

# Health and Safety Advice for Scaffolders





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This booklet is part of a range that have been produced by CITB-Construction Skills NI to provide advice and guidance on Health and Safety & training issues relating to persons working in the Construction Industry such as Bricklayers, Joiners, Roofers, Plasterers, Painters & Decorators, Construction Operatives, Plant Operators and Scaffolders with the aim of helping to eliminate and reduce the risk of, accidents, injury and ill-health.

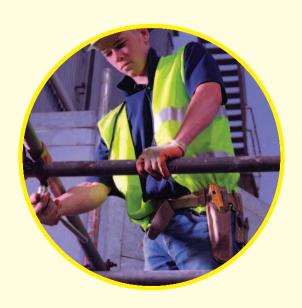
The booklets are in an easy to use pocket-size format and will be a good reference point to both existing and new entrants working in the industry and will also provide advice to supervisors, managers and directors to help improve health and safety performance on site.

# Some health and safety risks you may face on site include:

- Exposure to electricity. Overhead cables
- · Falls from height
- Proximity to flammable or combustible materials
- Climbing steps and working platforms
- Risk of eye injury from flying particles and dust
- Cancer risk from Exposure to asbestos
- Slips trips and falls due to untidy work area
- Manual handling activities
- Using various types of equipment and tools
- · Moulds, fungi and bacteria
- Cuts and abrasions
- Struck my machinery
- Loss of fingers/limbs
- Risk of pain or injury from performing repetitive tasks
- Exposure to noise
- Struck by falling objects
- Hand and foot injury
- Sun exposure

Working in the construction industry is both rewarding and satisfying but as the above list shows you could be exposed to various risks if the correct safe methods of work as described in this booklet are not followed.

Think about the various Health & Safety risks that could be found on your site, speak to your supervisor or person/s in charge about ways of eliminating or reducing those risks and stay healthy and safe.





SCAFFOLDERS

As a scaffolder, you provide a valuable service to the construction industry. You can be working on all types of construction projects, including housing, factories, offices, roads, bridges, airports and many others. You will be working at various heights and could be working over water. You could be working with tube and fitting during your lifetime or different types of system scaffolding or both.

The following list gives a flavor of the potential diverse tasks you could be involved in

- Prepare site area
- Working to plans and drawings
- Following manufacturers guidance
- Moving equipment and materials manually
- · Erecting different types of scaffolding
- Working in close proximity to members of the public and other buildings
- Transporting equipment
- Slinging loads
- Accessing work at height
- Using hand and power tools
- Supervising other activities
- · Working as a team
- · Cleaning and storing equipment
- Using harnesses and lanyards
- Inspecting scaffolding for defects
- Following method statements and risk assessments

As stated your role provides a valuable service to the construction industry but in order to sustain this valuable service you will need to have received adequate training specific to your work to ensure that you work safely and without risk to yourself and others, training also keeps you up to date with current Health & Safety to ensure you follow proper recognised procedures on site.

HEALTH AND SAFETY LAW Your health, safety and welfare at work are protected by law, your employer has a duty to protect you and keep you informed about health and safety and provide adequate information, instruction, training and supervision to enable you to carry out your work in a safe manner.

You also have legal duties too as follows.

- Take reasonable care for your own health and safety and of other who may be affected by your work such as other workers or members of the public
- Comply with instructions or control measures such as the wearing of personal protective equipment.
- Co-operate with your employer on health and safety and training requirements.
- Correctly use and report any defects on work equipment provided by your employer this could be machinery, tools or personal protective equipment
- Do not interfere with or misuse anything provided for your health, safety or welfare.

Self-employed persons also have duties under the law in relation to their own Health and Safety and ensure that their work does not put others at risk.

If you think there is a health and safety problem on your site you should first discuss it with your supervisor, H & S adviser or person in charge.



#### **WORKING AT HEIGHT REGULATIONS**

#### **Duties of persons at work**

Every person shall, where working under the control of another person, report to that person any activity or defect relating to work at height which is likely to endanger the safety of themselves or other persons.

Every person shall use any work equipment or safety device provided for work at height by their employer, or by a person under whose control they work, in accordance with any training in the use of the work equipment or device concerned which have been received; and the instructions respecting that use which have been provided by that employer or person in compliance with the requirements and prohibitions imposed upon that employer or person by or under the relevant statutory provisions.

# The Construction (Design and Management) Regulations (Northern Ireland) CDM

The updated CDM regulations place a responsibility on everyone involved in the construction process, everyone needs to know about these regulations and that includes you.

#### Workers: roles and responsibilities

All those who work in the construction industry have their part to play looking after their own health and safety and in improving the industry's health and safety record.

Those with legal duties are commonly known as 'duty-holders'.

Duty-holders under CDM are:

Clients, CDM Co-Ordinators, Designers, Principal (main) Contractor, Contractors and Workers.

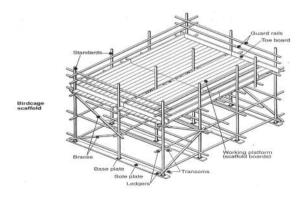
- Ensure you only carry out construction work if you are competent
- Report any defect that you think may endanger the health and safety
  of yourself, other persons or members of the public.
- Co-operate with others and co-ordinate work so as to ensure your own health and safety and others who may be affected by the work.
- Follow site health and safety rules and procedures.

# Contractors: roles and responsibilities

On all projects contractors will need to:

- Plan, manage and monitor their work and that of workers
- Check the competence of all their appointees and workers
- · Train their own employees
- Provide information to their workers
- Ensure all workers have site inductions and any further information and training needed for the work
- Ensure that there are adequate welfare facilities for their workers

The CDM regs are supported by an Approved Code of Practice (ACoP).





HEALTH AND SAFETY ON SITE

A number of initiatives have been launched to promote and improve good practice and by reducing accidents and ill health such as BuildHealth.

BuildHealth was launched to improve the health of construction workers in Northern Ireland by: preventing work related ill health: supporting and rehabilitating ill workers and using the workplace as a setting in which to improve health.

