



Fire Protection Extinguishers

PURPOSE

The purpose of this document is to outline the Fire Protection Extinguishers Program for **Fisher Systems Inc.**; hereafter referred to as "The Company." This policy applies to all sites, personnel and contractors; this policy must be followed at all times.

RESPONSIBILITIES

Management

- Ensure all fire prevention methods are established and enforced
- Ensure fire suppression systems such as sprinklers and extinguishers are periodically inspected and maintained to a high degree of working order
- Train supervisors to use fire extinguishers for incipient fires
- Train employees on evacuation routes and procedures

Supervisors

- Closely monitor the use of flammable materials and liquids
- Train assigned employees in the safe storage, use and handling of flammable materials
- Ensure flammable material storage areas are properly maintained

Employees

- Use, store and transfer flammable materials in accordance with provided training
- Do not mix flammable materials
- Immediately report violations of the Fire Safety Program

POLICY

The Company Fire Safety Plan has been developed to work in conjunction with company emergency plans and other safety programs. This includes reviewing all new building construction and renovations to ensure compliance with applicable state, local, and national fire and life safety standards. Fire prevention measures reduce the incidence of fires by eliminating opportunities for ignition of flammable materials.

TRAINING

Where The Company has provided portable fire extinguishers for employees use in the workplace. The Company also will provide an educational program to familiarize employees with the general principles of fire extinguisher use and the hazards involved in incipient stage firefighting.



Training will be conducted prior to initial assignment and at least annually thereafter.

HAZARDS

Fire and explosion hazards can exist in almost any work area. Potential hazards include:

- Improper operation or maintenance of gas fired equipment
- Improper storage or use of flammable liquids
- Smoking in prohibited areas
- Accumulation of trash
- Unauthorized Hot Work operations

Note: All materials shall be stored, handled, and piled with due regard to their fire characteristics [1926.151\(d\)\(2\)](#).

ELIMINATION OF IGNITION SOURCES

All nonessential ignition sources must be eliminated where flammable liquids are used or stored. The following is a list of some of the more common potential ignition sources:

- Open flames, such as cutting and welding torches, furnaces, matches, and heaters- these sources should be kept away from flammable liquids operations. Cutting or welding on flammable liquids equipment should not be performed unless the equipment has been properly emptied and purged with a neutral gas such as nitrogen.
- Chemical sources of ignition such as d.c. motors, switched, and circuit breakers- these sources should be eliminated where flammable liquids are handled or stored. Only approved explosion-proof devices should be used in these areas.
- Mechanical sparks- these sparks can be produced as a result of friction. Only non-sparking tools should be used in areas where flammable liquids are stored or handled.
- Static sparks- these sparks can be generated as a result of electron transfer between two contacting surfaces. The electrons can discharge in a small volume, raising the temperature to above the ignition temperature. Every effort should be made to eliminate the possibility of static sparks. Also, proper bonding and grounding procedures must be followed when flammable liquids are transferred or transported.

REMOVAL OF INCOMPATIBLES

Materials that can contribute to a flammable liquid fire should not be stored with flammable liquids. Examples are oxidizers and organic peroxides, which, on decomposition, can generate large amounts of oxygen.



CONTROL OF FLAMMABLE GASES

Generally, flammable gases pose the same type of fire hazards as flammable liquids and their vapors. Many of the safeguards for flammable liquids also apply to flammable gases, other properties such as toxicity, reactivity, and corrosivity also must be taken into account. Also, a gas that is flammable could produce toxic combustion products.

FIRE EXTINGUISHERS

A portable fire extinguisher is a "first aid" device and is very effective when used while the fire is small. The use of fire extinguisher that matches the class of fire, by a person who is well trained, can save both lives and property. Portable fire extinguishers must be installed in workplaces regardless of other firefighting measures. The successful performance of a fire extinguisher in a fire situation largely depends on its proper selection, inspection, maintenance, and distribution.

CLASSIFICATION OF FIRES

Fires are classified into four general categories depending on the type of material or fuel involved. The type of fire determines the type of extinguisher that should be used to extinguish it.

