

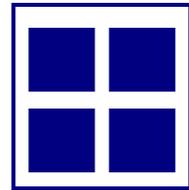
Construction Safety Management

1. Purpose of Regulations:

- 1.1. The intension is to insure that all healthy and safety issues are considered and managed from inception through to completion of the project and to consider future implications for health and safety during the life of the structure.
- 1.2. To assist the co-ordination of all aspects of health and safety from inspection and beyond.
- 1.3. To appoint competent person to the project (including designers, planning, supervision, principal contractor and contractors)
- 1.4. To prepare a health and safety plan for constructions and a health and safety file for the completed structure.
- 1.5. To ensure adequate allocations of resource in order that the suties imposed by the regulations can be met.
- 1.6. To assist those associated with the project in achieving a safe working environment both for the original construction phases and future construction work.

2. Client's Responsibilities

- 2.1. To appoint a competent planning supervisor and a competent principal contractor.



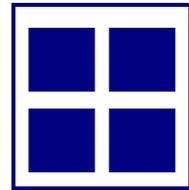
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- 2.2. To ensure the planning supervisor and principal contractor allocate adequate resources to supply information on the existing site
 - 2.3. To supply information on the existing site.
 - 2.4. To ensure that construction's work does not commence until a suitable health and safety plan is in place.
 - 2.5. To ensure that health and safety is kept available during the time of the own structure.

3. Planning supervisor responsibilities:

- 3.1. To ensure that details of the project are notified to the health and safety executive notification is only necessary if the construction work will take more than 30 working days or 500 person days.
- 3.2. To oversee and coordinate health and safety aspects of design.
- 3.3. To advise the client and any contractor (if asked) to enable them to comply with the regulation.
- 3.4. To ensure that a health and safety file is prepared.
- 3.5. To prepare the health and safety plan which is then given to the principal contractor before constructions work commences.

4. Designers responsibilities

- 4.1. To ensure that the duties under the regulations and any practical guidance issued by the health and safety executive and understood by the client.
- 4.2. To ensure that designs avoid foreseeable risks to construction personnel and others.
- 4.3. To ensure that design address risks at source.



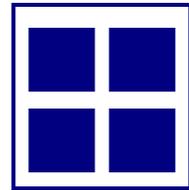
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- 4.4. To ensure that designs give priority to control measure which protect everyone.
 - 4.5. To ensure that designs information on article and substances which might effect anyone the project and third party.
 - 4.6. To cooperate with the planning supervisor.

5. Principal Contractors' responsibilities

- 5.1. To ensure cooperation between contractors on site.
- 5.2. To take responsible steps to keep unauthorized persons off the site.
- 5.3. To give information to planning supervisor and contractors.
- 5.4. To ensure that all persons caring out construction work can discuss and offer advice on health and safety.
- 5.5. To ensure that there are arrangements for the coordination of the views of employees of their respresentatives.
- 5.6. To ensure that contractors provide information and training for their employees.
- 5.7. To ensure that the health and safety plan contains the necessary featurres.
- 5.8. The principal contractor may also give direction to contractors and include written health and safety rules in the health and safety plan.
- 5.9. To ensure contractors comply with the written health and safety rules.

6. Contractors Responsibilities:

- 6.1. To cooperate with the principal contractor.



6.2. To provide the principal contractor with information, including risk assessments, information on accidents reportable under rider, and information for the planning supervisor.

6.3. To prohibit employees or self employed persons from commencing work until they have given the names of the planning supervisor and the principal contractor, and relevant parts of the health and safety plan.

7. The health and safety plan

7.1 The health and safety plan must include the following:-

- * A general description of the construction work.
- * The timescale for the project and its stages.
- * Details of known or responsibly foreseeable risks.
- * Information on the competence and resources of those involved in the project.
- * Information to allow the principal contractors and other contractors with their duties.
- * Arrangements for the management and monitoring of risks.
- * Information about welfare arrangements.

