



Vermont Department of Public Safety
DIVISION OF FIRE SAFETY

45 State Drive, Waterbury VT. 05671 | 802-479-7561 | 800-640-2106

firesafety.vermont.gov



FIRE SAFETY PUBLIC EDUCATION

FIRE SAFETY

IN THE WORKPLACE



TRAINING PROGRAM



**A HANDOUT FOR
EMPLOYEES AND THE PUBLIC**

2023

FIRE SAFETY IN THE WORKPLACE and FIRE EXTINGUISHER TRAINING

Fire extinguishers and fire safety training are critical components of a comprehensive work safety program. Each program should be tailored to the specific realities of a given worksite and adjusted within each organization for different groups of personnel, depending on the threats they face.

IDENTIFY THE POSSIBLE FIRE HAZARDS IN YOUR WORKPLACE

- Sources of ignition
- Sources of fuel
- Work processes
- Identify the location of people at significant risk in case of fire.

PREVENTION STRATEGIES

It will be important to complete a comprehensive hazard assessment to determine what environmental conditions, chemicals or flammable liquids in your workplace may create areas of potential risk. Evaluate the risks. Are your fire safety measures adequate? Consider

- Control of ignition sources/sources of fuel
- Fire detection/fire warning
- Means of escape
- Means of fire fighting
- Maintenance and testing of fire precautions.
- Fire safety training of employees

Other Prevention Strategies

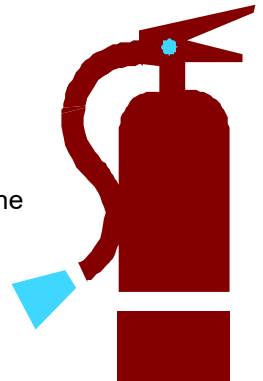
- Teach your staff about workplace fire prevention and safety.
- Avoid storing or stockpiling flammable materials such as packaging materials or waste where they could be accessed by the public, including areas immediately outside your business premises.
- Make sure all machinery is serviced as recommended by manufacturers and is kept clean. If possible, switch machinery off when the business is unattended.
- Secure all doors, windows or other access points when the business is unattended, and make sure your business has adequate lighting to deter trespassers.
- Ensure your business has an adequately serviced and functional fire alarm system that is suitable to your small business, eg: remote serviced alarm systems, sprinkler systems, thermal or smoke alarms etc.
- If your business stores dangerous goods, ensure their storage and use adheres to fire code requirements.
- Make sure your business has a written and practiced fire escape plan that includes full staff lists and designated meeting points.

HOW TO EDUCATE EMPLOYEES

Employees should be trained in these areas:

- Individual roles and responsibilities
- Notification, warning, and communications procedures
- Emergency response procedures
- Evacuation and accountability procedures
- Location and operation of emergency equipment including, but not limited to, fire extinguishers, fire hoses, breathing apparatus, fire doors and fire blankets.
- Emergency shutdown procedures
- First aid
- Conduct regular practice drills.
- Schedule annual fire safety training classes for employees and new hires
- Update procedures to reflect changes in your company and facility.

This program is based on the topics in NFPA 10 Standard for Portable Fire Extinguishers and the Training and Education requirements of OSHA standards 29 CFR 1910.157(g)



The use of a fire extinguisher in the hands of a trained adult can be a life and property saving tool. However, a majority of adults have not had fire extinguisher training and may not know how and when to use them. Fire extinguisher use requires a sound decision making process and training.

General Information

As a general rule, firefighting should be left to trained firefighters. Fire extinguishers are meant for putting out small fires or used to help escape from the area, not firefighting large out-of-control fires.

In many cases, the better and safer decision is to trigger a fire alarm, get yourself to safety and help others to safety, and make sure trained fire protection professionals are notified and on the way.

In fact, there are times when fighting the fire may increase the danger to yourself and to others in the area.

It is also important to understand that extinguishers have a discharge time of only 8 seconds to 60 seconds.