You have a part to play in this process by working safely, staying healthy, preventing injury to yourself and others and not being complacent.

Always inspect equipment that you have been given and report any defects, if you see any defects in scaffolding, ladders and mobile towers this could cause serious injury or death, report immediately, only repair if authorized to do so by your employer or person in charge, and only if trained and competent.

If an accident should happen it must be reported to your supervisor, manager or a responsible person and a record should be kept, most employers have a no-blame-culture, and encourage reporting of any problems that you see that could prevent an accident from happening in the first place or its reoccurrence.

Information gained from reported accidents can be used to improve health and safety on site.

Remember accidents are preventable, by following safe systems of work you can help to improve the standards of Health and Safety on your site.

#### **CASE STUDY 1**

A 17 year old trainee scaffolder was tragically killed when he fell approximately 18 metres while erecting an access birdcage scaffold.

In the subsequent prosecution the court heard that the scaffold was constructed with incomplete working platforms, a lack of guardrails and inadequate ladders access. The competence and supervision of the scaffold gang was also inadequate. Other issues included were inadequacies regarding the use of personal fall protection equipment (harness).

Three companies were prosecuted (including the scaffolding contractor) with fines totalling £217,500 plus £125,000 costs.

The supervisor was found guilty of failing to take reasonable care for the health and safety of others affected by his acts or omissions at work. He was fined  $\mathfrak{L}7,500$  and ordered to pay  $\mathfrak{L}15,000$  costs.

HEALTH AND SAFETY TRAINING

The following is a list of possible training that you may need depending on your specific area of work. The list is not exhaustive or definitive.

Induction training
Tool box talks

Scaffolding safety awareness

Specific system product training

Working at Heights

Ladders Fall Arrest

Power & Hand Tools Confined Spaces

Goods hoist

Aluminium Mobile Towers
Using Harnesses and Lanyards

Health and Hygiene

Manual Handling - lifting and

handling manual loads Slinger/banksperson Crane awareness

Fire prevention
Site security

Working with the public

First aid

Fire extinguishers
Defensive driving

Refresher training
Conversion training
Familiarization training

CITB-ConstructionSkills NI encourages the adequate training of all those working in the Northern Ireland construction industry and support the industry to qualify their workforce to national standards and to enrol with appropriate Industry Registration Schemes. Training is not a one off event that is refreshed every 4 or 5 years, but it is a requirement that all persons receive training where necessary in order to do their job safely and to a continuing competent standard.

As more and more construction contracts demand a qualified workforce you should look at gaining an NVQ qualification as this will show that you have been assessed as competent.

Having a recognised registration card is a good **starting point** in showing proof of health and safety training but as stated more specific training will be required.



Adequate training can help prevent accidents and ill-health and make for a more motivated and productive workforce, ensure that you have received adequate training required to do your job safely and efficiently.

It is a misconception by some companies to assume that all experienced scaffolders are fully qualified. Some were trained a number of years ago, even then very little or no training was provided. Refresher training, tool box talks and other manufacturer type instruction on the different systems and products is a must to ensure an adequate standard is maintained.

All construction personnel should adopt the principles and practices stated in this document, where reasonably practicable. This booklet is intended as a good practice health and safety guide and should be supported by relevant training and the HSENI publications.

CITB-ConstructionSkills NI provides an on-site Mobile Training Unit that visits sites on a daily basis and provides H&S and other training courses such as abrasive wheels, cartridge tools and slinging courses.

CITB-ConstructionSkills NI also publish a Training Directory of grant assisted courses delivered by a network of external training providers, you can view the Online Training Directory www.citbcsni.org.uk.



#### **CASE STUDY 2**

A scaffolder fell 8m from a scaffold he was erecting resulting in major injuries. He was wearing fall arrest equipment but had not used it in accordance with the training and instruction given by his Employer.

The accident was investigated which resulted in the prosecution of the scaffolder.

In addition to the lost wages whilst recovering from his injuries he had to pay a fine of  $\mathfrak{L}1,200$  and received a criminal record.

The standard recognised for scaffolders in the UK is the Construction Industry Scaffolders Record Scheme (CISRS) or equivalent.

TRAINING AND QUALIFICATIONS FOR SCAFFOLDERS

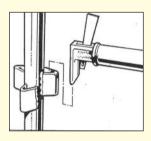
This is the specific scaffolders scheme which requires candidates to follow a training programme in tube and fitting or system scaffolding, gain site experience and achieve a Level 2 competence qualification.

Candidate can progress to advanced scaffolder stage after further experience, training and by achieving a Level 3 competence qualification.

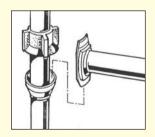
House builders and small contractors erecting system scaffolding on building sites should have received adequate training from a competent instructor with scaffolding experience. CITB-ConstructionSkills NI recommend the 5 day (Basic Access System Erector course (B.A.S.E) which is accredited by the CISRS scheme.

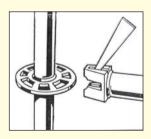
Persons involved in the inspection of scaffolding should receive adequate training from a competent person with adequate knowledge of scaffolding.

Those involved in erecting the different types of system scaffolding such as Cuplock, Haki, Turner Plus Eight, Layher, Plettac Contur, Belle or Kwikstage should have received product training as per manufacturer guidance on each system. Also make sure you have available and use manufacturers user guides.









An example of some different scaffolding systems

SCAFFOLDING DESIGN AND INSPECTION The following information is intended to clarify when scaffold design is required and what level of training and competence those erecting, dismantling, altering, inspecting and supervising scaffolding operations are expected to have obtained.

Unless a scaffold is a basic configuration described in recognised guidance e.g. NASC Technical Guidance TG20 for tube and fitting scaffolds or manufacturers' guidance for system scaffolds, the scaffold should be designed by calculation, by a competent person, to ensure it will have adequate strength and stability.