8. The Health and safety file:

8.1 The health and safety must include the following :-

Drawings and plans used and produced throughout the construction

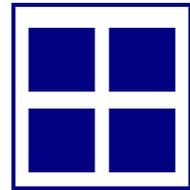
- o The construction methods and materials.
- o Information regarding the equipment and maintenance facilities within the structure.
- o Maintenance procedures and requirements for the structure.
- o Manual outlining and maintenance procedures and schedules for the plant and equipment installed as part of the structure.

Safety Policy / what is safety assurance?

Quality assurance is the process of verifying or determining whether products or services meet or exceed customer expectations.

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Quality assurance is a process driven approach with specific steps to help define and attain goals. This process considers design, development, production, and service.

The four quality assurance steps are:

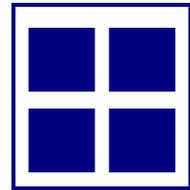
- **Plan:** Establish objective and processes required to deliver the desired results.
- **Do:** implement the process developed.
- **Check:** Monitor and elevate the implemented process by testing the results against predetermined objectives.
- **Act:** Apply actions necessary for the improvement if the results require changes.

This method is an effective method for the monitoring quality assurance because it analyzes existing conditions and methods used to provide the product or service customers. The goal is to ensure that excellence is inherent in every component of the process. Quality assurance also helps to determine whether the steps used to provide the product or service are appropriate for the time and condition. In addition if the cycle is repeated throughout the lifetime of the product or service, it helps improve internal company efficiency.

Quality assurance demands a degree of detail in order to be fully implemented at every step. Planning for example could include investigation into the quality of the raw materials used in manufacturing, the actual assembly, or the inspection processes used.

The checking step could include customer feedback, surveys, or other marketing vehicles to determine if the customer needs are being exceeded and why they are or are not. Acting could mean a total revision in the manufacturing process in order to correct a technical or cosmetic flaw.

Competition to provide specialized products and services in breakthroughs as well as long-term growth and change. Quality assurance verifies that any customer offering, regardless if it is new or evolved is produced and offered with the best possible materials, in the most comprehensive way, with the highest standards. The goal to exceed



customer expectations in the measurable and accountable process is provided by quality assurance.

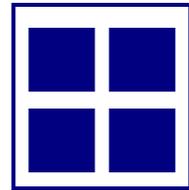
Quality control is process employed to ensure a certain level of quality in a product or service. It may include whatever actions a business deems necessary to provide for the control and verification of certain characteristics of the product or service. The basic goal of quality is to ensure that the products, services, or processes provided meet specific requirements and are dependable, satisfactory, and fiscally sound.

Essentially, quality control involves the examination of a product, service, or process for certain minimum levels of quality. The goal of a quality control team is to identify products or service.

Those do not meet a company's specified standards of quality. If a problem is identified, the job of a quality control team or professional may involve stopping production temporarily. Depending on the particular service or product, as well as the type of problem identified, production or implementation may not cease entirely.

Usually, it is not the job of a quality control team or professional to control team or professional to correct quality issues. Typically, other individuals are involved in the process of discovering the cause of quality issues are fixing them. Once such problems are overcome, the product, service, or process continues production or implementation as usual.

Quality control can cover not just products, services, and processes, but also people. Employees are an important part of any company. If a company has employees that don't have adequate skills or training, have trouble understanding directions, or are misinformed, quality may be severely diminished. When quality control is considered in terms of human beings, it concerns correctable issues. However, it should not be confused with human resource issues.



Often quality control is confused with quality insurance. Throughout the two are very similar, there are some basic differences. Quality control is concerned with the product, while quality assurance is process-oriented.

Even with such a clear-cut difference defined, identifying, the difference between the two can be hard. Basically, quality control involved evaluating a product, activity, process, or service. By contrast, quality assurance is designed to make sure processes are sufficient to meet objectives. Simply put, quality assurance ensures a product or service is manufactured, implemented, created, or produced in the right way; quality control evaluates whether or not the result is satisfactory.

