

# Fire Prevention and Protection

# Emergency Planning – Building Fires

An Emergency Action Plan is a plan created to help people respond to emergency situations in a safe and organized manner. Your employer will cover with you the procedures for evacuation which are part of their EAP.



# Emergency Planning – Building Fires

If you see smoke or fire in your first escape route, use an alternate way out. If you must exit through smoke, crawl low under the smoke to your exit.

If you are escaping through a closed door, feel the door first using the back of your hand. If it is warm, keep the door closed and use an alternate way out.

If smoke, heat, or flames block your exit routes, stay in the room with the door closed. Signal for help using a bright-colored cloth at the window. If there is a telephone in the room, try calling 911 and tell them your location.



# Alerting Others to Fire



Your employer's emergency action plan will also include procedures for reporting a fire. Your employer will cover the procedures to follow in alerting others to the fire emergency, such as using fire alarms or paging systems.

Generally your employer will have an alarm system in place which has a distinctive signal. Fire drills will make you aware of the sound. Practice all drills as if they are the real thing.

# Fire Prevention Plan I

While the hope is that a fire never happens, OSHA requires employers to have a fire prevention plan in place. The purpose of a fire prevention plan is to prevent a fire from occurring in a workplace. The plan helps ensure the safety of workers and property.

An employer must inform employees upon initial assignment to a job of the fire hazards to which they are exposed. An employer must also review with each employee those parts of the fire prevention plan necessary for self-protection.

If an employer has 10 or fewer employees, they may communicate the plan orally to employees.

# Fire Prevention Plan

A plan describes all the major fire hazards at the workplace that could initiate or contribute to the spread of a fire.

A Plan includes:

- proper handling, storage, and control procedures
- building systems and equipment in place to control ignitions or fires
- who is responsible controlling hazards and maintaining control systems
- training required for all employees who have responsibilities in the plan

# Fire Hazards

It is important for you to follow day-by-day practices to avoid and control fire hazards. This includes:

- Clean up spills of flammable or combustible liquids promptly.
- Dispose of combustible scrap, debris and waste materials safely in covered metal receptacles. Remove the waste from the worksite promptly.
- Practice safe storage requirements for flammable and combustible liquids and hazardous materials.
- Do not smoke near flammable or combustible liquids.
- If you smoke, before you throw away butts and ashes, make sure they are out.



# Fire Hazards

Do not create situations that could create problems should a fire occur:

- Do not obstruct fire doors and shutters.
- Do not block or obstruct the path to a fire extinguisher.
- Never prop open emergency doors. Fire doors keep fire from spreading.
- Keep a proper clearance available below fire sprinkler heads at all times.
- Be wise about the use of electrical cords. Be certain you are not creating a tripping hazard by making sure they are not running across doorways or walkways.





# Reporting Hazards

- Report any obvious hazard to life or property in connection with electrical equipment or lines as soon as possible.
- Report any exposed wiring and cords with frayed or deteriorated insulation promptly.
- Talk to your supervisor if you encounter frequent problems with blowing fuses or tripping circuit breakers.



# Controlling Hazards

Here are some examples of regular maintenance your employer will handle in order to be prepared if a fire should occur:

- Fire alarm systems are tested annually.
- Both water and air pressure need to be checked periodically in automatic sprinkler systems. The control valves also need to be tested.
- Fire doors and shutters need to be in good operating condition.
- Interior standpipes and valves are to be inspected regularly.



# Flight or Flee?

A fire is the most common type of emergency for which businesses must plan. A critical decision when planning is whether or not employees should fight a small fire with a portable fire extinguisher or simply evacuate.

If you are expected to fight fires as part of either the EAP or the fire prevention plan, your employer will instruct you on the hazards of fighting fire. Then in any fire situation you might face, you will need to use good judgment and make smart decisions regarding what to do. Your safety is always the first concern.

# Fire Extinguishers- Employee's Responsibility

Your employer must mount, locate and identify fire extinguishers so workers can access them without subjecting themselves to possible injury. Portable fire extinguishers need to be available in adequate numbers and mounted in a ready accessible location.



Fire extinguishers must be inspected, maintained and tested. Fire extinguishers must be fully charged and kept in operable condition. When an extinguisher is recharged, that activity needs to be correctly noted on its inspection tag.

# Fire Extinguishers

Portable fire extinguishers have two functions:

- to control or extinguish small (incipient stage) fires
- to protect evacuation routes that a fire may block directly or indirectly with smoke or burning/smoldering materials.

To extinguish a fire with a portable extinguisher, a person must have immediate access to the extinguisher, know how to actuate the unit, and know how to apply the extinguishing agent effectively.



# Fire Extinguishers: Risk Assessment

Fires can increase in size and intensity in seconds, blocking the exit path of the fire fighter and creating a hazardous atmosphere.

In addition, portable fire extinguishers contain a limited amount of extinguishing agent and can be discharged in a matter of seconds. Therefore, individuals should attempt to fight only very small or incipient stage fires.



# Fire Extinguishers: Risk Assessment

Prior to fighting any fire with a portable fire extinguisher you must perform a risk assessment that evaluates the fire size, the fire fighters evacuation path, and the atmosphere in the vicinity of the fire.

You will need to determine factors such as:

- Is the fire too big?
- Is the air safe to breathe?
- Is the environment too hot or smoky? AND
- Is there a safe evaluation path?

# Fire Extinguishers: Risk Assessment

Characteristics of incipient (beginning) stage fires or fires that CAN be extinguished with portable fire extinguishers:

- The fire is limited to the original material ignited.
- It is contained (such as in a waste basket) and has not spread to other materials.
- The flames are no higher than your head

Characteristics of fires that SHOULD NOT be fought with a portable fire extinguisher that require you to evacuate immediately:

- The fire involves flammable solvents
- It has spread over more than 60 square feet
- It is partially hidden behind a wall or ceiling.
- The fire can not be reached from a standing position.
- The fire has not depleted the oxygen in the room and is producing only small quantities of toxic gases
- No respiratory protection equipment is required.



# Fire Extinguishers: Risk Assessment

## Characteristics of incipient stage fires or fires that CAN be extinguished with portable fire extinguishers:

- Heat is being generated, but the room temperature is only slightly increased.
- Smoke may be accumulating on the ceiling, but visibility is good.
- No special personal protective equipment is required.

## Characteristics of fires that SHOULD NOT be fought with a portable fire extinguisher that require you to evacuate *immediately*:

- The radiated heat is easily felt on exposed skin making it difficult to approach within 10-15 feet of the fire (or the effective range of the extinguisher).
- You must crawl on the floor due to heat or smoke.
- Smoke is quickly filling the room, decreasing visibility.

# Fire Extinguishers

There are 5 different classes of fire extinguishers. Each class is used for different types of fires. Each workplace building must have a full complement of the proper type of fire extinguisher for the fire hazards present:

Class A – Ordinary combustible material fires (such as wood, cloth, paper)

Class B – Flammables/liquids, gases, greases

Class C – Electrical/energized electrical equipment

Class D – Combustible metals (such as magnesium, titanium, zirconium, sodium, and potassium.)

Class K – Combustible cooking media/vegetable or animal oils and fats