citb

HEALTH AND SAFETY ADVICE FOR ROOFERS

constructionskills in NORTHERN IRELAND

Contents

INTRODUCTION

This booklet is part of a range that have been produced by CITB (NI) to provide advice and guidance on Health and Safety issues relating to trade persons working in the Construction Industry such as Bricklayers, Joiners, Roofers , Plasters, and Painters, 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 entrant trade persons 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:

- Falls from height
- Working on fragile roofs
- 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 machinery and tools.
- Moulds, fungi and bacteria.
- Dermatitis
- 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
- Working in confined spaces

- Exposure to electricity
- Vibration white finger
- 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 safe and healthy.

ROOFING

Your trade provides a valuable service to the construction industry, in order to sustain this valuable service you will need to have received adequate training specific to your work to ensure that you are kept up to date with current product design and installation requirements; training in Health & Safety ensures that you follow proper recognised procedures on site.

You may be involved in mentoring apprentices and migrant workers, if you follow proper procedures relating to your work and in Health & Safety it will set a good example to others.

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. You will read later in this booklet further information on what precautions you can take to stay safe on site.

This booklet has been printed for the benefit of all those working in the roofing industry in the following areas:

Built-Up Felt Roofing, Mastic Asphalting, Roof Slating & Tiling, Roof Sheeting & Cladding, Thatching, Metal Roofing & Rubber membrane

You can be working on commercial or domestic properties, schools, hospitals, housing, warehouses and other structures.

As stated your trade is a valuable one and if you were asked to describe the main specific functions of your job it would include a selection of the following depending on what area of roofing you are involved in, this list is not exhaustive but it shows the wide variety of different materials and equipment that are used, it also highlights the potential risks that could be associated with these products and equipment so ensure that you have received adequate training and remember that includes refresher training not just in H & S but in your specific work area especially if products or equipment change or new process are introduced.

- Working at height
- Wearing Personal Protective Equipment
- Apply liquid with brush or roller
- Replace Fascia, install Guttering, renew Guttering, replace Soffit's
- Fitting solar panels and windows
- Fit and repair sheets, guttering and sky lighting
- Fix slating laths
- Fixing slates and tiles
- Laying membranes
- Measure, cut, shape, assemble and join materials.
- Operating MEWP's
- Pour and spread hot asphalt
- Protect the building from water damage whilst working in wet weather.
- Slinging and handling loads
- Using a range of cutting and fixing tools, such as shearing hooks, eave-knives, long needles and shears.
- Using glues and preservers
- Using hammers, chisels and saws to cut and fit materials.
- Using wooden pegs, twine, steel spikes and wire netting
- Work with elevator hoists, mobile towers, ladders and scaffolds
- Working with abrasive wheels
- Working with bitumen, roofing felts
- Working with fibre-cement tiles, slabs or granite chips.
- Working with mobile boilers, mixers, buckets, LPG cylinders and application units for hot sealants.
- Working with Zinc, Copper, Aluminium and Stainless Steel Roofing materials

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 others 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.

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 own work and that of their 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. These initiatives are supported by Northern Ireland construction companies, Health and Safety Executive, employers and training bodies.

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.

BUILDSAFE-NI was launched to focus on substantially reducing accidents and eliminating death in the industry.

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.

HEALTH AND SAFETY TRAINING

CITB encourages the adequate training of all those working in the Northern Ireland construction industry and support the industry to qualify their workforce to national occupational standards and to enroll 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.

Having a recognized registration card is a good **starting point** in showing proof of health and safety training but as stated more specific training will be required depending on work activity such as.

- Induction training
- Tool box talks
- Working at heights
- Specific manufacture type training
- Health and Hygiene preventing dermatitis
- Lifting and handling manual loads
- Using plant and equipment like MEWP's or Forklift Trucks
- Using scaffolding and mobile towers
- Using hand tools
- Abrasive wheels
- Hot works
- Fire prevention
- First Aid
- Refresher training
- Conversion training
- Familiarization training

This is not an exhaustive list and other training requirements may be necessary as and when 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.