SAFE SYSTEM OF WORK

What is a safe system of work?

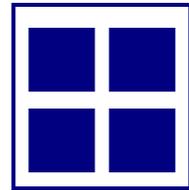
It may be look upon as combining people, articles and substances in a suitable environment or workplace – to produce and maintain in a reasonable standard of safety.

- Ensure the working environment is safe and healthy, for example: for factory and site.
 - There are reasonable working temperatures.
 - Noise is kept within current limits (or staffs are at a client site, which does not have sufficient lighting for your staff to work, you take your light sources with you.)
 - Local exhaust ventilation is provided where necessary, etc.

This is a formal written safety control system that is implemented to help prevent accident or injury to professional, prevent damage to plant / machinery and to prevent damage to product or to a client site. This is in particular, required when the work has foreseeable **high hazard content**. The operation of a permit to work system is particularly useful when contractors are on site i.e for maintenance or installation purposes.

Requirements of permit to work system

It must be a written formal system – but also easy to operate, this is to ensure the commitment of those who operate under it and are affected by it.



The permit must be concise and contain accurate about who is to do the work, the time span over which it is valid, the specific work to be undertake any necessary precautions.

The instruction that is covered in the permit must be considered the principal work instruction and **MUST** over-ride all other instructions until it is cancelled.

No person must work on or at any apparatus or area that is not mentioned in the permit. Likewise, no other work must be undertaken unless authorized on the permit-this particularly important when dealing with electrical work, as other areas not detailed on the permit may still be live.

In the event in the work being carried out, the permit must be amended or cancelled. If cancelled, a new permit will to be issued. It must be noted that only the originator or someone who has taken over responsibility for the permit. I.e. at the change of a shift etc. may alter or amend the permit.

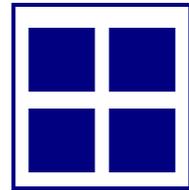
There must be liaison between the person carrying out the work detailed on the permit and the controllers of the area that is affected by the permit. The boundaries of the area where the work is to be carried out should also be clearly marked or defined.

An example of a permit to work system is shown below:

- Cutting and welding operation is areas other than workshops or dedicated welding areas.
- Work in isolated locations, or areas with difficult access or those at high levels.
- Work in the proximity of, or involving, explosives or highly flammable substances.

Why do I need a healthy & safety policy?

- If you have five or more employees you must, by law, have a written safety policy. A SAFETY POLICY is a written statement which is specific to your business.
- It should set out a general policy for protecting the health and safety of your employees at work.



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- It should also account for the organization and arrangements in the place for putting the policy into practice.

What is the organization for carrying out the policy?

Overall responsibility for health and safety rests firmly with the highest management (i.e. proprietors, directors etc.) However, all individuals within the workforce have to accept a certain duty for health safety towards themselves and others who might be affected by their acts or omissions.

Whenever possible, key individuals or their appointments should be named and their responsibility defined, (often a top-down diagram is used to chart the organization). In small business, however, it is often one person alone who will take responsibility for co-coordinating health and safety.

What are the arrangements for health & safety?

Your policy should:

- Describe the system and in procedures place for ensuring employees' health and safety.
- Analyze the activities carried out by your firm, and think of the hazards and risks associated with these activities.
- Cover arrangements for dealing with accident reporting and investigation fire, first aid, emergencies, safety audits or inspections, and training.

How do I bring the policy to the attention of my employees?

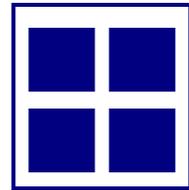
When they join the company, all employees labors should be made aware of the existence of the policy and should read the policy statement.

They should also be made aware of:

- How to report an accident?
- What to do in the event of fire or emergency?
- Informed of who their first aide are?
- Below shoulder height in doors and side panels.
- Below waist height in windows.