In summary, the standard for all scaffolds to be built to within the UK is BS EN12811-1, and the guidance document for tube and fitting scaffolds to meet this European standard is TG20:08 - Technical Guidance on the use of BS EN12811-1. System scaffolding should be designed, erected and stabilised in accordance with the manufacturers or suppliers handbook

All scaffolding should be erected, dismantled and altered in accordance with either NASC guidance document SG4 for tube and fitting scaffolds or the manufacturers' erection guide for system scaffolds.

For scaffolds that fall outside the scope of 'Basic Scaffolds' the design information should describe the sequence and methods to be adopted when erecting, dismantling and altering the scaffold.

Any proposed modifications, or alterations, outside a system scaffolding manufacturer's guidelines should be designed by a competent person

Handover certificates should refer to any relevant drawings, working platform loadings and any specific restrictions on use.

All scaffolding inspections should be carried out by a person whose training and competence reflects the complexity of the scaffold they are

inspecting (i.e. a CISRS Scaffolder can inspect basic scaffolds and an Advanced scaffolder can inspect basic and complex scaffolds). A non-scaffolder who has attended a suitable scaffold inspection course and has the necessary background experience would also be competent to inspect a basic scaffold (i.e. a site manager).

The scaffold inspection register should note any defects and corrective actions taken, even when those actions are taken promptly as this assists with the identification of any recurring problems.

To prevent use by unauthorised persons, all incomplete scaffolds must display warning signs identifying the areas where access is restricted and be suitably protected by physical means.

All employees should be competent (or in the case of trainees, supervised by a competent person) for the type of scaffolding work they are undertaking and should have received appropriate training relevant to the type and form of scaffolding they are working on.

Employers must provide appropriate levels of supervision taking into account the complexity of the work and the levels of training and competence of the scaffolders involved.

SCAFFOLDING

SUPERVISION



Example of an advanced guard rail system

As a minimum requirement, every scaffold gang should contain an appropriately qualified scaffolder for the type and complexity of the scaffold to be erected, altered or dismantled. This may be an individual who has received training under an industry recognised training scheme, e.g. CISRS, and has been awarded the scaffolder card or someone who has received training under a recognised manufacturer/supplier scheme, to the limit of the configuration(s) involved.

Trainee scaffolders should always work under the direct supervision of a qualified scaffolder (i.e. a working foreman). Scaffolders are classed as 'trainees' until they have completed the approved training and assessment required to be deemed qualified.

Erection, alteration and dismantling of complex designed scaffolding (e.g. suspended scaffolds, shoring, temporary roofs etc) should be done under the direct supervision of a competent person. This may be a qualified Advanced scaffolder, a design engineer providing they possess the necessary industry experience or alternatively an individual who has received training under a recognised manufacturer/supplier scheme to the limit of the configuration(s) involved.

WORKING AT

Think before you work, can working at height be avoided? If not then the next consideration must be preventing falls.

Falls from height is the main cause of death in construction, you need to follow proper procedures before any work at height starts.

don't take chances on this issue, 'think' before you start working at height and confirm with your employer that all proper procedures have been followed, don't use a MEWP or working platform unless you have received adequate training and keep a look out for overhead cables.

**Do not** start any work at height if cables are near until you have reported and received further instruction, you also have a duty to warn others about the dangers on site and that includes overhead cables



Watch out for overhead power lines

Scaffolding contractors should prevent falls by providing adequate work platforms with suitable guard – rails or other collective measures, before resorting to fall arrest equipment.

Scaffolders must take action to prevent or protect against a fall from height. Scaffolders are no longer permitted to work at height and be exposed to risk of a fall without using Personal Fall Protection Equipment as a minimum (Safety Harness).



Scaffolder using a fall protection system

Proper risk assessments and method statements prior to any work starting are essential to prevent or control this type of activity.

Ensure that persons are not working underneath you or if this is not possible ensure that all precautions have been taken to prevent materials falling onto them.

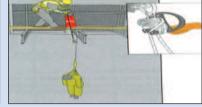


The National Access & Scaffolding Confederation (NASC) has produced a guidance note (SG19) to help scaffolding contractors in conjunction with clients prepare a rescue plan as part of the risk assessment process for each job.

All scaffolders must be trained in the rescue techniques and equipment specified, and the equipment must be available on site.



RESCUE



Examples of rescue equipment for scaffolding applications

FALLING OBJECTS

Falling objects can kill or seriously injure someone either working below or passing members of the public. You need to ensure that skips and chutes are used and properly placed. Also scaffolding should be secured to avoid items falling by having the scaffolding wrapped or using some other means. Be extra cautious in windy conditions and ensure a chin strap is worn with your head protection.



SLIPS TRIP AND FALLS You or others could suffer sprains or fractures if you trip over waste including brick bands and pallet debris. Slips at height could result in a serious fall.

- Make sure your work area is clean and as even a surface as possible.
- · Wear suitable approved footwear with non slip soles.
- Clear up after you at intervals, and at the end of the day.
- Waste including brick bands and pallet debris should be disposed of in skip.
- · Clear up spillages that you see, don't walk past, clean it up.
- Safely store cables to help prevent tripping.
- Ensure you have adequate lighting
- Report any defects that you see to equipment or work surfaces
- · Keep an eye out for visitors to your work area.
- Access and egress steps to plant and equipment should be kept clean and any damage reported.
- Safe route to workplace agreed and maintained at all times.
- Supervisor to ensure that workers wear safety footwear whenever on site.





Tripping hazards should not be common on site - report them immediately



#### **Scaffolding**

ACCESS
EQUIPMENT
& WORKING
PLATFORMS

Scaffolding should be inspected after substantial alternation or repair, after any event likely to affect stability like strong winds and at regular intervals not exceeding seven days.

Any faults found must be put right, scaffolding should be tagged to warn others if faults have been found.

- Ensure scaffolding requirements, including appropriate load rating and provision of loading bays with your employer or supervisor.
- Scaffolding could collapse and crush may incur, or worse, if the scaffolding collapses on top of you.
- Only competent persons can erect and inspect scaffolding.
- If you think that a scaffold has been interfered with or could be unsafe, report this to your supervisor or other person in charge immediately.
- If a harness is required then make sure you wear it correctly, use a suitable lanyard and inspect before and during use, you must also be trained in its safe use.
- Ensure any safety equipment provided to prevent injury from falls is in place and secure.



