2005 occurred among construction workers. The biggest cause of the cases of cancer was past exposure to asbestos (70 per cent), followed by silica (17 per cent), a harmful dust generated when cutting up materials such as bricks, tiles and concrete.

As well as a high risk of respiratory cancers and lung diseases such as asthma, construction workers can be at high risk of suffering physical ill health. For example, skilled construction and building trades are one of the occupations in Britain with the highest estimated prevalence of back injuries and upper limb disorders, such as pains and injuries in the arms and shoulders. HSE adds that construction has one of the highest rates of ill health caused by exposure to noise and vibration, for example, hearing loss caused by exposure to loud noise.

Clearly, work-related injuries and ill health have a devastating toll on the affected individuals and their families, but they also place enormous costs on

**“
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Some facts and numbers

40

fatal injuries to
construction workers
in Britain in 2019/20(p)

81,000

construction workers
in Britain reported
suffering from
work-related ill health
in 2019-20 (new or
long-standing cases)

61,000

estimated cases
of non-fatal work-
related injury in the
construction industry
in Britain each year,
according to self-
reporting by workers

3,500

deaths annually from
occupational cancer
among construction
workers in Britain, 40%
of all occupational cancer
deaths (2005 figures)



Sources: HSE Health and Safety Statistics 2019-2020; Labour Force Survey estimated annual average 2017/18-2019/20; Occupational cancer research 2012; hse.gov.uk/statistics (p = provisional)

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Construction workers face a high risk of occupational cancer – for example, from exposure to asbestos.

businesses and society. In fact, HSE research shows that workplace injury and new cases of work-related ill health in the construction sector cost Britain an estimated £1.2 billion in 2018/19.

There are a number of reasons why construction work can pose a high risk of injury and ill health, including the often dangerous nature of the tasks and the environment itself.

For example, work at height and the presence of moving plant and machinery – such as mobile diggers – can pose a serious danger if the risks are poorly managed. Construction workers are also often exposed to many different types of hazardous substances – such as dusts arising from working on materials like concrete and wood – and these can pose a risk of serious and fatal respiratory diseases, such as asthma.

The risks are compounded by factors such as the often dynamic nature of construction work, with construction sites constantly changing and a large number of different tradespeople carrying out different tasks that are potentially dangerous to themselves and others.

However, it is possible to carry out construction work safely and without risks to health. This means, for example, planning the work so the risks are properly managed from start to finish and making sure everyone receives the correct equipment, information, instruction, training and supervision.

What the law says

The main set of UK regulations covering the management of health, safety and welfare risks during construction

work is the Construction (Design and Management) Regulations 2015 (CDM).

CDM applies to all building and construction work – including new build, demolition, refurbishment, extensions, conversions, repair and maintenance – from conception to completion. It places duties on clients, designers, contractors and workers to ensure projects are carried out in a way that ensures the health and safety of everyone. In short, CDM requires dutyholders to:

- Manage the risks by applying the general principles of prevention – namely to avoid risks where possible; evaluate those risks that cannot be avoided; and put in place proportionate measures to control risks at source
- Appoint the right people for the right job at the right time
- Ensure everyone has the information, instruction, training and supervision they need to work safely
- Cooperate and communicate with each other and coordinate their work
- Consult and engage with workers about risks to their health, safety and welfare and how they can be effectively managed.

CDM also requires contractors to take suitable steps to deal with specific risks during construction work. This includes, for example, fencing off construction sites from the public where appropriate; ensuring pedestrians and vehicles can move around safely; and providing suitable and sufficient welfare facilities.

There are several other health and safety regulations requiring those in control of construction activities to take

appropriate steps to protect workers from hazards such as harmful substances, noise, work at height, manual handling and electrical dangers.

Employers must remember that under UK health and safety law, they are required to consult their employees, or employee representatives, on anything that could substantially affect employees' health and safety. The idea is that by giving employees suitable information about the health and safety hazards and risks they may face – and listening to and taking account of their views on the most effective ways of controlling the risks – employers can develop the most suitable and effective risk controls.

In terms of assessing and tackling the safety hazards, a natural starting point might be to ensure a construction site is organised in a safe way – for example, by providing adequate welfare facilities; ensuring good housekeeping; and managing the safe movement of vehicles and pedestrians.

For example, contractors must keep construction sites in 'good order' – for instance, by storing materials correctly to prevent slipping and tripping hazards.

Ways of keeping sites tidy include:

- Establishing dedicated storage areas for plant, waste and materials
- Ensuring materials do not obstruct access or emergency routes
- Planning deliveries to keep the amount of materials stored on site to a minimum
- Designating areas for waste collection, providing skips and bins where necessary and establishing individual

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responsibilities for waste removal. Under CDM 2015, contractors must also provide suitable welfare facilities for workers – such as toilet and washing facilities – and maintain them throughout the construction phase of a project.

