3. Means of Fire Fighting

The place of work must be equipped with firefighting equipment that is appropriate to the type of fire that is likely to occur within the work place. The choice, number and location of the equipment will depend on the risk of a fire and the type of a fire that might occur. Firefighting equipment can range from simple fire blankets, portable fire extinguishers, fire hose reels to sprinkler systems.

- Fire-fighting equipment must be in place for employees to use, without exposing themselves to danger, to extinguish a fire in its early stages
- The firefighting equipment must be suitable to the risks and staff will need training and instruction in its proper use

4. Management of Fire Risk

You need to prepare an emergency plan which details the steps to be taken immediately in the event of a fire being detected. The plan needs to be tailored to your premises and address the important issues that are particular to your premises. You will need to give your employees instructions, information and training about the risks in the premises. You may consider training specific staff in becoming fire marshals, who would have specific responsibilities in the event of a fire occurring.

The emergency plan may include the following:

- **What staff should do if they discover a fire**
- **How to commence the evacuation of the premises**
- **Locations of assembly points**
- **Identification of key escape routes**
- **Arrangements for fire fighting**
- **The duties and identification of staff that have specific responsibilities if there is a fire**
- **Arrangements for the safe evacuation of people identified as being especially at risk, such as young persons, those with disabilities or lone employees**
- **Any machines / processes / appliances / power supplies that need to be stopped or isolated if there is a fire**
- **How the fire and rescue service and any other necessary services will be called and who will be responsible for doing this**
- **Procedures for meeting the fire and rescue service on their arrival and notifying them of any special risks, e.g. the location of highly flammable materials**
- **What training employees need and the arrangements for ensuring that this training is given**

5. Good housekeeping

This is an essential element in fire safety management to reduce the possibility of a fire occurring. Carelessness and neglect not only make the outbreak of a fire more likely but will inevitably create conditions which may allow a fire to spread more rapidly.

- Flammable or combustible rubbish should not be stored, even as a temporary measure, in escape routes such as corridors, stairways or lobbies, or where it can come into contact with potential sources of heat. Accumulations of combustible rubbish and waste in the workplace should be avoided, removed at least daily and suitably stored away from the building
- Do not allow combustible waste, unused materials, and redundant packaging, such as cardboard, wooden or plastic containers and wooden pallets, to build up at the workplace; these must be safely stored until they are removed from your premises. Where a skip is provided for the collection of debris or rubbish, it should be positioned so that a fire in it will not put the workplace, or any other structure, at risk
- Parts of the workplace which are not normally occupied, such as basements, store rooms and any area where a fire could grow unnoticed should be regularly inspected and cleared of non-essential flammable materials and substances. You should also protect such areas against entry by unauthorised people

6. Maintenance and Testing of Fire Safety Measures and Equipment

This is another important element in the management of the fire within the work place. All fire safety measures and equipment in the workplace must be kept in effective working order. This includes all fixtures and fittings such as fire doors, staircases, corridors, fire detection and alarm systems, notices and emergency lighting, fire-fighting equipment (both fixed and portable), fire mains (internal and external) and fire hydrants. Regardless of the size and nature of the workplace a full and comprehensive list of all essential firefighting equipment must be prepared and regular checks with periodic servicing and maintenance carried out. Maintenance on fire safety equipment must be carried out by competent persons. Any defects identified during this process should be put right as quickly as possible. Records of the maintenance and certificates of the maintenance must be kept on file.

7. Maintenance of Plant and Equipment

Plant and equipment which is not properly maintained can be the source of ignition for fires. Poor housekeeping, resulting in the failure to regularly clean / change filters in extraction hoods, frictional heat caused by loose bolts belts, electrical malfunction, flammable materials coming in contact with hot surfaces; leaking valves or flanges which allow seepage of flammable liquids or gases, static sparks (perhaps due to inadequate electrical earthing) are a few of the issues that need be addressed to prevent plant and equipment been a contributory factor in fires starting. Procedures for planned maintenance and periodic checking of all plant and equipment must be developed. Records of all inspections and maintenance should be kept on file.

8. Flammable Materials

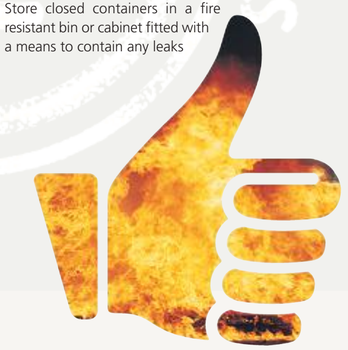
No fire will occur without some form of flammable material being present, it is therefore important to consider the nature of the material that you are using in your premises.

- Quantities of flammable materials should be kept to the minimum necessary for running the business and kept away from escape routes
- Where possible highly flammable materials should be replaced by less flammable ones
- Highly flammable materials should be properly stored outside in a separate building if possible, or separated from the main workplace by fire-resisting construction
- Employees who use flammable materials should be properly trained in their safe storage, handling and use

9. Flammable liquids

These can present a significant risk of fire. Vapours evolved are usually heavier than air and can travel long distances and come in contact with an ignition source some distance from a spill or leak.