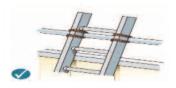
Scaffolder using a harness and inertia reel



The Working at Height Regulations reinforce the hierarchy of fall prevention which means ladders should only be used if it is not reasonably practicable to use other safer forms of access: and it is reasonable to use ladders having regard to:

- The nature and duration of the work task and:
- The risks to the H & S of the users of the ladders.
- The ladder should be angled to minimise the risk of slipping outwards and as a rule of thumb needs to be one metre out for every four up.
- Access ladders should extend about 1m above the working platform. This provides a handhold for people getting on and off.
- Ensure that ladders are tied on both stiles to prevent slipping.
- Ladders should be in good condition and examined regularly to make sure they are free from defects.
- · Ladders should not be painted as this can hide defects.
- Ladders used must be in good condition, adequately secured (lashed) and placed on firm surface.
- Do not overreach; if you are working from a ladder, make sure it is long enough and positioned to reach the work safely.
- Do not climb or work off a ladder unless you can maintain 3 points of contact.
- Minimise openings in scaffolds that have been created for ladder access
- Use anti-slip devices or stabilizing units, fixed to the top or bottom of the ladder, but only if considered suitable for the application.





Ladders should be correctly angled; one out for every four up



TOWER SCAFFOLDS Tower scaffolds are used widely in the construction industry and a number of accidents happen each year mainly due to the tower not being properly erected or used.

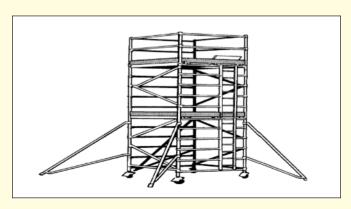
#### **Before Use**

Do not erect or inspect tower scaffolds unless you are trained and competent to do so.

Make sure the tower is resting on firm level ground with the wheels or feet properly supported.

Do not use crushable material such as bricks or building blocks to take the weight of any part of the tower.

Some guidance suggests if using steel towers in exposed conditions or outside, the height of the working platform should be no more than three times the minimum base dimension or three and a half times the dimension if used inside, if using alloy towers you should follow the manufacturer's instructions.



Our recommendation is before using any tower scaffold that you first check with the manufacturer about the recommended working height of the platform.

# Remember the following as a guide.

- Do not sheet as this could act like a sail and overturn the tower.
- · Ensure the tower is on firm level ground.
- Do not load with heavy equipment or materials.
- Do not use to hoist heavy materials or support rubbish chute.
- Always use ladder for access, do not climb on the tower.
- · Always climb from the inside of the tower.
- Use a brick guard where necessary.
- Tower should not be moved with anyone remaining in the structure.
- Close platform access door to prevent falling through.
- Watch out for overhead power lines before moving.
- Do not use vehicles to push or pull the tower.
- Ensure brakes are applied.
- If fitted, check that outriggers are set correctly and secured.

MOBILE ELEVATED WORKING PLATFORMS (MEWP) Also referred to as cherry pickers.

"It should not be assumed that qualified staff, new staff etc, are competent in the use of such equipment, therefore it is a legal requirement that no one should be allowed to work at any equipment or machinery unless they have received adequate training where necessary and have demonstrated competence".

You could be killed if you work near overhead power lines, treat every power line as live until further controlled information is received, working near overhead power lines refer to H & S document GS6, it states that you keep away 9m from wooden poles and 15m from steel pylons.

- Always inspect machine before use.
- · Log and report faults to your supervisor.
- Make sure you are trained and authorised to use the machine.
- Wear a harness when using the machine (see reference 'working over water').
- Make sure you have received instruction on wearing a harness.
- Read your operators manual for safe use.
- Stay clear of overhead power lines.
- Do not use in windy conditions use a hand-held anemometer for measuring wind speed (Beaufort scale).
- In windy conditions roof sheets can act like a sail and can seriously affect the stability of the platform resulting in overturning.
- Beware of a wind funneling effect between buildings.



MEWP (Cherry Picker)



Scaffolders using a MEWP

WORKING OVER WATER

- When any works are being carried out which necessitates personnel working at heights above water the following precautions are to be taken.
- Any works over water are to be subject to the company "Permit to Work" system
- A fence or barrier must be provided to any structure or scaffold where there is a risk of persons falling from such structures into water
- Where an independent electrically or mechanically operated hoist or cradle is used a competent operator must be provided, or sufficient training be given in its use. Some means of communication is to be provided for use in an emergency, a harness should in most cases not be used in a MEWP as this could led to drowning, a life jacket should be provided.
- Any hoist/cradle is to be checked, maintained and inspected/examined as per manufacturers or statutory requirements.
- · Warning signs/notices are to be displayed
- There is to be adequate lighting for the whole of the period of work.
   Lighting must be adequate for night work and must illuminate the immediate surrounding water surface.
- A buoyancy aid, of a tested and approved pattern, is to be worn by all personnel working over water
- Suitable rescue equipment, for example a boat, boathook, lifebelt or lifeline is to be in position and checked as serviceable before works are permitted to commence.
- The use of any electrical equipment is to be strictly controlled and steps are to be taken to ensure that leads are not long enough to touch the water. All equipment should be connected to lines to prevent their accidental dropping into water causing possible electric shocks etc.

- All personnel are to be instructed as to means of raising alarm and rescue drills
- The Site Supervisor, or a nominated person, is to make regular and frequent checks on numbers of personnel working.
- Any works over water are to be carried out by a minimum of two persons, no lone workers are permitted.
- Special care must be taken in fog, snow or rain, when extra checks are to be made by the site supervisor.

MANUAL HANDLING Make sure you have been trained correctly as you could suffer from back injury and long term pain if you regularly lift or carry loads.