Other welfare facilities that must be provided on construction sites include:

- An adequate supply of drinking water
- Suitable and sufficient changing rooms if workers have to wear special clothing for construction work and cannot, for reasons of health or propriety, be expected to change elsewhere
- Suitable rest rooms or rest areas, equipped with an adequate number of tables and seating with backs
- Rest rooms or rest areas with suitable arrangements to ensure meals can be prepared and eaten; a means for boiling water; and a method for maintaining these areas at an appropriate temperature.

Covid-19 safety measures

Like all businesses, employers in the construction industry are required under UK health and safety law to take all reasonably practicable steps to protect their workers and others – such as members of the public – from being exposed to or transmitting the coronavirus during work activities.

HSE and the governments in England, Northern Ireland, Scotland and Wales have published detailed guidance on how to minimise the risks from Covid-19 during construction work, including work being carried out on construction

sites and in people's homes. Employers should therefore refer to the appropriate guidance for their activity and country. However, in essence, HSE says employers should carry out a Covid-19 risk assessment to:

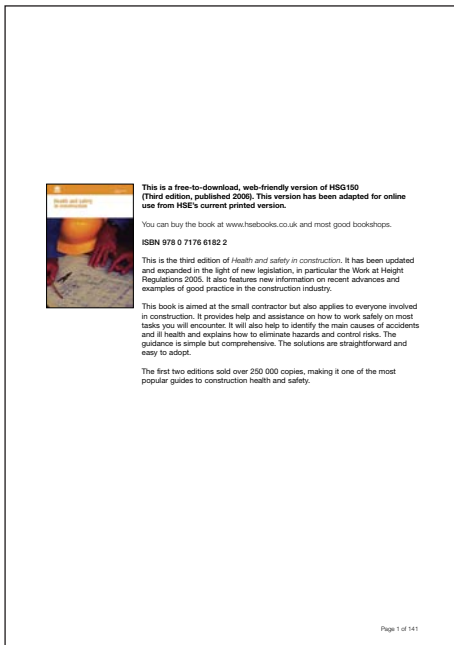
- Identify what work activity or situations might cause transmission of the virus
- Think about who could be at risk
- Decide how likely it is that someone could be exposed
- Act to remove the activity or situation, or if this isn't possible, control the risk.

Employers must take all reasonably practicable measures to protect workers and others from coronavirus, for example by:

- Putting in place social distancing measures to keep people apart – such as putting up signs to remind people to keep a safe distance; using barriers or screens to separate workers from each other; and reducing the number of people each worker has contact with by using fixed teams or fixed partners
- Increasing the frequency of cleaning – for example, of surfaces and items that are touched regularly, such as shared tools and machinery
- Increasing ventilation – for example, by keeping doors and windows open where possible
- Providing additional handwashing facilities so workers can wash their hands frequently, and hand sanitiser if people are unable to wash their hands
- Making sure all workers, contractors and visitors are given information and training on the measures to follow to control the risk from Covid-19.

Free guidance:

Organisations such as HSE offer a wide range of guidance on managing health and safety risks in construction.



HSE's guidance is at:
hse.gov.uk/construction

**“
Employers must
protect workers
and others from the
coronavirus.**

Work at height

Given that construction work often involves working at height, it is perhaps no surprise that falls from height are the biggest single cause of fatal injuries in the sector. Workers can be at risk of falling during tasks such as work on ladders, scaffolds, roofs and mobile elevating work platforms – such as cherry picker machines – and when working near fragile surfaces, such as rooflights. There is also a risk of falling through openings in floors or into holes in the ground, such as poorly guarded excavations.

Under the Work at Height Regulations 2005 (WAHR) and related legislation, such as the Health and Safety at Work Act 1974 (HSWA), employers must take all reasonably practicable measures to protect workers from the risk of being killed or injured due to a fall from height.

Employers must therefore assess the risks from work at height to identify the most suitable ways to prevent workers or materials from falling a distance liable to cause anyone to be injured. They must then ensure the work is properly planned, supervised and carried out in a safe manner by competent and properly trained people, using the most appropriate equipment and methods.

The WAHR require the person in control of the work to follow a hierarchy of control measures, giving priority to action in a certain order. This means:

- Avoiding work at height that could cause a fall resulting in injury where it is reasonably practicable to do so – for example, by using extendable tools from ground level to avoid the need to

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climb a ladder

- Where work at height cannot be avoided, preventing falls either by using an existing safe place of work or by choosing the most suitable equipment – for example, by working on a non-fragile roof fitted with permanent edge protection or by using a tower scaffold fitted with guard rails
- If the risk of a person falling cannot be eliminated, minimising the distance and consequences of a potential fall by using the right type of equipment – for example, by providing safety nets and soft landing systems, or personal fall arrest equipment that is designed to arrest a person's fall.

Employers should always consider using 'collective protection' measures and equipment that safeguard everyone before 'personal protection' measures that only protect the individual.

This is because collective protection – such as a tower scaffold fitted with suitable guard rails – protects everyone at risk and, once installed or set up, generally does not require the worker to act for it to be effective. On the other hand, personal protection – such as a fall arrest harness that the user connects, via an energy-absorbing lanyard, to a suitable anchorage point – must be lower down the hierarchy, because it requires the individual to make a positive action to ensure it protects them.