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 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 also publish a grant assisted list of approved courses delivered by a network of external training providers, you can search for approved courses on the CITB website www.citbni.org.uk or check with your local CITB Regional Advisor for further information and guidance.

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Training for those involved in roofing

Company's requirements

It is a misconception by some companies to assume that time served roofers are fully qualified in their work including operating and using the various tools and equipment. Some roofers 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 techniques and products is a must to ensure an adequate standard is maintained, those serving their time should follow a recognised apprenticeship and gain a qualification.

WORKING ON ROOFS

Working on roofs is dangerous and falls account for more deaths and serious injuries in construction than anything else. Any fall from a roof inevitably involves at least serious injury. Similarly many incidents occur when materials or items of equipment fall off or through roofs or when items are thrown off roofs.

Accidents occur to those who are building roofs and to those maintaining, cleaning, demolishing and inspecting them.

All work to roofs should be considered as high risk regardless of how long or short the work will be. These guidance notes are to be followed by all personnel involved in roofing works whether operatives, supervisory staff, inspectors or contractors.

Is the Work Necessary

Before inspecting or repairing a roof, it is important to consider whether or not the work is essential.

If the work of inspection, repair or alteration is necessary, can the work be done from a powered access platform (mewp)?

Risk Assessment

A risk assessment is to be carried out for all roof work.

Simple and short work may require a fairly simple assessment and range of precautions.

The risk assessment must include a full identification of the risks before the work starts and the necessary equipment, appropriate precautions and systems of work must be provided and implemented.

Except for simple tasks a written safety method statement is to be produced. The method statement or safe system of work must be relevant to the actual risk assessment for the particular planned tasks, not a serious of generic instructions or diagrams.

Key Issues

The following is a list of issues (not exhaustive) that are likely to need assessment:

- Getting on and off the roof.
- Edge protection.
- Secure working platform.
- Fall arrest equipment (nets and harnesses).
- Falling material.

Previous Cases Where Death and Injury Have Occured

- Contractor falls when working on a ladder which is not secured
- Person gains access to scaffold and falls from height
- Items fall from roof repair work onto persons below
- Incorrectly assembled scaffold collapses injuring contractors, staff and persons
- Contractor killed when he falls from edge of roof
- Contractor electrocuted when he damages overhead cables when working on ladder.
- Hot bitumen spills from roof onto persons below during roof repair work
- Contractor falls through fragile roof onto persons below
- Contractor overbalances on ceiling joist and falls through roof

Factors that may cause a worker to fall include sudden movement, workers moving from one surface to another, losing their grip, bad weather conditions, a surface not being capable of supporting a load, and fall prevention systems being incorrectly used or not being used at all. Time pressure and demands to complete a job on time sometimes cause workers to cut corners and put their own safety at risk.

Some roofing materials can become fragile or brittle after exposure to strong weather conditions. Serious personal injuries and fatalities have occurred when employees have fallen through roofs made of brittle materials like asbestos, cement sheets and glass skylights in a construction accident.

In windy conditions roof sheets can act like a sail and persons can loose balance and fall.

SOME EXAMPLES OF FALLS THROUGH FRAGILE ROOFS

People who erect scaffolds have legal responsibilities. Scaffolding for roof work has to be properly erected by a competent person.

Accident example 1

A man died five days after falling through a fragile roof. He was cleaning and inspecting asbestos cement sheets. The roof gave way under his weight and he fell nearly 3 m onto a concrete floor, suffering injuries to his head.

Accident example 2

A worker died after falling 4 m through the roof of a building. He was using a single scaffold board to walk on the roof and had been standing on this while he cut away some damaged fibre cement roof sheets. As he stood up on the board after cutting the sheets he lost his balance and fell backwards through the roof to the concrete floor below.

Accident example 3

A foreign worker suffered severe head injuries and was unable to return to work after falling nearly 6 m onto a concrete floor. He was inspecting the roof to see which bits needed to be repaired when one of the plastic panels fractured.