- All loads if possible to be transported and lifted to scaffold or work area using lifting equipment such as a telescopic Handler etc.
- Provision of lifting/loading bay agreed.
- Materials to be covered with tarpaulin when stored on site to prevent taking up water.
- Trolley to be used if possible for moving loads around the scaffold or work area.
- Check for any loads over 20kg and make lifting arrangements.
- Any loads over 20kg, should be positioned using suitable lifting equipment used by trained persons
- Avoid awkward postures or repetitive tasks, or take frequent breaks
- Learn safe lifting techniques as it is not just the weigh of a load that can cause injury, light loads if not lifted correctly can also cause problems.
- · Keep work areas clear of clutter and equipment.
- Use and maintain PPE correctly.
- There is a risk of pain or injury from working in awkward positions, performing repetitive tasks, or lifting.

### Apply the following to help prevent injury:

- Avoid lifting manually where possible; use a lifting aid or device where practical to do so.
- Bend your knees; use the strong leg muscles instead of your back.
- One foot slightly in front of the other use a good stance for stability.
- · Keep the load close to your body.
- Check the load for stability and look out for sharp edges.
- Assess the weight of the load and if satisfied lift smoothly.

- Don't twist your body, use your feet to change direction.
- Look out for tripping hazards prior to lifting or carrying a load, plan your route.
- If in doubt don't lift get help or speak to your supervisor.



The wrong way
Don't lift this way you are risking
permanent injury



The right way

ELECTRICITY

ELECTRICITY

ELECTRICITY

Current Do

Electric shock is a major hazard on a building site, a 240 volt supply is often enough to kill a person, which is way 110 volt supplies are used. If 110 volt supply cannot be used always use a Residual Current Devise.

Don't take chances with electricity cables, treat all cables as live until you know otherwise.

If using powered hand tools make sure that the supply voltage is correct for the equipment.

If using MEWP (cherry pickers), Telescopic Handlers, cranes, excavators and other equipment beware of the danger of death, treat ever cable as live until informed officially otherwise, do not work near overhead power lines with these machines.

Ensure all plugs and leads are in good condition a free from defect.

Ensure only correct fuses are used 'no nails'.

Don't make any temporary repairs, have those that are trained repair all equipment.

Keep cables off the ground whenever possible; do not let them run through water, wet areas or mud.

If cables have to be on the ground ensure that they are protected from damage and not a trip hazard.

Keep extension leads as short as possible.

Do not use extension leads that are still wound on a reel as the cable can melt due to heat build up.

Do not use insulating tape to cover breaks on a cable, have it repaired, all electrical equipment must be inspected and tested before use.

(RCD) connection, but make sure it is tested.



HEALTH,
HYGIENE AND
WELFARE
FACILITIES

Your employer or the person in control of any site has a legal obligation to ensure that sufficient welfare facilities are provided. These include washing, toilet and rest facilities.

There is also a requirement for facilities to be made available for the storage of clothes that are not worn during working hours, the storage of clothes that are not taken home and for changing clothes when specialist clothing is required to be worn at the work place.

Washing facilities on site should include hot and cold water, soap and basins large enough to wash forearms.

Do not abuse these facilities ensure you keep them clean and tidy, and report any vandalism.

If you are working with hazardous substances such as asbestos or lead, specialist welfare facilities must be provided.

Hand hygiene is essential. The hands are the most likely part of the body to come into contact with harmful substances. Failure to take basic precautions can lead to skin complaints.

Dirty hands should be cleaned using proper supplied skin cleansing products. **Do not** clean hands with white spirit, thinners, petrol, turpentine etc.

Always ensure that you wash your hands after a visit to the toilet Always ensure that your hands are clean before handling food. Anyone who prepares food for others must have been trained in food hygiene procedures.

Failure to observe basic hygiene precautions could lead to food poisoning, which at worst can be fatal.

HAND HYGIENE





Health problems can occur through inhalation of certain chemicals and ingestion, some areas of the construction industry can expose workers to skin conditions such as dermatitis, work-induced skin irritation of the hands, arms, face, and lower extremities are the most common affected areas.

The symptoms of Dermatitis are:

- affected skin gets red, sore, itchy, scaly and blisters
- if it gets worse, the skin can crack and bleed and the dermatitis can spread all over the body (it often starts on the hands)

It is a very painful condition but it is not infectious. If left untreated the condition can cause workers to lose their jobs, but it is preventable, and if spotted early it can be cured.

Occupational dermatitis is caused when the skin comes into contact with certain substances at work. Some cause dermatitis by irritating the skin, others cause an allergic reaction. The length of time it takes to develop depends on the substance, its strength and potency, and how long or how often it touches the skin. Once someone has developed an allergic reaction, even the tiniest amount might bring on the dermatitis. The most common substances that cause building workers to contract dermatitis include:

cement products latex rubber nickel and chromium expoxy and other resins oils, soaps and detergents some paints and wood preservatives





#### **Employers**

- employers must assess the risks of work which could cause dermatitis.
- · ensure washing facilities are provided.
- prevent employees coming into contact with them as far as reasonably practicable.
- provide those workers with regular health checks.

#### What you should do:

- ask for health checks to be carried out by the employer under COSHH and ask to see general information about the results.
- check all substances you come into contact with for labels identifying potential skin irritation.
- insist on substitute products wherever possible.
- if substitution is not possible insist on limited exposure.
- ensure you receive the necessary training to reduce the risk.
- ensure you are provided with proper washing facilities.
- insist on free protective clothing from your employer, such as gloves.
- · ensure all hazardous chemicals are stored safely.

WORK-RELATED ASTHMA

Asthma is a distressing and potentially lifethreatening disease that can be caused by breathing in chemicals called sensitisers. These are substances that can trigger an irreversible allergic reaction.

Things to watch for in yourself and the people you work with can include:

- coughing
- wheezing
- · tightness of the chest
- · constantly runny nose
- · watery, prickly eyes.

Substances known to cause asthma:

- wood dusts
- · epoxy resins in some glues and resins
- isocyanates in some paints
- · formaldehyde in some MDF
- some paints and wood preservatives.