Other steps employers are required to take (if appropriate) include ensuring that:

- Workers can get safely to and from the area where they work at height
- All access and safety equipment is

suitable, stable and strong enough for the job, and maintained and checked regularly

- Account is taken of any weather conditions that could affect workers' safety – such as high winds
- Workers do not overload or overreach when working at height
- Adequate precautions are taken when working on or near fragile surfaces, such as fragile roof lights
- Appropriate steps are taken to prevent people from being injured by falling materials and objects – such as storing them safely at height
- Plans are made for emergencies and rescue during work at height.

Other safety risks

There are a number of other risks to the physical safety of workers and others, such as members of the public, that those in control of construction work are legally required to either eliminate or reduce to the lowest reasonably practicable level.

For instance, under CDM, those in control of construction sites must take suitable and sufficient steps to prevent the risk of injury from fire and explosion. This includes, where appropriate, establishing and providing suitable emergency procedures, emergency routes, fire-fighting equipment and fire detection and alarm systems.

Another major risk is the presence of mobile plant and vehicles, such as excavators, dumpers and trucks that are delivering materials to a work site. Contractors in control of construction

sites must organise the site so pedestrians and vehicles can move around safely. They must also ensure that all mobile plant is properly selected and maintained and only operated by competent drivers.

General tips for ensuring the safe operation of mobile plant and vehicles on construction sites include:

- Separate traffic and pedestrians wherever possible – for example, by installing barriers between roadways and walkways
- Minimise vehicle movements – for example, by planning storage areas so vehicles do not have to cross the site
- Position car and van parking areas for workers and visitors away from the main work area
- Where possible, eliminate the need for reversing altogether – for example, through the use of one-way systems
- Provide trained signallers to safely control vehicle manoeuvres and technical aids to improve drivers' visibility and pedestrian awareness – such as mirrors and reversing alarms.

Health risks

Although safety hazards – such as work at height and mobile machinery – are a major cause of injury in construction, those in control of construction work must also take all reasonably practicable measures to either eliminate or reduce the risks to the health of their employees and others under their control, such as contractors.

Citing the high incidence rate for fatal

and serious health problems – such as occupational cancer, respiratory disease and musculoskeletal disorders – among British construction workers, HSE and others are calling on contractors, and others such as construction clients and designers, to 'treat health like safety'. HSE argues it is possible and practical to carry out construction work without causing ill health to workers.

Hazardous substances

Construction workers can be exposed to many hazardous substances, and these can pose a risk of serious or fatal harm to their health. Examples include:

- Asbestos dust created by cutting into or breaking up asbestos-containing materials in buildings
- Silica dust created when working on silica-containing materials, such as when chasing out concrete and raking out mortar
- Wood dust from cutting and sanding wood with power tools
- Isocyanates found in polyurethane paints, coatings and glues
- Solvents found in certain paints, thinners, resins and glues
- Diesel engine exhaust emissions from generators and excavators.

Exposure to hazardous substances can occur in a number of ways, including by breathing them in – when the substances can attack the nose, throat or lungs. Once breathed in, the substances can also pass from the lungs into the bloodstream and onto other tissues and organs in the body, causing damage

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elsewhere, such as to the liver. Some substances can also damage the skin by coming into contact with it and some can pass through the skin and cause damage elsewhere in the body.

The health effects of exposure to hazardous substances can be immediate – such as dizziness or stinging eyes – or they can take several years to develop, such as certain lung diseases.

Common types of illness and disease caused by hazardous substances in construction include:

- **Respiratory cancers** – from exposure to substances such as asbestos fibres and silica dust in materials such as concrete and mortar, and repeated and prolonged exposure to diesel engine exhaust fumes
- **Chronic obstructive pulmonary disease (COPD), such as bronchitis and emphysema** – a group of serious and often fatal long-term lung diseases that have been linked to exposure to certain dusts, chemicals, fumes and gases, such as silica dust, welding fume and isocyanates in some paints
- **Silicosis** – an irreversible and sometimes fatal lung disease caused by exposure to silica dust when cutting, drilling and grinding materials such as concrete, mortar and sandstone
- **Asthma** – from exposure to substances such as wood dust and isocyanates found in some paints, sealers and adhesives
- **Skin irritation and disease** – for example, from exposure to cement and solvents found in some paints.

Under the Control of Substances

Hazardous to Health Regulations 2002 (COSHH), employers must prevent – or adequately control – exposure to hazardous substances to protect the health of their employees. There are also regulations on preventing employees from being exposed to two specific harmful substances – asbestos and lead.

Under COSHH, employers must:

- Assess the health risks from hazardous substances
- Prevent or control employees' exposure to hazardous substances through the use of appropriate control measures
- Ensure the control measures are properly used and maintained
- Provide employees with appropriate information, instruction and training on the risks from hazardous substances
- Where appropriate, provide health surveillance for workers exposed to hazardous substances
- Where appropriate, monitor the level of hazardous substances that employees are exposed to
- Draw up procedures to deal with emergencies involving hazardous substances, where necessary.

