

Health and safety laws, regulations and impacts on the designing and making process

Health and safety regulation:

The health and safety executive and an awareness of relevant regulations to manufacturing industries:

- Help prevent work related injuries/ill health
- Try find what happened/how to prevent accidents
- Find out who is responsible for the accident
- Free support for businesses
- Manage risks correctly for better productivity
- Provide a guide for workers so that they can stay safe
- HSE works with trade unions, businesses, academics
- Target industries with the greatest hazards (construction)
- Legal powers
- Manage risks
- Investigate
- The HSE has led to the UK being one of the safest countries in the world

The HSE outlines its 5 steps to risk assessment:

1. Identify the hazard
2. Identify the people at risk
3. Evaluate the risks
4. Decide upon suitable control measures
5. Record risk assessment

Health and safety at work act (1974):

- Under this Act of parliament, employers are legally required to do all that is reasonably practicable to ensure the health, safety and welfare at work of employees
- This also applies to the health and safety of non-employees such as students and visitors to the school
- The following regulations are procedures to safeguard the risk of injury to people

Personal protective equipment (PPE):

- Personal protective equipment at work regulations (1992) state that employers have basic duties concerning the provision and use of PPE at work
- PPE is defined as 'all equipment which is intended to be worn or held by a person at work and which protects him against one or more risks to his health and safety
- The main requirement of the regulation is that PPE is to be supplied and used at work wherever there are risks to health and safety that can't be controlled in other ways

The regulations also require that PPE is:

- Properly assessed before use to ensure it is suitable
- Maintained and stored properly
- Provided with instructions on how to use it safely
- Used correctly by employees

Risk	Hazards	Personal protective equipment (PPE)
Eyes	Chemical or metal splash, dust, projectiles, gas and vapour, radiation	Safety spectacles, goggles, face shields, visors
Head	Impact from falling or flying objects, risk of head bumping, hair entanglement	A range of helmets and bump caps
Breathing	Dust, vapour, gas, oxygen-deficient atmospheres	Disposable filtering face-piece or respirator, half- or full-face respirators, air-fed helmets, breathing apparatus
Protecting the body	Temperature extremes, adverse weather, chemical or metal splash, spray from pressure leaks or spray guns, impact or penetration, contaminated dust, excessive wear or entanglement of own clothing	Conventional or disposable overalls, boiler suits, specialist protective clothing, e.g. chain-mail aprons, high-visibility clothing
Hands and arms	Abrasion, temperature extremes, cuts and punctures, impact, chemicals, electric shock, skin infection, disease or contamination	Gloves, gauntlets, mitts, wrist-cuffs, armlets
Feet and legs	Wet, electrostatic build-up, slipping, cuts and punctures, falling objects, metal and chemical splash, abrasion	Safety boots and shoes with protective toe caps and penetration-resistant mid-sole, gaiters, leggings, spats

Signage

- The safety signs regulations requires employees to display an appropriate safety sign and instruction wherever a significant risk cannot be avoided or reduced by other means

Health and safety signage

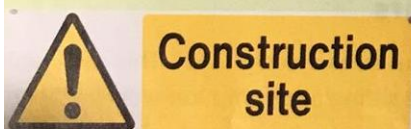
Example



Prohibition signs are used to prohibit actions to prevent personal injury and the risk of fire.



Mandatory signs convey action that must be taken, e.g. procedures in case of fire.



Warning signs are to warn personnel of possible dangers in the workplace.



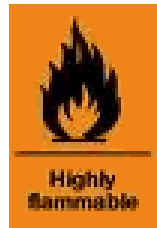
Safe condition signs show directions to areas of safety and medical assistance and indicate where a safe area, safety equipment or first aid equipment is located.



Fire equipment signs show the location of fire equipment and compliance with Fire Precautions.



Warning symbols



Control of Substances Hazardous to health (COSHH) regulation:

- Legislation to prevent, reduce or control people's exposure to hazardous substances in the workplace

Hazardous substances include:

- Substances used directly in work activities such as adhesives, paints and cleaning agents
- Substances generated during work activities such as fumes from soldering and welding
- Naturally occurring substances such as dust
- Biological agents such as bacteria and other micro-organisms
- Chemicals
- Fumes

- Mists
- Biological agents
- Vapours
- Dusts
- Nanotechnology
- Germs that cause disease

Examples: Paint, Glues, Bleach

Issues that need to be considered under COSHH regulations:

- Safe storage
- Chemical ingredients
- Measures to take if ingested/comes into contact with skin/eyes
- Disposal instructions
- Instructions on how to use substance correctly
- What PPE needs to be worn

Volatile organic compounds (VOCs):

- Give off vapours that can cause dizziness and nausea
- Hazardous when used in confined areas

Risk assessment must be carried out with VOCs to reduce their danger