# Other problems cause by dusts

The relationship between asbestos and cancer is well known as is the link between hardwood dust and nasal cancer. It is common sense that breathing in dust of any type is likely to be harmful and can cause diseases such as bronchitis and emphysema.

Damping surfaces can help to reduce dust as can working with hand tools rather than power tools. Also if you can 'wet-sand down' that is preferred to dry sanding.

Always wear the respiratory protective equipment provided.

Training on how to treat exposure should be given by your employer, you must tell your supervisor if you see any early signs of dermatitis.



DUST AND FLYING PARTICLES Too much dust of any kind can adversely affect your health.

As stated earlier in this booklet breathing in dusts has been known to cause development of respiratory ill health, in particular damage to the lung tissue which can result in serious breathing difficulties, depending on the extent of exposure.

Working with certain materials can cause fragments and dust to enter the eye and cause severe eye injuries. Goggles should be worn at all times to prevent dust particles entering the eye, and the correct type of dust mask to prevent dust entering the body.

Proper dust extraction equipment should be used, hire companies can provide details on the latest equipment such as wet systems or methods available to prevent dust exposure.





Breathing asbestos dust can cause serious damage to the lungs and cause cancer. There is no known cure for asbestos related diseases.

Many buildings built or refurbished before the mid 1980's contain asbestos. Asbestos containing materials should be indemnified before work

commences to prevent inadvertent exposure to asbestos. Asbestos insulation board, asbestos coatings and asbestos insulation should only be removed by a licensed contractor.

ASBESTOS

If you suspect you have been exposed to asbestos or you have identified it on site tell your supervisor or person in charge immediately.



POWER AND HAND TOOLS All hand tools and equipment should be visually checked for faults before use, if using electrical powered equipment a Residual Current Device (RCD) connection should be used or equipment should be 110 volt or battery operated;

Don't use a chisel with a mushroom head as particles can fly off and enter the eye or other parts of the body, always use a hand protection grip and gloves, ensure the mushroomed head is ground off safely by using eye protection and grinding in a safe area.

Ensure tools are used correctly and as intended by the manufacture, don't get involved in horseplay.

Do not use power tools unless you have been trained and authorised to do so.

Ensure you report any defects and that all equipment is inspected before and after use.

Your employer should ensure that a maintenance record is available and kept up to date, power tools should be pat tested.







#### What is Hand-Arm Vibration?

HAND-ARM VIBRATION SYNDROME (HAVS) Hand-arm vibration is vibration transmitted onto your hands and

arms when you use hand-held powered work equipment such as concrete saws.

Prolonged vibration is known to affect blood vessels, nerves. muscles, tendons and other body parts.

The main complaint arising from continued vibration from hand tools is Vibration White Finger (VWF), in which surface blood vessels become damaged, resulting in circulatory problems, pain and in the worse cases gangrene.

#### When Are You at Risk?

You are at risk if you regularly use hand-held or hand guided power tools and machines such as:

- Chainsaws
- · Sanders, grinders.
- Drills.
- Hammers
- Saws

## **How You Can Help Reduce the Risks**

It is your employer's responsibility to protect your welfare, but you should help by asking your employer if your job could be done in a different way without using vibrating tools and machines. If this cannot happen:

- Ask to use suitable low-vibration tools
- Always use the right tool for each job (to do the job more quickly and expose you to less hand-arm vibration).
- Check tools before using them to make sure they have been properly maintained and repaired to avoid increased vibration caused by faults or general wear.
- Make sure cutting tools are kept sharp so that they remain efficient.



- Reduce the amount of time you use a tool in one go, by doing other jobs in between.
- Avoid gripping or forcing a tool or work piece more than you have to.
- Store tools so that they do not have very cold handles when next used.

# Encourage good blood circulation by:

- Keeping warm and dry (when necessary, wear gloves, a hat, waterproofs and use heating pads if available).
- Giving up or cutting down on smoking because smoking reduces blood flow.
- Massaging and exercising your fingers during work breaks.





From use of equipment e.g. concrete saws, chain saws, planers, machinery etc. if using this type of equipment or working near others doing so you could suffer hearing loss.

- Machines should be inspected for noise to ensure all panels and guards are correctly fitted and not rattling or vibrating, machines can be sited on noise absorbing materials to reduce noise.
- Other machines should be sited far enough away from each other so as to reduce noise and provide more work space.
- Tell your supervisor if you think that noise is a problem on your site or machine shop.
- Noise assessment to be implemented if noise is a problem

Hearing protection if required should be worn and maintained, noise induced hearing problems, including deafness, are all too common in the construction industry. Very often the attitude has been that it is all part of the job. Report defective machinery,

bearings that are not properly greased can increase noise levels; loose panels can

also increase noise levels.



STRUCK OR CRUSHED BY MOVING VEHICLES ON SITE You could suffer serious or even fatal injuries from vehicles and machines on site – particularly when they are reversing.

- Make sure that you only walk to your work area on a safe agreed route.
- Report to your supervisor if this route becomes blocked.
- Wear your High visibility vests at all times.
- Never use your mobile phone on or near a route provided for vehicles or plant as you could be struck or run over.

Never approach a machine operator from behind his/her vehicle as you could be crushed. And as a plant operator you need to ensure all round checks before moving or slewing.

Never except a lift or give a lift to someone on an item of plant unless a proper passenger seat has been fitted by the machine manufacture for this purpose



Too much sunlight is harmful to your skin.

SUN EXPOSURE In the short term, even mild reddening of the skin from sun exposure is a sign of damage. Sunburn can blister the skin and make it peel.

Longer term problems can arise. Too much sun speeds up ageing of the skin, making it leathery, mottled and wrinkled. The most serious effect is an increased chance of developing skin cancer.