The first step is to identify the hazardous substances supplied for, used and created at work, the work activities involved and the possible routes of exposure. A decision can then be taken on whether the existing control measures are adequate or if more needs to be done.

When assessing the risks, employers should consider both substances that have been supplied for use – such as chemicals in containers, adhesives,

lubricants and cement – and those that could be created at work. The latter will include substances such as dusts and solvent vapours and isocyanates from applying and using paints, thinners and glues. All possible routes of exposure – inhalation, skin contact or absorption and swallowing – must be considered.

Employers must first try to prevent exposure to the hazardous substance altogether, if it is reasonably practicable to do so. For instance, it may be possible to use water-based rather than solvent-based paints, or designers could avoid specifying the use of construction materials that contain high levels of silica dust. However, if it is not reasonably practicable to completely prevent exposure, it must be adequately controlled, by following a hierarchy of steps. These are to:

- Change the process to emit less of the substance and to reduce the risk of exposure
- Enclose the process or activity to prevent or minimise the escape or release of the substance
- Extract emissions of the substance near the source
- Keep the number of workers at risk to a minimum
- Provide suitable personal protective equipment, (PPE) such as respirators and gloves.

A wide range of steps can be taken to prevent or reduce exposure to hazardous substances in construction. Common examples include:

- Getting building materials – such as concrete kerb stones and wood – pre-

cut to the correct size at the factory or supplier before they are delivered to the site to minimise the need for on-site cutting, therefore reducing the amount of dust that is created

- Using a work method that avoids or reduces the need to chase holes in concrete and mortar-containing walls, such as over-covering electrical cables
- Using lower energy tools that create lower levels of harmful dust – such as using a block splitter instead of a mechanical cut-off saw to cut and break concrete blocks
- Using a water suppression attachment on a concrete cut-off saw to damp down the dust and prevent it getting into the air
- Fitting air extraction equipment directly on tools such as concrete cut-off saws, grinding and chasing machines used for chasing concrete and rake mortar and wood sanders, to capture and remove the dust as it is produced
- Avoiding the need to drill holes in surfaces by using direct fastening or screws
- Using screens to prevent dust escaping during tasks such as soft-strip demolition
- Improving ventilation in the work area – for example, by opening windows during soft-strip demolition
- Spraying water onto a construction site's roads and onto the wheels of site vehicles such as dumpers to reduce the amount of dust that is thrown up from the roadway by the vehicles
- Avoiding the dry sweeping of concrete dust, general building debris and

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wood dust – for example by damping down small amounts of dust created by power tools with water and then carefully using a brush, shovel and bucket to clean up the dust and debris, or using a vacuum cleaner to collect the dust

- Selecting wood types that are known to be less hazardous to health when cut or sanded
- Avoiding exposure to cement powder by using pre-mixed concrete or mortar
- Avoiding the unnecessary spraying of paints and coatings containing isocyanates and solvents, since this causes more isocyanate and solvent vapour to enter the air than using a brush, roller or trowel
- Preventing the unnecessary evaporation of solvents, such as from paints and glues, by using the minimum amount for the job and keeping lids on containers
- Preventing or reducing exposure to diesel engine exhaust emissions (such as from mobile telehandlers and fixed power sources like compressors or generators) – for example, by switching to other forms of fuel where possible, like gas or electric, properly maintaining engines and ensuring cold engines are warmed up in spaces with sufficient ventilation.

Another health problem that can occur among construction workers is skin damage and disease. The most common work-related skin disease is contact dermatitis, which can occur when the skin comes into contact with something that either causes irritation or an allergic

reaction. Irritant contact dermatitis is caused by contact with substances that dry out and damage the skin, such as solvents found in some paints, thinners and glues, wet cement and some types of dust. Allergic contact dermatitis occurs when a person develops an allergy to something that comes into contact with the skin, such as some adhesives, certain wood dusts and the chemicals in cement.

Dermatitis generally occurs on the hands and forearms, and the symptoms include redness, flaking, blistering, swelling and pain.

Under COSHH, employers must prevent – or control – employees' exposure to substances that can cause skin problems and disease. Ways of reducing the risk of skin damage include:

- Eliminating the hazardous substance or activity altogether – for example, using a scraper to remove paint instead of paint stripping with a solvent
- Substituting the product, substance or process for something less harmful
- Introducing controls (such as tools or equipment) to keep a safe working distance between the skin and the harmful substance – such as using longer-handled tools to avoid contact with cement.

If it is not possible to avoid skin contact with harmful substances, employers must take further steps to protect workers' skin from damage, such as:

- Providing suitable PPE, such as gloves and overalls
- Providing suitable washing facilities with hot and cold or warm running water

- Reminding workers to wash off any contamination, such as paints or cement, from their skin as soon as possible
- Providing soft cotton or paper disposable towels for drying the skin
- Encouraging workers to protect their skin by frequently applying a moisturiser, as this will help to replace the natural oils that help to keep the skin's protective barrier working properly
- Training workers to regularly check their skin – for example, for the early signs of dermatitis, such as itchy, dry or red skin.