- ❖ **Class A** fires involve materials such as wood, paper, and cloth which produce glowing embers or char.
- ❖ **Class B** fires involve flammable gases, liquids, and greases, including gasoline and most hydrocarbon liquids which must be vaporized for combustion to occur.
- ❖ **Class C** fires involve fires in live electrical equipment or in materials near electrically powered equipment.
- ❖ **Class D** fires involve combustible metals, such as magnesium, zirconium, potassium, and sodium.
- ❖ **Class K** fires involve cooking oils and greases (animal fats, vegetable oils.)

Extinguishers will be selected according to the potential fire hazard, the construction and occupancy of facilities, hazard to be protected, and other factors pertinent to the situation.

SELECTION OF EXTINGUISHERS

It is important to use the correct extinguisher for the type of fuel! Using the incorrect agent can allow the fire to re-ignite after apparently being extinguished successfully. Below are several extinguishers listed and the classification of fires they can be used against:

Water or air-pressurized water (APW) extinguishers

- Designed for **Class A fires only**
- Large silver container, 2 to 3 ft. tall, weighing about 25 lbs. when full
- Filled 2/3 with ordinary water, then pressurized with air
- Detergents may be added



- Cool the surface to remove the heat
- Never use to extinguish flammable liquid fires or electrical fires

Carbon Dioxide (CO₂) extinguishers

- Designed for **Class B and Class C fires only**
- Red cylinders, ranging from 5 to 100 lbs. or larger, with a hard horn and no pressure gauge
- Filled with Carbon Dioxide (CO₂), under extreme pressure
- Displace oxygen; dry ice pieces also have cooling effect
- Never use in confined space without respiratory protection

Dry Chemical extinguishers (Multi-purpose)

- May be used on **Class A, Class B, and/or Class C fires** (check label)
- Red cylinders, ranging in size from 5 to 20 lbs.
- Fire-retardant powder is the extinguishing agent and is propelled by a compressed, non-flammable gas
- Separates fuel from oxygen; powder also interrupts chemical reaction

Class K – dry and wet chemical extinguishers

- Designed for **kitchen fires**
- Only intended to be used after activation of built-in hood suppression system
- Filled with electrically conductive extinguishing agents; use only after electrical power to appliance has been shut off
- Potassium bicarbonate may be used in dry types; wet chemical extinguishers spray a fine mist

Dry Powder extinguishers

- Only effective on **Class D fires**
- Yellow cylinders, about 35ft. tall, weighing around 30lbs.
- Separates oxygen and fuel and removes heat.
- Dangerous if inhaled and can cause visibility to be reduced

LOCATION AND MARKING OF EXTINGUISHERS

Extinguishers will be conspicuously located and readily accessible for immediate use in the event of fire. They will be located along normal paths of travel and egress. Wall recesses and/or flush-mounted cabinets will be used as extinguisher locations whenever possible.

Extinguishers will be clearly visible. In locations where, visual obstruction cannot be completely avoided, directional arrows will be provided to indicate the location of extinguishers and the arrows will be marked with the extinguisher classification.



If extinguishers intended for different classes of fire are located together, they will be conspicuously marked to ensure that the proper class extinguisher selection is made at the time of a fire. Extinguisher classification markings will be located on the front of the shell above or below the extinguisher nameplate. Markings will be of a size and form to be legible from a distance of 3 feet.

CONDITION

Portable extinguishers will be maintained in a fully charged and operable condition. They will be kept in their designated locations at all times when not being used. When extinguishers are removed for maintenance or testing, a fully charged and operable replacement unit will be provided.

MOUNTING AND DISTRIBUTING OF EXTINGUISHERS

Extinguishers will be installed on hangers, brackets, in cabinets, or on shelves. Extinguishers having a gross weight not exceeding 40 pounds will be so installed that the top of the extinguisher is not more than 3-1/2 feet above the floor.

Extinguishers mounted in cabinets or wall recesses or set on shelves will be placed so that the extinguisher operating instructions face outward. The location of such extinguishers will be made conspicuous by marking the cabinet or wall recess in a contrasting color which will distinguish it from the normal decor.

Extinguishers must be distributed in such a way that the amount of time needed to travel to their location and back to the fire does not allow the fire to get out of control. OSHA requires that the travel distance for Class A and Class D extinguishers not exceed 75 feet. The maximum travel distance for Class B extinguishers is 50 feet because flammable liquid fires can get out of control faster than Class A fires. There is no maximum travel distance specified for Class C extinguishers, but they must be distributed on the basis of appropriate patterns for Class A and B hazards.

