# Workplace Fire Safety Equipment

## Safety Meeting Packet


Workplace fire safety and prevention plans should include equipment for fire detection and suppression. Devices like fire extinguishers, smoke detectors, and sprinkler systems are all proven safety measures that can help reduce the severity of fire damage, limit bodily harm to employees, or even prevent fire from spreading. All employers must educate their workers on the general principles of proper placement, use, maintenance, and testing of this equipment.

## Smoke Detectors

To effectively combat a fire, employers should ensure that smoke detectors have been installed throughout their workplace. Smoke detectors are cost-effective and practical pieces of equipment that can significantly improve the safety of employees. In fact, according to the National Fire Protection Association (NFPA), the risk of dying in a fire decreases by 50% when smoke detectors are installed. It is important to consider the following when installing, using, and maintaining smoke detectors:

### Location and Spacing

- When choosing smoke detection equipment, both the performance characteristics of the equipment and the area in which it will be installed must be considered.
- Exposure to ambient sources of smoke, moisture, or electrical influence may affect how the smoke detection system works. Avoiding such exposure can prevent false alarms or smoke detector malfunctions.
- Smoke detectors should be placed high on walls or ceilings. These are ideal locations for the equipment to be installed as smoke risings.
- Placement of smoke detection equipment must be made in accordance with the manufacturer's recommendations.

### Maintenance

- To maximize the effectiveness and reliability of smoke detection equipment, routine maintenance is required to ensure that all devices are in an operable condition should a workplace fire occur.
- Each manufacturer has specific recommendations for testing their individual pieces of equipment. Make sure that you read and understand the recommendations.
- The NFPA recommends replacing smoke detectors at least every ten years, as smoke detector performance decreases after a 10-year period.

## Fire Extinguishers

Fire extinguishers can be effective in the case of a small fire. However, it is important that you use the correct fire extinguisher for the type of fire. This is because different fire extinguishers use different extinguishing agents, which may only be effective on a specific type of fire. When using the proper type of fire extinguisher, a significant percentage of fire events can be suppressed. This greatly reduces the danger of a fire and limits the severity of damage to both employees and work facilities.

When choosing what type of fire extinguisher to provide, employers should choose the fire extinguisher that is appropriate for all types of fires that could potentially occur.

Fire extinguishers have a classification system that is based on the types of fires they are intended to be used against. Some extinguishers are designed to be used in multiple fire types. Below is a listing of fire extinguisher classification types and their intended uses.

## Classifications

- **Class A** – Used against common combustible materials such as wood, clothing, plastic, and other everyday materials.
- **Class B** – Used against flammable or combustible liquid fires, including but not limited to gasoline and oil.
- **Class C** - Used against fires in live electrical equipment. If the piece of equipment is shut down and no longer live, then class A and B may be effective as well.
- **Class D** – Used against combustible metal fires such as magnesium and sodium.
- **Class K** – Used against cooking oil fires usually in kitchens or restaurants.

## Training

- Employees must know where fire extinguishers are located or placed throughout the work environment.
- Workers must learn how to evaluate a fire event to determine whether 911 needs to be contacted.
- Employees must be trained on how to operate a fire extinguisher. Inform workers of the P.A.S.S. (Pull, Aim, Squeeze, Sweep) system. This common acronym is used in fire extinguisher training and identifies the following steps:
  - **P** – Pull the pin.
  - **A** – Aim the hose at the base of the fire.
  - **S** – Squeeze the lever to release the extinguishing agent.
  - **S** – Sweep the hose from side to side until the fire has been extinguished.

## Sprinkler Systems

Sprinkler systems, when combined with an emergency evacuation and action plan, can have a significant impact on reducing potential loss of life and damages in the event of a fire.

## System Types

- Wet-Pipe – Pressurized water is stored directly in the pipes so that when a sprinkler head detects heat, it will immediately release the water.
- Dry-Pipe - Often where temperatures fall below freezing, are pipes containing pressurized air or gas. A remote valve will not allow water to enter the pipe unless heat activates the sprinklers. Once activated, the air escapes, the valve is released, and water then flows into the pipe and out through the open sprinklers.
- Pre-Action - Water is separated from the pipes by an electric valve controlled by a separate fire detection source. The detection system controlling the valve must sense smoke or heat before water is released into the pipes and then the individual sprinkler heads must also release for water to flow onto the flames. Thus, two separate events must occur for the sprinklers to discharge.
- Deluge - Sprinkler heads remain open so that once smoke or fire is detected, water is released through all discharge devices in the system.

To keep sprinkler systems working properly, inspection and maintenance are crucial. Federal and state requirements for fire protection systems can be found in the National Fire Protection Association's reference guide.

## Inspection Questions

An annual inspection of sprinkler systems should be completed by a qualified contractor, but monthly and quarterly inspections can be done by either employees or the employer. Below are some questions to consider during monthly and quarterly inspections:

- Are the sprinkler system's valves open?
- Are the valves sealed and in good repair?
- Is the alarm device in working order?
- Is the system maintaining the proper pressure?
- Do the valves indicate what areas they service?

## In The Event of a Fire

In the event of a fire, if it is safe, someone should make sure the sprinkler control valves are open to maximize the system's effectiveness. Maintenance and restoration of the sprinkler system after a fire is just as important and should only be completed by a knowledgeable and qualified person.

Additional information about fire safety and prevention can be found on the Occupational Health and Safety Administration's (OSHA) website at www.osha.gov and the National Fire Prevention Association's (NFPA) website at www.nfpa.org.

# Workplace Fire Safety Equipment

## Safety Meeting Attendance Acknowledgement

Company Name _____

Department / Division _____

Meeting Date & Time _____ _____ ☐ AM ☐ PM

Meeting Location _____

Name & Title of Individual Conducting Meeting _____

## Key Meeting Discussion Points / Important Reminders:

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## Internal Procedures Reviewed:

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**By signing this document, you confirm your attendance at the meeting and acknowledge the issues addressed above!**

| Employees in Attendance | | |
|---|---|---|
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Employees not present: _____

Suggestions/Recommendations to improve workplace safety and health: _____

Actions Taken: _____

Manager/Supervisor: _____ Date: _____

## Disclaimer:

The information provided above was assembled using multiple resources. However, these materials do not contain ALL the information available regarding the required safety standards under local, provincial, state, or federal law for your industry.