Employers must also provide suitable health surveillance if there is a risk of employees developing diseases such as dermatitis due to skin exposure to known hazardous agents.

Skin cancer

Construction workers who operate outdoors also face a high risk of skin damage – including sunburn, blistering, skin ageing and, in the longer-term, skin cancer – as a result of exposure to ultraviolet radiation from the sun.

HSE suggests a number of precautions to help protect outdoor workers from the risk of skin cancer and skin damage from the sun. These include:

- Scheduling work to minimise sun exposure – for example, by scheduling tasks to take place in the shade
- Encouraging workers to take their rest breaks in the shade, rather than staying out in the sun

- Encouraging workers to keep their skin covered up with suitable clothing as this forms a barrier to the sun's harmful rays – such as a long-sleeved shirt and jeans made from tightly woven fabrics, and a hat with a brim or flap that covers the ears and the back of the neck
- Encouraging workers to use a suitable sunscreen with a sun protection factor (STF) of at least 15 on any exposed part of the skin they cannot cover up
- Encouraging workers to check their skin regularly for unusual spots or moles that change size, shape or colour, or itch or bleed, and to seek medical advice promptly if they find anything of concern, as these can indicate the early signs of skin cancer.

Asbestos risks

One of the most deadly substances construction workers can be exposed to is asbestos, which can cause fatal cancers such as mesothelioma.

Asbestos can be present in any UK building erected before 2000, and can be found in materials such as ceiling and floor tiles, roof sheets, downpipes, gutters, lagged pipework, boiler flues, fire surrounds, insulating board and sprayed and textured coatings on ceilings, walls and the undersides of roofs.

Asbestos-containing materials (ACMs) are safe if kept in good condition but if the material becomes loose, damaged or disturbed, the fibres will be released into the air and they can be breathed in by people nearby. Among those most at risk are tradespeople working on or near the

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fabric of buildings, such as carpenters, plumbers, electricians, gas fitters, cable layers and building surveyors. The occupants of a building can also be put at risk if the fibres become damaged.

Under the Control of Asbestos Regulations 2012, those wishing to carry out building, maintenance and similar work in or on premises, plant or equipment that could contain asbestos must assess and then eliminate or adequately control the risk of their employees and others being exposed to the substance. This means that, before starting any work that could disturb ACMs, or suspected ACMs, construction contractors should:

- Identify whether ACMs are present and determine their type and condition – for example, by asking the building owner for information on the location and type of asbestos in the building
- If no information is available – or it is limited – and there is a reason to suspect asbestos may be present, have the area surveyed and have representative samples of the material they are going to work on analysed
- Alternatively, assume any material they will need to disturb contains asbestos and take appropriate precautions for the highest risk situation.

The person in charge must also:

- Carry out a risk assessment to identify whether it is possible to avoid the risk of asbestos exposure altogether
- If it's not possible to avoid the risk of exposure, identify who might be at risk and to what extent
- Decide if the work needs to be

carried out by HSE-licensed asbestos contractor

- Adopt appropriate work methods to ensure exposure to asbestos is prevented or kept as low as reasonably practicable
- Ensure those carrying out the work are provided with the correct equipment, such as enclosures and respiratory protection, and are adequately trained and supervised
- Ensure the work area is inspected at the end of the job to ensure it is fit for re-occupation.

Anyone who could be at risk of exposure to asbestos, including construction workers who could come into contact with asbestos during their everyday work, must also be provided with adequate information, instruction and training so they can spot ACMs, understand the health risks and work safely to protect themselves and others.

Noise at work

Another health risk faced by construction workers is hearing damage due to operating or working close to noisy tools and plant – such as concrete breakers, hammer drills and demolition machinery.

Although exposure to sudden, loud noise can cause instant hearing damage, hearing loss usually occurs gradually due to prolonged lower level exposures to noise over a longer period of time.

As a result, employers are required under the Control of Noise at Work Regulations 2005 to take action to prevent workers being exposed to

harmful levels of noise. They must:

- Assess the noise risks to workers from plant, machinery and tools
- Eliminate and reduce noise at source by modifying working methods, choosing suitable equipment and adopting various technical measures
- Provide employees with hearing protection equipment if noise exposure cannot be eliminated or sufficiently reduced using other methods
- Ensure the legal limits on noise exposure are not exceeded
- Provide employees with information, instruction and training on noise risks and the necessary precautions to take
- Carry out suitable health surveillance if there is a risk to health.

Ways of controlling noise include:

- Designers specifying prefabricated components that avoid the need to use noisy tools and processes
- Selecting tools with the lowest noise levels and, when replacing equipment, selecting equipment that is suitable for the work, quieter and more efficient
- Rotating jobs to limit the amount of time workers are exposed to noise
- Providing workers with personal hearing protection, such as ear defenders – though the priority must always be to first eliminate and reduce noise exposure at source.

Musculoskeletal disorders

Construction workers also face a high risk of suffering musculoskeletal disorders (MSDs), which include injuries, damage and pain to the joints, muscles and other

tissues of parts of the body like the back, shoulders, arms, wrists, legs and knees.