INSPECTION AND MAINTENANCE

Once an extinguisher is selected, purchased, and installed, it is the responsibility of the Safety Officer to oversee the inspection, maintenance, and testing of fire extinguishers to ensure that they are in proper working condition and have not been tampered with or physically damaged.

The Company will assure that all portable fire extinguishers are subjected to monthly visual inspections and an annual maintenance check.

All firefighting equipment shall be periodically inspected and maintained in operating condition. Defective equipment shall be immediately replaced.



FIRE SAFETY INSPECTIONS AND HOUSEKEEPING

First line supervisors and Safety Committees are responsible for conducting work site surveys that include observations of compliance with the Fire Safety Program. These surveys should include observations of worksite safety and housekeeping issues and should specifically address proper storage of chemicals and supplies, unobstructed access to fire extinguishers, and emergency evacuation routes. Also, they should determine if an emergency evacuation plan is present in work areas and that personnel are familiar with the plan.

EMERGENCY EXITS

Every exit will be clearly visible, or the route to it conspicuously identified in such a manner that every occupant of the building will readily know the direction of escape from any point. At no time will exits be blocked.

Any doorway or passageway which is not an exit, or access to an exit but which may be mistaken for an exit, will be identified by a sign reading "Not An Exit" or a sign indicating its actual use (i.e., "Storeroom"). Exits and accesses to exits will be marked by a readily visible sign. Each exit sign (other than internally illuminated signs) will be illuminated by a reliable light source providing not less than 5 foot-candles on the illuminated surface.

As warranted by the project, The Company shall provide a trained and equipped firefighting organization (Fire Brigade) to assure adequate protection to life. [1926.150\(a\)\(5\)](#)

EMERGENCY PLANS FOR PERSONS WITH DISABILITIES

The first line supervisor is assigned the responsibility to assist Persons with Disabilities (PWD) under their supervision. An alternate assistant will be chosen by the supervisor. The role of the two assistants is to report to their assigned person, and to either assist in evacuation or assure that the PWD is removed from danger.

- Supervisors, alternates, and the person with a disability will be trained on available escape routes and methods.
- A list of persons with disabilities is kept in the office.
- Visitors who have disabilities will be assisted in a manner similar to that of company employees. The Host of the person with disabilities will assist in their evacuation.

EMERGENCIES INVOLVING FIRE/FIRE ALARMS

In the event of a fire emergency, a fire alarm will sound for the building.

Evacuation Routes and Plans

Each facility shall have an emergency evacuation plan. All emergency exits shall conform to NFPA standards.



Should evacuation be necessary, go to the nearest exit or stairway and proceed to an area of refuge outside the building. Most stairways are fire resistant and present barriers to smoke if the doors are kept closed. Do not use elevators. Should the fire involve the control panel of the elevator or the electrical system of the building, power in the building may be cut and you could be trapped between floors. Also, the elevator shaft can become a flue, lending itself to the passage and accumulation of hot gases and smoke generated by the fire.

Emergency Coordinators/Supervisors

Emergency Coordinators/Supervisors will be responsible for verifying personnel have evacuated from their assigned areas.

FIRE EMERGENCY PROCEDURES

If you discover a fire:

- Activate the nearest fire alarm.
- Notify your Supervisor and other occupants.

Fight the fire ONLY if:

- The fire department has been notified of the fire, AND
- The fire is small and confined to its area of origin, AND
- You have a way out and can fight the fire with your back to the exit, AND
- You have the proper extinguisher, in good working order, AND know how to use it.
- If you are not sure of your ability or the fire extinguisher's capacity to contain the fire, leave the area.

If you hear a fire alarm:

- Evacuate the area - Close windows, turn off gas jets, and close doors as you leave.
- Leave the building and move away from exits and out of the way of emergency operations.
- Assemble in a designated area.
- Report to the monitor so he/she can determine that all personnel have evacuated your area.
- Remain outside until competent authority states that it is safe to re-enter.

Evacuation Routes

- Learn at least two escape routes, and emergency exits from your area.
- Never use an elevator as part of your escape route.
- Learn to activate a fire alarm.
- Learn to recognize alarm sounds.
- Take an active part in fire evacuation drills.