- The quantity of flammable liquids in the workplace should be kept to a minimum
- Flammable liquids, including empty or part-used containers, should be stored safely
- Careful consideration must be given to the storage of flammable liquids in the work place
- Container lids should always be replaced after use, and no container should ever be opened in such a way that it cannot be safely resealed
- Reduce the level of vapours in the air by using them in well ventilated areas or using local extraction/ ventilation systems
- Store closed containers in a fire resistant bin or cabinet fitted with a means to contain any leaks



TAKING CARE OF BUSINESS

Fire

Introduction

This information sheet gives employers and employees practical advice on fire and how to reduce the risk of fire occurring, spreading and causing harm.

Fire in the workplace poses a serious risk to the safety and health of all occupants within the building as fire and smoke have the potential to injure or kill large numbers of people very quickly. As an employer or manager you must consider everyone who might be on your premises, whether they are employees, visitors or members of the public.

As an employer or manager, you must asses:

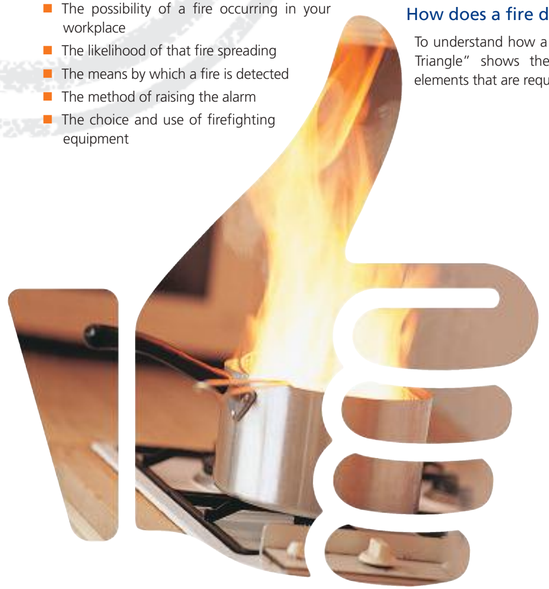
- The possibility of a fire occurring in your workplace
- The likelihood of that fire spreading
- The means by which a fire is detected
- The method of raising the alarm
- The choice and use of firefighting equipment
- The means by which all occupants escape to safety in the event of a fire
- The materials stored or in use on your premises

You should pay particular attention to people who may have a disability or anyone who may need special help.

How does a fire develop?

To understand how a fire develops the following "Fire Triangle" shows the three necessary ingredients / elements that are required for a fire.

Fire Triangle



HEALTH AND SAFETY AUTHORITY

For a fire to start and grow all three elements of the fire triangle are required to be present. A key strategy to prevent a fire from starting or growing or to extinguish any fire is to remove one or more of these elements.

What do I have to do as an employer?

Employers have a responsibility to manage fire safety to ensure that fires are unlikely to occur; that if they do occur they can be controlled or contained quickly, effectively and safely; or that, if a fire does occur and grow, everyone in your premises is able to escape to a place of safety easily and quickly. The risk assessment that you must carry out will help you ensure that your fire safety procedures, fire prevention measures, and fire precautions (plans, systems and equipment) are all in place and working properly, and the risk assessment should identify any issues that need attention

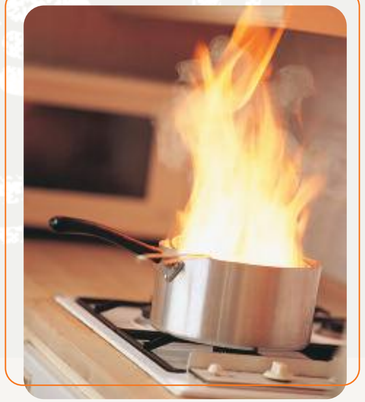
Fire Safety Risk Assessment

A fire risk assessment will help you determine the chances of a fire starting and the dangers from fire that your premises present for the people who use them. In order to carry out a successful fire safety risk assessment, you must evaluate the level of risk of a fire occurring in your premises. You should remove or reduce any fire hazards where possible and reduce any risks you have identified. Whilst carrying out a fire risk assessment you should consider the following:

- Identify the fire hazards:
  - The combustible/flammable material within your premises, e.g. the build-up of waste, display materials, packaging, textiles, liquids, stock or overstocked products
  - The sources of ignition, e.g. naked flames, heaters, electrical/mechanical equipment or some commercial processes
  - The source of oxygen, e.g. air conditioning or medicinal or commercial oxygen supplies
- Decide who might be harmed and how. You will need to identify those people who may be especially at risk on your premises such as:
  - People working near to fire dangers
  - People working alone or in isolated areas (such as in roof spaces or storerooms)
  - Children or parents with babies, the elderly or infirm and people who are disabled
- Evaluate the level of risk of the potential of a fire starting in your premises
- Put control measures in place. You should remove or reduce any fire hazards where possible and reduce any risks you have identified, e.g. you should:
  - replace highly flammable materials with less flammable ones
  - make sure you separate combustible/ flammable materials from sources of ignition

When you have reduced the risk as far as possible, you must assess any risk that is left and decide whether there are any further measures you need to take to make sure you provide a reasonable level of fire safety.