MSDs can be caused by lifting, handling, carrying, pushing and pulling heavy, bulky and awkward loads. They can also be caused by prolonged repetitive work, adopting awkward or uncomfortable working postures and applying sustained or excessive force – for example, when using hand tools. Workers can therefore be at risk of MSDs during tasks such as repeatedly drilling and fixing items above head-height.

Workers can suffer immediate damage to areas of the body, such as strains and sprains to muscles and tendons. They can also develop longer term or recurring MSD problems that prevent them from continuing with their career.

Employers have a legal duty to assess and then eliminate or reduce the risk of workers developing or aggravating MSDs as a result of their work. Also, the Manual Handling Regulations 1992 specifically require employers to avoid the need for employees to carry out manual handling tasks that pose a risk of injury, so far as is reasonably practicable. They must also assess and reduce the risk of injury from any potentially hazardous manual handling tasks that cannot be avoided.

When seeking to prevent or reduce the risks of MSDs employers should:

- Assess the workplace to identify tasks that could pose a risk of MSDs
- Take reasonably practicable measures to either eliminate or reduce the risk
- Encourage workers to report any symptoms of MSDs at an early stage, as this will allow action to be taken to

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prevent the problem getting worse and to reduce the risk of injury to others

- Support workers who suffer MSDs to remain in and/or return to work.

Ways of preventing MSDs include:

- Eliminating or reducing lifting and carrying risks – for example, by using mechanical lifting aids, such as conveyors, hoists and cranes
- Delivering materials directly to their point of use – for example, planning the work so materials are lifted into the building while cranes and telehandlers are still on site, and then distributing them by pallet truck
- Making the load smaller or lighter and easier to lift – for example, using lighter concrete trench blocks with built-in hand-holds instead of the traditional heavier ones with no hand-holds
- Keeping materials dry to stop them getting heavier when wet
- Providing mechanical lifting and carrying aids that reduce the risk of injury – such as pallet trucks, sack barrows and trolleys
- Storing heavy items at waist height to make it easier to lift and move them
- Eliminating or reducing repetitive strain risks – for example, by using power tools instead of manual ones and using direct fastening systems instead of drilling and fixing above head height
- Selecting tools that minimise the force needed for the job
- Changing the height, angle and position of the work to suit the worker – for example, using trestles to support materials instead of working on the ground

- Breaking up long periods of frequent, repetitive work – for example, by resting and rotating workers.

Workers can also suffer permanent damage to the nerves, blood vessels and joints of their hands, wrists and arms from exposure to vibration from hand-held power tools, such as concrete breakers and grinders. Hand-arm vibration syndrome (HAVS) is a range of conditions that can cause painful symptoms such as tingling and numbness in the fingers. If the exposure to vibration continues, the individual's ability to feel and grip things can be permanently reduced, affecting their everyday life.

Under the Control of Vibration at Work Regulations employers must prevent or adequately reduce risks to employees' health and safety from exposure to vibration. Ways of achieving this include:

- Eliminating unnecessary vibrating tasks at the design stage and using prefabricated components
- Using an alternative process that does not expose workers to vibration – such as using block splitters instead of cut-off saws, and bursting or crushing instead of pneumatic drilling
- Isolating workers from tasks that create vibration – for example, by using remote-controlled equipment instead of a hand-held breaker
- Selecting tools and equipment that produce the least possible vibration while doing the work efficiently
- If vibrating tools need to be frequently used, rotating and resting workers to limit their exposure to vibration
- Ensuring tools and equipment are well

maintained – for example, cutting tools should be kept sharp.

Health and wellbeing

In recent years, employers in all industries – including construction – have increasingly begun to realise that investing in protecting and supporting the general health and wellbeing of their workers can reap benefits – both for the employees themselves and the performance of the business.

In fact, in their *Summary Toolkit on Health and Wellbeing at Work*, the advisory organisations Business in the Community (BITC) and Public Health England (PHE) say supporting the mental and physical health of workers is good for business because evidence shows healthy workers are likely to more productive, take less time off sick and want to stay longer with the organisation. BITC and PHE have therefore produced toolkits to help employers improve the health of their staff by supporting their mental health and helping them to make healthier choices around alcohol, drugs and tobacco; physical activity; their weight; and getting good quality sleep.

For instance, PHE and BITC say it is in an employer's interest to proactively look after the mental health of their staff because research has shown that employees with positive mental health are more productive.

The PHE/BITC *Mental Health Toolkit for Employers* says employers should therefore take a number of steps to promote positive mental health, prevent workers from experiencing mental ill

health and help staff to better manage mental health problems if they occur.