Accident example 4

An employee suffered severe back injuries when he fell 11.5 m through a hole in the factory roof. He was on a factory roof that was being repaired and installation of a new extractor unit. One of these holes had been left open, the other covered by an insulating board. He stood on the hole covered by insulating board; it broke under his weight and he fell.

Precautions

- Assume that roofs are fragile unless you can confirm otherwise - there may be non-visible damage caused by weathering, deterioration, etc.
- Always avoid working on a roof if it is possible to carry out the work in another way.
- Never go onto any part of a fragile roof without using platforms to support your weight.
- Fit appropriate warning signs to buildings which have fragile roofs, particularly at roof access points.
- Never walk along purlings or steel beams
- Ensure that platforms are wide enough and long enough to give adequate support across roof members and ensure that enough platforms are provided on the roof.

Protect against falling through the fragile roof adjacent to the platform by providing:

- a properly installed safety net, scaffolding or similar close to the underside of the roof
- suitable guard rails and toe boards at the edges of the platform
- further suitable coverings over all fragile materials

WORKING AT HEIGHTS

Think before you work

As stated when working on roofs serious or even fatal injury could occur, this applies to all work at height.

Make sure that edge protection is in place to stop you and materials falling.

If required use harnesses, safety nets, air bags etc, but don't take chances.

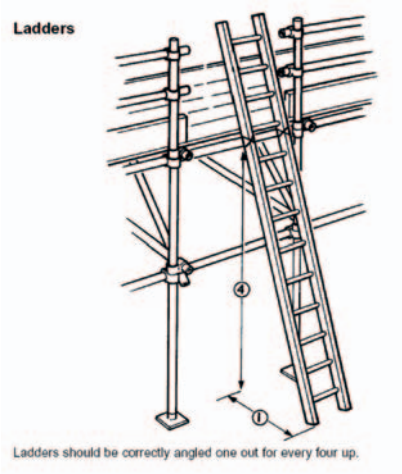
Proper risk assessments and method statements prior to any work starting are essential to prevent or control this type of activity.

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.

ACCESS EQUIPMENT & WORKING PLATFORMS

Ladders

- The ladder should be angled to minimise the risk of slipping outwards and as a rule of thumb needs to be 'one 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



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

SCAFFOLDING

Remember 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.

Your employer should ensure that other contractors scaffolding that you are using is safe.

- 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.
- Check with the site manager that the correct scaffold is provided and inspected, ask for evidence that the scaffold has been erected by a competent person and inspected.
- No one should interfere with or misuse scaffold, 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.
- Do not make any unauthorized adjustments to any scaffold, never remove ties or handrails.
- If a harness is required then make sure you wear it correctly, use a suitable lanyard and inspect before and during use, you must be trained in the safe use of harnesses.
- Ensure any safety equipment provided to prevent injury from falls is in place and secure.

Don't leave tripping hazards like this.

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 effect the stability of the platform resulting in overturning

Beware of a wind funnelling effect between buildings

ALLOY TOWER SCAFFOLDS

Alloy 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. An aluminium tower can easily overturn as they are light and manoeuvrable.

Before Use

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

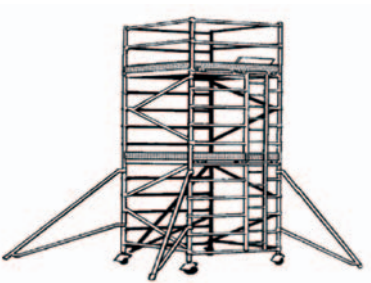
Make sure the tower is resting on firm level ground with the wheels or feet properly supported.

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

As a guide, if towers are to be used in exposed conditions or outside, the height of the working platform should be no more than three times the minimum base dimension.

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.



FALLING OBJECTS

Can cause injury to your head, body and feet, and to someone working in the area below you, or members of the public passing close to the site. Make sure no debris falls from height, place objects in a safe place and use a suitable Shute for materials going into a skip.