# What can you do to protect yourself?

- · Keep your shirt or top on.
- Wear a hat with a brim or a flap that covers the ears and the back of the neck.
- Stay in the shade whenever possible, during your breaks and especially at lunch time.
- Use a high factor sunscreen of at least SPF15 on any exposed skin.
- Drink plenty of water to avoid dehydration.
- Check your skin regularly for any unusual moles or spots. See a doctor promptly if you find anything that is changing in shape, size or color, itching or bleeding

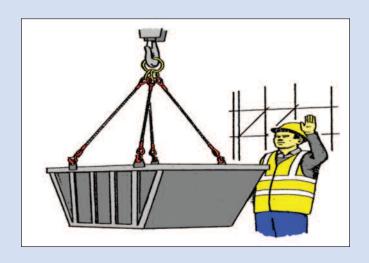


Slinging and load handling is perhaps the most vital part of any lifting operation.

Do not get involved in any slinging or elevator operations unless you have been adequately trained and authorised to do so.

Failure to follow this advice could lead to death or injury.

A proper risk assessment must be completed, all slings and equipment must be inspected before use, any faults reported and if damaged removed from service.





Some jobs in the construction industry involve activities that can place workers at risk, unless the person has full, unimpaired control of their physical and mental capabilities. These jobs are called 'safety critical' and the people who do them are 'safety-critical workers'.

In particular, your employer will need to focus on health conditions that may involve:

- sudden loss of consciousness (e.g. epilepsy, some heart conditions, diabetes (particularly insulin-dependent diabetes));
- impaired awareness or concentration;
- sudden incapacity;
- impaired balance or coordination:
- restricted mobility; and
- · impaired vision or hearing.

Before someone starts safety-critical work, it is good practice for the employer to agree what health checks and/or medical examination are required, and record the agreement.

It is important to be clear which aspects of fitness are relevant to the safety-critical work, and to specify the required level. The employer or self employed need to have clear agreed company policies in place to deal with these issues.

#### **Example: Working at Height**

Your employer needs to be sure that you:

- can climb the ladder or platform
- can see well enough (this might mean making sure you use prescription lenses): and
- that you do not suffer from a condition which might cause you to lose consciousness or reduce your ability to concentrate

#### Medical assessment

Workers who carry out safety-critical tasks need a full medical assessment. Decisions on fitness for work can only be taken by a competent occupational health doctor.

Detailed medical assessments are confidential to the worker and the occupational health practitioner or general practitioner. However, an employer can reasonably expect the occupational health practitioner to provide a general report about individual fitness in terms of:

- fit for work:
- fit for work with restrictions:
- · temporarily does not meet the fitness standard; or
- unable to meet the fitness for work to carry out specific jobs.

This is the only information that an employer needs to ensure an appropriate match of worker to job.

## **Ongoing fitness**

Someone's fitness for work will probably change over time. Your employer will need to decide how to check that safety-critical workers are fit enough to continue with their work, e.g. introduce a simple system to recall workers who need ongoing health checks.

Tell your employer about any health changes that occur between checks which may affect your ability to do your job safely. Sickness absence certificates or observations by supervisors and managers may also indicate that a safety-critical worker's health has deteriorated. This might trigger a need to check health.

## Medication

Some medication can cause drowsiness and affect concentration. All safety critical workers should be encouraged to ask their general practitioner or pharmacist about the possible side effects of medication. In some cases, it may be necessary for a worker to do other tasks until the nature and extent of side effects have been established, and are properly controlled.



## **Drugs and alcohol**

You should not do construction work if you are under the influence of drugs or alcohol as you or someone else could suffer serious injury or death, but drug and alcohol testing is a complex area and if your employer decides to carry out testing, they will need to consult with health and safety representatives and employees about the companies policy, position and procedures.

## **Disability discrimination**

WORK-RELATED

STRESS

If health conditions are properly controlled a worker could be able to do many construction jobs safely.

Disability Discrimination Law protects workers who have a disability. However, the law allows an employer to prevent a person doing a specific task if the discrimination is for reasons that relate to compliance with health and safety legislation, e.g. it would be justifiable to transfer a Roof worker to other duties if he/she could no longer see well enough, even with glasses.

# What is stress?

HSE defines stress as 'an adverse reaction to excessive pressure'. Pressure is often part and parcel of work and helps to keep us motivated. Excess, badly-managed exposure to pressure can lead to stress. Workers who experience stress, anxiety or depression are unlikely to perform effectively and if stress levels are not corrected it can lead

to serious problems. In safety-critical industries such as construction it could have serious consequences.

#### What causes stress?

HSE has identified six aspects of work that can lead to stress.

These are:

- demands: such as workload and pattern, adequacy
  of the management team, build programme, and the effects of
  client expectation and contract penalties;
- 2. control: how much say someone has about the way that they work:
- 3. support: whether employees receive adequate information and support from managers and colleagues.
- relationships: the nature of work relationships, including mechanisms to deal with unacceptable behavior such as bullying;
- role: whether people understand their jobs and have the skills, experience and support to deliver, and whether there is any conflict of responsibilities; and
- change: how change is managed and communicated in the company, and whether work is secure.

The 'top five' most stressful aspects of work in construction are:

- 1. having too much work to do in the time available;
- 2. travelling or commuting;
- 3. being responsible for the safety of others at work;
- 4. working long hours; and
- 5. having a dangerous job.

Remember that factors such as personal relationships, financial concerns, domestic issues and bereavement will affect someone's ability to cope with pressure at work. The importance of these factors is likely to vary over time.

## What you should do

Regardless of where your work in safety critical or not, if you think that you are suffering from any of the health & safety issues mentioned above or in this book speak to your supervisor, manager or a suitable person than you can relate your problems to, don't suffer in silence



#### Confined spaces include: -

shafts
tunnels
sewers
cellars and basements
deep excavations

Confined spaces can be a high risk activity and cause death and serious injury if proper control methods are not followed.

Entry into a confined space to carry out work that could be done on the outside should never be allowed.

You should never enter a confined space unless in is absolutely necessary to do so and never unless you have received adequate training.

Never enter a confined space unless a risk assessment has been carried out, emergency procedures are in place and a permit to work has been issued.

If no provision has been put in place to rescue you should anything go wrong do not enter.