The suggested measures include:

- Creating a positive working culture that promotes mental wellbeing – for example, ensuring staff have reasonable working hours, agreed deadlines and a healthy work-life balance, as these approaches can reduce work-related stress and boost mental and physical wellbeing
- Encouraging healthy behaviours – steps like taking a lunch break, exercising, getting enough sleep and eating a healthy balanced diet can help us maintain good mental health, so employers should promote the benefits to staff of following these healthy behaviours; and promote the availability of tools such as the NHS-approved Every Mind Matters online tool, which provides simple advice on how to maintain good mental health
- Providing support and training – for example, training line managers so they are able to spot the possible signs of poor mental health among their staff; educating all employees so they understand how to maintain good mental health and are able to recognise the signs they may need support with their mental health; and ensuring all workers are aware of who they can speak to at work if they have concerns about their mental health
- Managing mental health – for example, taking steps to reduce the stigma around mental health problems and creating an environment where everyone feels confident talking

Construction Safety

about mental health, such as by ensuring mental health is discussed openly in team, company and one-to-one meetings; running internal communications campaigns to promote the importance of mental health in the organisation and seeking to eliminate or reduce stress at work that can cause or aggravate poor mental health among workers (employers should remember that under UK health and safety law, they have a duty to assess the risk of their workers suffering stress-related ill health as a result of their work activities and must take steps to remove or reduce those risks, where they exist)

- Providing the right support at work – for example, ensuring the organisation is prepared to make adjustments to work patterns and structures for anyone experiencing mental health difficulties, to keep them in work.

For more advice see the toolkits:

bit.ly/3pTSHdd

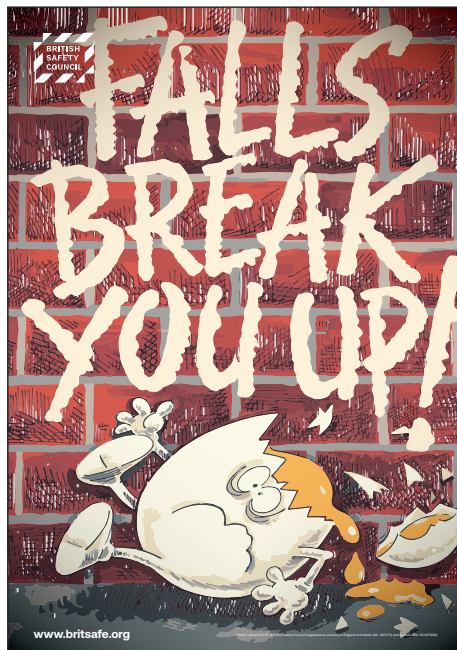
Finally...

This guide has hopefully provided a useful overview of construction health, safety and welfare and highlighted some of the main issues that employers need to be aware of.

However, it is important that everyone in construction – clients, designers, contractors and workers – works together to develop a health, safety and wellbeing culture that lasts throughout all the stages of a project. In this way, it will be easier to identify hazards and risks and tackle them before anyone is hurt or made ill.

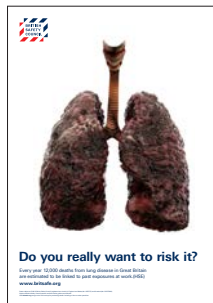
Get the poster:

Remind workers to take precautions when working at height.



To download a free copy go to:
www.britsafe.org/coronavirus

Purchase posters at:
www.britsafe.org/store/posters



Recommended reading

UK government/HSE guidance for employers on minimising the risk from coronavirus at work

[gov.uk/coronavirus](https://www.gov.uk/coronavirus)
[hse.gov.uk](https://www.hse.gov.uk)

Site operating procedures during Covid-19 from the Construction Leadership Council & Covid-19 construction safety guidance from CITB
bit.ly/37pbvL1

Health and safety in construction
[hse.gov.uk/pubns/books/hsg150.htm](https://www.hse.gov.uk/pubns/books/hsg150.htm)

Managing health and safety in construction. CDM 2015. Guidance on Regulations
[hse.gov.uk/pubns/books/l153.htm](https://www.hse.gov.uk/pubns/books/l153.htm)

CDM guidance and Wizard app (CITB)
bit.ly/3awmiVB

Working at height. A brief guide
[hse.gov.uk/pubns/indg401.htm](https://www.hse.gov.uk/pubns/indg401.htm)

Musculoskeletal disorders at work (HSE)
[hse.gov.uk/msd/msds.htm](https://www.hse.gov.uk/msd/msds.htm)

Noise at work: a brief guide to controlling the risks
[hse.gov.uk/noise/publications.htm](https://www.hse.gov.uk/noise/publications.htm)

Construction posters, toolbox talks and videos
[hse.gov.uk/construction/resources](https://www.hse.gov.uk/construction/resources)

Leaflets for site workers in common languages
[hse.gov.uk/construction/languages/index.htm](https://www.hse.gov.uk/construction/languages/index.htm)

The safe use of vehicles on construction sites
[hse.gov.uk/pubns/books/hsg144.htm](https://www.hse.gov.uk/pubns/books/hsg144.htm)

Fire safety in construction
[hse.gov.uk/pubns/books/hsg168.htm](https://www.hse.gov.uk/pubns/books/hsg168.htm)

Occupational disease: HSE microsite
bit.ly/2KCLWNS

Working with substances hazardous to health: A brief guide to COSHH
[hse.gov.uk/pubns/indg136.pdf](https://www.hse.gov.uk/pubns/indg136.pdf)