Make sure all necessary precautions are taken as follows.

- Brick guards kept in position on scaffold lifts.
- Waste materials removed form scaffolding and placed in skip.
- Protective foot wear (with steel toe caps & mid-soles) supplied and worn at all times.
- Safety helmets to be worn and chin strap used when required.
- Encourage other workers to wear safety hats, protective clothing and foot wear.

Approved Courses

CITB also publish a grant assisted list of approved courses delivered by a network of extrernal training providers, you can search for approved courses on the CITB website www.citbni.org.uk or check with your local CITB Regional Advisor for further information and guidance.

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.

SLINGING AND LOAD HANDLING

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.

SAFETY CRITICAL WORK

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 on Roofs

Your employer needs to be sure that you:

- can climb the ladder onto the scaffold or roof;
- 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

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.

Work-related stress

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:

1. 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.

4. relationships: the nature of work relationships, including mechanisms to deal with unacceptable behaviour such as bullying;
5. role: whether people understand their jobs and have the skills, experience and support to deliver, and whether there is any conflict of responsibilities; and
6. 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.

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

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.

CHEMICALS / DERMITITIS

Health problems can occur through inhalation of certain chemicals and ingestion, some areas of the roofing 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.

Roofers endure greater exposure to chemicals and skin damage than some other trades. Certain components e.g. cement, bitumen, and hot bitumen burns. Hydrocarbons in bitumen can be absorbed through the skin. Skin exposure should be lowered by keeping the tools, working clothes, shoes, and gloves clean. Overalls and gloves are recommended to be changed at least once a week. Water laundering is not sufficient in dissolving bitumen from overalls and underwear. Cleaning the skin with solvents is not recommended, as they are skin irritants.

Certain substances are known to cause severe dermatitis, Direct skin contact with these chemicals should be avoided; suitable gloves and overalls should be worn when handling potentially hazardous materials.

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.

HAZARDS

Dust

Too much dust of any kind can adversely affect your health.

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.

ASBESTOS

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.

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

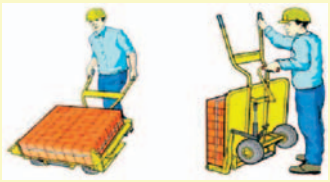
MANUAL HANDLING

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.



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.

HAND-ARM VIBRATION SYNDROME (HAVS)

What is Hand-Arm Vibration?

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.

NOISE

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.

ELECTRICITY

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) or Telescopic Handlers 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.

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.

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.

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

SUN EXPOSURE

Too much sunlight is harmful to your skin.

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

SAFETY IN CONFINED SPACES

Confined spaces include: -

- shafts
- tunnels
- sewers
- cellars and basements
- ceiling voids
- boilers
- deep excavations
- attics

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 EXCACATIONS

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 diesel-engined 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.

PERSONAL PROTECTIVE EQUIPMENT

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 visability vests or jackets, ear protection such as full ear muffs or if suitable plugs, safety boots or shoes, overalls etc.

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.

FIRE

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 to melt bitumen, 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

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

The purpose of CITB 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 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 CITB grants, and other activities including training advice & support from the regional advisory team, recruitment & education, research, standards & training division TASC.

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

Construction Industry Training Board
Nutts Corner Training Centre
Tel: 028 9082 5466
Fax: 028 9082 5693
Email: info@citbni.org.uk
www.citbni.org.uk

ConstructionSkills in N.I.

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 working to deliver a safe, professional

ConstructionSkills is a partnership between CIC, CITB 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.

This booklet is supported by the Health & Safety Executive N.I. (HSENI) and the National Federation of Roofing Contractors (NFRC).

For further information about the role of ConstructionSkills in N.I. and the current projects contact:

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Construction Industry Training Board

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CITB - Construction Skills, CIC and CITB (NI) are working in partnership as the Sector Skills Council for Construction.

Part of the Skills for Business Network of 25 employer led Sector Skills Councils.