Practical considerations

The first consideration in deciding what needs to be done to comply is whether or not there is a risk of injury. The location of glazing is only one element in these considerations. Account also needs to be taken of the activities carried on in the



vicinity of the glazing. Matters such as the type and volume of traffic may be important. The responsible person needs to assess whether there is a risk of contact with the glazing, either by persons or machinery, and whether that contact could result in injury.

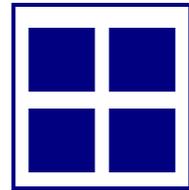
Where such an assessment has revealed that there is a risk, there are several ways of complying with regulation 14. Examples include:

- Removing the risk by reorganizing the activities around the glazing e.g. by moving traffic routes and walkways or changing the type of traffic allowed to use routes alongside glazing
- Protecting the glazing against breakage. A secure barrier of screen that prevents someone falling against the glass might be suitable protection;
- Glass which breaks safely, for example that complies with British standard BS 6206 – toughened or laminated, or to which a safety film has been bonded;
- Ordinary glass above 8mm in thickness (panes no larger than 3m x 4.5m) or above 15 mm.

Where the risk can be simply dealt with by making the glazing apparent, then the glass should be suitably marked. If normal features of the glazing, such as handles, heavy tinting or similar makes the surface apparent, then further marking is not necessary. Company logos, decorative patterns and etching may also be sufficient.

The regulations also make reference to the British standard on Glazing buildings, BS 6262 : 1982. In practice this standard, together with the more recent Building Regulations, mean that buildings constructed in the past 10 to 15 years are likely to already comply with safety glazing requirements.

The regulations apply to all work at height where there is a risk of a fall liable to cause personal injury. The regulations apply to almost all work activities, including construction, entertainment, transport, retail, window cleaning, electrical and maintenance work, and that undertaken by the emergency services. However, the provision of paid instruction or leadership in caving or climbing by way of sport, recreation, team building or similar activities are exempt, with separate regulations proposed for such activities.



What is work at height?

Work at height is work in any place, including a place at, above or below ground level, where a person could be injured if they fell from this place. This may include a fall from above ground (e.g. Work from ladders, work platforms such as scaffolding or mobile elevated work platforms, or from a suspended harness); or a fall into something which could put a person at risk of injury (e.g. work close to the edge of an open excavation, or work where a person could put fall into machinery or through fragile materials such as glazing). Access and egress to a place of work can also be considered work at height under the WAHR.

The regulations do not apply to walking up or down a permanent staircase; working in the upper floors of workplace premises, or to an operator sitting in seat on work equipment such as tractors or excavators or riding a horse in the course of their work activities.

Which persons do the regulations apply to?

The regulations place duties on employers, the self-employed, employees and anyone who has an element of control over the way work at height is undertaken. This includes premise owners, managing agents, contractors and principal contractors.

What do the WAHR require?

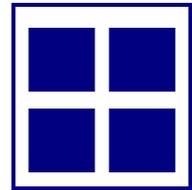
The work at height regulations require the risk of a fall to be prevented wherever a fall is liable to cause personal injury. This means that for any height where there is a risk of a fall causing personal injury then measures should be taken to prevent such falls or reduce the extent of injury.

As part of the regulations, duty holders must ensure:

- All work at height is properly planned and organized;
- Those involved in work at height are competent;
- The risks from work at height are assessed and appropriate work equipment is selected and used (e.g. scaffolding, guard rails, safety harnesses, safety nets, air bags etc.);
- The risks from fragile surfaces are properly controlled; and
- Equipment for work at height (safety harnesses and lines) is properly inspected and maintained.

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There is a simple hierarchy for managing and selecting equipment for work at height. Duty holders must; Avoid work at height where they can use work equipment or other measures to prevent falls where they cannot avoid working at height; and there they cannot eliminate the risk of a fall, use work equipment or other measures to minimize the distance and consequences of a fall should one occur.