COSHH Essentials (webtool)
[hse.gov.uk/coshh/essentials/index.htm](https://www.hse.gov.uk/coshh/essentials/index.htm)

Construction dust
[hse.gov.uk/pubns/cis36.htm](https://www.hse.gov.uk/pubns/cis36.htm)

Control of diesel engine exhaust emissions
[hse.gov.uk/pubns/books/hsg187.htm](https://www.hse.gov.uk/pubns/books/hsg187.htm)

Asbestos essentials. A task manual for building, maintenance and allied trades
[hse.gov.uk/asbestos/essentials/index.htm](https://www.hse.gov.uk/asbestos/essentials/index.htm)

Managing risks from skin exposure at work
[hse.gov.uk/skin/professional/publications.htm](https://www.hse.gov.uk/skin/professional/publications.htm)

Skin checks for dermatitis poster
[hse.gov.uk/skin/posters/skindermatitis.pdf](https://www.hse.gov.uk/skin/posters/skindermatitis.pdf)

No Time to Lose (IOSH work cancer campaign)
[notimetolose.org.uk](https://www.notimetolose.org.uk)

Talking toolkit: Preventing work-related stress
bit.ly/3sh1iZ1

Acas guidance on supporting mental health
[acas.org.uk](https://www.acas.org.uk)

BITC/Public Health England health toolkits
www.bitc.org.uk

IOSH guidance on supporting mental health during Covid-19
[iosh.com](https://www.iosh.com)

Mates in Mind guidance on supporting workers' mental health during Covid-19
[matesinmind.org](https://www.matesinmind.org)

Mental health at work toolkits for employers
[mentalhealthatwork.org.uk](https://www.mentalhealthatwork.org.uk)

Building mental health in construction toolkit
bit.ly/3s5ev71

Construction Industry Helpline app for workers
[constructionindustryhelpline.com](https://www.constructionindustryhelpline.com)

Further information

Acas

Independent organisation that provides guidance to employers on issues such as improving mental health at work.

[acas.org.uk](https://www.acas.org.uk)

Access Industry Forum (AIF)

Forum for the trade associations involved in work at height. The associations provide free online guidance on safe working at height.

[accessindustryforum.org.uk](https://www.accessindustryforum.org.uk)

Breathe Freely

BOHS-run campaign that offers free guidance on preventing lung disease in construction.

[breathefreely.org.uk](https://www.breathefreely.org.uk)

British Safety Council

Offers a range of health and safety training courses and qualifications suitable for managers, supervisors and workers in construction.

www.britsafe.org

Business in the Community (BITC)

Charity that provides free guidance for employers on issues such as improving worker health.

[bitc.org.uk](https://www.bitc.org.uk)

CITB

Construction industry body that offers a range of free online health and safety guidance.

[citb.co.uk](https://www.citb.co.uk)

bit.ly/37pbvL1

CLOCS

Scheme designed to help construction transport businesses manage road safety risks.

[clocs.org.uk](https://www.clocs.org.uk)

Considerate Constructors Scheme Best Practice Hub

Website that provides free guidance on health, safety and wellbeing issues in construction.

[ccsbestpractice.org.uk](https://www.ccsbestpractice.org.uk)

Construction Industry Helpline

Website and helpline run by the Lighthouse Club construction industry charity. Provides construction workers with advice and support on issues such as dealing with financial problems.

[constructionindustryhelpline.com](https://www.constructionindustryhelpline.com)

Health and Safety Executive (HSE)

Responsible for enforcing health and safety law at most industrial workplaces in the UK. Provides a wide range of online guidance for construction.

[hse.gov.uk](https://www.hse.gov.uk)

Healthy Working Lives (Scotland)

Free health and safety advice service for Scottish employers.

[healthyworkinglives.scot](https://www.healthyworkinglives.scot)

Healthy Working Wales

Free health and safety advice service for employers and employees in Wales.

www.healthyworkingwales.wales.nhs.uk/home

IOSH

Chartered body for safety and health professionals. Provides a wide range of free guidance on managing health and safety risks.

[iosh.com](https://www.iosh.com)

Mates in Mind

A charity that helps employers in the construction and related industries to improve the mental wellbeing of their workforces. Established with the support of the British Safety Council, Mates in Mind provides training and guidance to get everyone at work talking about mental health and to give staff the skills to support the mental wellbeing of their colleagues.

[matesinmind.org](https://www.matesinmind.org)

No Time to Lose

IOSH campaign to help employers prevent occupational cancer. Website provides free guidance on managing the risk of cancer.

[notimetolose.org.uk](https://www.notimetolose.org.uk)



Suicide is the leading cause of death in England in adults below the age of 50.

Are you doing enough to support your employees?

Take action to tackle suicide and mental ill health in your workplace. Mates in Mind is here to help you:

- Create and deliver a clear plan
- Address the stigma
- Improve your workforce's awareness
- Create a culture of prevention in your workplace.

Let's talk:

☎ 020 3510 5018

✉ support@matesinmind.org

🌐 www.matesinmind.org

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