You must also provide appropriate information, instruction and training to your employees, about the fire precautions in your workplace.



Risk of Fire

Most workplaces may have a number of work activities which in themselves give rise to a risk of fire. Some of these work activities present fire hazards that are unavoidable; therefore the fire risk must be managed and controlled. Any work activity that presents a fire hazard that is avoidable should be removed and replaced by a less hazardous option.

In many cases the fire hazard might arise from everyday work activities such as cooking or electricity. Planned activities involving naked flames (such as flambéing in catering or welding in manufacturing) will pose a significant fire risk, which must be controlled

In other cases the activities specific to the workplace may indirectly pose a significant risk of fire. In particular the use of substances such as flammable gasses or solvents presents a fire risk that needs to be managed.

Work activities undertaken by construction or maintenance contractors on your premises need to be considered. Ensure consultation is undertaken with your contractor in regards to:

- The existing fire safety arrangements within your premises
- Any changes to the layout of the premises (either temporary or otherwise)
- Any fire escape routes being affected
- Switching off of the fire detection and fire alarm systems
- Construction work process or use of flammable materials
- Use of firefighting equipment during the construction phase

Revised fire safety plans and procedures may need to be produced for your premises and communicated to your employees during the course of construction and or maintenance work.

General Fire Precautions

In this short guide, it is impossible to give detailed guidance for every type of premises. However, the minimum you should consider will include the following.

1. Fire Detection and Warning System:

The occurrence of a fire in a building could lead to a situation where conditions become untenable and escape routes become unusable. The sooner the outbreak of a fire is detected and brought to the attention of those affected the more likelihood that the fire will be prevented from developing and more time is offered to undertake evacuation if necessary.

- Fire detection and warning systems vary greatly from situation to situation. Whatever system you have it must be appropriate to the use of the building and for the protection of life, it must be able to detect the earliest onset of the fire in all parts of the building including unoccupied areas, car parks, concealed areas, service shafts and stores, and it must be able to provide adequate audible and/or visual warning to all persons affected
- Fire detection and warning systems should be designed and installed in accordance with relevant Irish or European standards and Codes of Practice
- The correct selection and installation of fire detectors will significantly reduce the amount of fire false alarms
- Also consider the occupants of the building as a valuable reliable detector of a fire

Smoke detectors

Once a fire has been detected it is of utmost importance that this occurrence is immediately communicated effectively to all occupants of the building. In almost all buildings fire detection systems are linked with a suitable electrically operated fire warning system.

- Manual call points are located at strategic points within the building. In particular they will be located along escape routes
- Automatic fire detectors are linked to automatic sounders, generally located on the ceiling above. The sound from these units must be clearly heard throughout the work place. The sound should be distinct from all other sounds within the workplace
- Consideration must also be given to the use of visual alarms in the situations where hearing protection aids are required to be worn in the work place, or where an employee has a hearing impairment

2. Emergency Escape Route:

Escape routes are safe routes for people to leave the building once a fire has been detected and communicated to the occupants.

- In order to avoid occupants being trapped by fire or smoke there should be, in most circumstances, alternative escape routes from all parts of the buildings
- The number of escape routes required in the premises depends on the number of persons, use and layout
- The distance people have to travel to escape should be as short as possible. The travel distance allowable varies depending on the usage of the building. In general terms the travel distance should be measured from the farthest point in a room to the door of a protected stairway or, if there is no protected stairway, to the final exit from the building

Travel Distances allowable are dependent on:

- The uses of the building
- The risk of a fire starting and spreading quickly
- The material stored or in use within the building
- The occupancy type
- Stairways, corridors and areas near the fire exits should be kept clear of obstructions and material which can catch fire or prevent straight forward escape from the building
- The escape route should be adequately fire protected and appropriately signed to assist occupants in finding the final exit door and a safe place
- High risk rooms such as plant rooms, boiler rooms, communications rooms and stores etc… require further attention, and should not lead directly onto a fire protected stairway
- An adequate level of lighting must be provided within the premises to assist occupants escape in the event of electrical power failure. Emergency lighting arrangements must be considered to achieve this
- Final exit doors on escape routes that lead to the outside must always be available for use without the use of a key
- All employees must be made aware of all possible escape routes. It is advisable that fire drills should be undertaken at regular intervals to ensure that all employees are familiar with the evacuation strategy/escape plan
- You must consider the needs of persons with a disability that may be on your premises; their needs must be taken into account when planning an evacuation strategy

Typical Directional Sign