Those that could be killed include not only people working in confined spaces but those who try to rescue them without proper training and equipment.

Dangers can arise in confined spaces because of a lack of oxygen. This can occur due to a build up of gases in the space.



As with excavations, do not site petrol or diesel-engined equipment such as generators or compressors in, or near the edge of, a confined space unless fumes can be ducted away or the area can be ventilated.

Confined spaces should only be entered if a permit to work or enter has been issued, ask questions if in doubt, ask about the emergency procedures, has the equipment been inspected have all persons been trained, was the training adequate and provided by a competent person.

Remember an excavation can also be a confined space.

SAFETY IN AND WORKING AROUND EXCAVATIONS As a scaffolder you will more than likely not be involved in excavation work but we want you to be aware so you can warn others of the dangerous of excavations and stay alert as you could fall into excavations and/or overturn mewp's and other machinery in to them.

Every year, people are killed or seriously injured when working in excavations. Excavation work has to be properly planned, managed, supervised and carried out to prevent accidents. This guide provides advice for those involved in excavation work.

# Before anyone enters an excavation they should ask.

- Are the sides protected from collapse, or have they been battered back, do not go into unsupported trenches.
- Remember that even work in shallow trenches can be dangerous.
   You may be bent down or kneeling in the trench.
- Could materials fall into the excavation or on top of you?
- · Could people and/or vehicles fall into the excavation?
- · Will you be a safe distance from excavators or other machinery?
- Have walls been undermined, could they collapse.
- How are you going to get in and out safely, has a ladder been provided and secured, do not climb over the sides of the excavation.
- Ask about underground services, has a risk assessment been done.
- Exhaust fumes from machinery can settle in excavations as the fumes are heavier than air, you could be overcome by fumes and collapse
- Do not site petrol or dieselengined equipment such as generators or compressors in, or near the edge of, an excavation unless fumes can be ducted away or the area can be ventilated.



- Weil's disease from rat's urine can cause health problems and in extreme cases death, always use the correct type of gloves to protect your hands including wet suits and boots.
- Always wear a hard hat just in case.
- Remember an excavation can be classed as working at height as you could fall into the trench
- Ask if the excavation has been inspected, look for evidence as follows.
- Has a competent person inspected the excavation:
- At the start of each shift before work begins.
- After any event likely to have affected the strength or stability of the excavation.
- · After any accidental fall of rock, earth or other material.

Remember that a cubic metre of soil weighs over a tonne; A person buried under this amount in a trench would quickly suffocate & die.



Make sure you are provided with PPE if it is required, PPE should always be the last resort in preventing accidents as it is always better to remove the risk completely, but where this is not possible PPE should be worn.

PPE could be hard hats for head protection, high visibility vests or jackets, ear protection such as full ear muffs or if suitable plugs, safety boots or shoes, overalls etc.

ned, necessary, speak to your supervisor or the replacement of certain PPE such as

Always ensure that PPE is cleaned, maintained and replaced when necessary, speak to your supervisor or supplier for further guidance on the replacement of certain PPE such as ear muffs and hard hats.

# Stepping on nails and sharp objects

To help prevent foot injuries the following should be implemented

- Safety boots with steel toe caps and mid soles should be provided to all those working on site.
- Waste disposed of in skips.
- Nails clinched or removed from waste or stored timber.
- Supervisor to explain the need to wear safety boots and dispose of waste in skips.



Every year there are reports of fires and explosions which severely damage or destroy premises or plant. A potential fire hazard is using a blowlamp or heat gun, misuse can lead to explosion or damage, and you need to follow guidelines relating to the use of blowlamps as materials can be ignited.

If involved in hot works make sure that a risk assessment has been completed and that all approved methods are followed, ensure the correct fire extinguishers are available and that adequate training has been provided where necessary.

Do not put yourself or others at risk, ensure that you or someone calls the fire service and only fight fires if you have been trained to do so, all persons evacuated should make their way to a designated muster point.

There have been numerous fires started due either to badly maintained motors, electric sparks, or due to open wood burning stoves and cigarettes.

Make sure that all equipment is cleaned and that dust is not allowed to accumulate, report any defects you see on equipment.



First aid provision is all about treating an injured person immediately and contacting the emergency services if need be. In extreme cases it saves lives.

All sites should have a sufficient number of trained

first aid persons in keeping with the risks and the numbers employed.

The name of the nominated first aider(s) should be posted in the canteen and other prominent position. Remember the name.

The first aider should be the first person contacted in the event of an injury or health problem on site.



## CITB-ConstructionSkills NI

The purpose of CITB-ConstructionSkills NI is to encourage the adequate training of those employed in, or intending to be employed in, the construction industry in NI, by establishing the training needs of the industry, encouraging and advising the industry to train and ensuring the adequate provision and standard of training in the industry.

Through Legislation CITB-ConstructionSkills NI is authorised to raise a levy from the N.I. construction industry to fund its activities and services that aim to encourage adequate training.

The levy is redistributed through grants, and other activities including training advice & support from the regional advisory team, recruitment & education, research, standards & training provision.

ConstructionSkills is the Sector Skills Council for the industry from professional consultancies to major contractors and SMEs.

Established as a Sector Skills Council in 2003, ConstructionSkills is a partnership between CIC, CITB-ConstructionSkills NI and CITB-ConstructionSkills. All three partners are committed to working together to deliver industry-led skills and training solutions through the Sector Skills Agreement for construction. We work to negotiate the best partnership and funding deals for the construction industry to help raise standards and we develop the skills products and services employers need.

# for further Information about health & cafety training and publications

For further Information about health & safety training and publications contact CITB-ConstructionSkills NI at:

Nutts Corner Training Centre

Tel: 028 9082 5466 Fax: 028 9082 5693 Email: info@citbcsni.org.uk www.citbcsni.org.uk

This booklet is supported by the Health & Safety Executive N.I. (HSENI). For further information about the role of CITB-ConstructionSkills NI and the current projects contact:

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based on it.

Email: info@citbcsni.org.uk www.citbcsni.org.uk

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