Assessment of a Fire Situation

Assessment of a Fire Situation A-C-T

A – ASSESS THE SITUATION

Identify the hazards:
nature, degree, and auxiliary hazards

Determine who is threatened:
co-workers, other employees, the public

Assessment of a Fire Situation A-C-T

C – CHOOSE YOUR RESPONSE

Select action level

Individual action: sound the alarm, extinguish a small contained fire

Limited response: involving others as a team

Major response: with outside fire and rescue departments

Assessment of a Fire Situation A-C-T

T – TAKE ACTION

SOUND THE ALARM
Warn co-workers and public
Call, meet, and direct fire department
Report to management

EVACUATE
Evacuation rules: maintain order
Do not use elevators; help others

Do not impede firefighters and other responders

What is Fire?

Fire is a chemical exothermic reaction that releases light and heat. The dangerous thing about the chemical reactions in fire is the fact that they are self-perpetuating.

The Fire Triangle

In order to have a fire you must have:

1. Enough OXYGEN to sustain combustion
2. Enough HEAT to reach ignition temperature
3. Some FUEL or combustible material

Together, they produce a CHEMICAL CHAIN REACTION that is fire



THE FIRE EXTINGUISHER Takes away one of these things to extinguish the fire

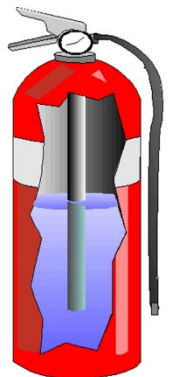
The heat of the flame itself keeps the fuel at the ignition temperature, so it continues to burn as long as there is fuel and oxygen around it. The flame heats any surrounding fuel, so it releases gases as well. When the flame ignites the gases, the fire spreads.

Portable Fire Extinguishers

Portable fire extinguishers apply an extinguishing agent that will either cool burning fuel, displace or remove oxygen, or stop the chemical reaction so a fire cannot continue to burn.

When the handle of an extinguisher is compressed, it opens an inner canister of high-pressure gas that forces the extinguishing agent from the main cylinder through a siphon tube and out the nozzle.

A fire extinguisher works much like a can of hair spray.



When to Use a Fire Extinguisher

Here is a list of things to consider before you try to fight a fire. Only stay and fight the fire if you can say "yes" to every item on the list.

- 🔥 **Is the fire small enough and contained enough that you can put it out safely?**
- 🔥 **Is a fire extinguisher available and within easy reach?**
- 🔥 **Is the fire extinguisher of the proper type to put out the kind of fire you want to extinguisher?**
- 🔥 **Is the extinguisher fully charged and large enough to put out the fire?**
- 🔥 **Have you been trained to properly use a fire extinguisher?**
- 🔥 **Can you be certain that you won't be putting yourself or others at risk if you use the fire extinguisher to fight the fire?**

but most important of all. **Don't put yourself or others at risk by attempting to follow the fire extinguisher steps if it's not a fire you can put out safely.**











How to Use a Fire Extinguisher

1: Know What Kind of Fire It Is (Fire Classification)

There are different types of fires (these are also called fire classifications). And it's important to know what type of fire you're trying to put out so that you can be sure to use the right type of fire extinguishers.

the different types of fires use a 5-letter naming system (Type A, Type B, Type C, Type D, and Type K). The type of fire depends on what the fire is burning.

The table explains these different types of fires. Note that these fire types are also known as fire classes.

Fire Class & Symbol	Pictogram	Types of Fires
		Ordinary solid combustibles (paper, wood, cardboard and most plastics)
		Flammable liquids and gases (gasoline, kerosene, grease or oil)
		Energized electrical equipment (appliances, wiring, circuit breakers or outlets)
	Not Commonly Used 	Combustible metals found in labs (magnesium, titanium, potassium or sodium)
		Oils and fats (cooking oils, trans-fats, or fats in cooking appliances)

2: Get the Right Type of Fire Extinguisher

Once you know the type of fire, check to see if you have the right kind of fire extinguisher to put out that fire.

The easiest way to tell the type or types of fires that a fire extinguisher can put out is to look at the label on the fire extinguisher. It will tell you what type of fire (or fire class) the fire extinguisher can safely put out.

Once you know the type of fire and have selected an appropriate fire extinguisher, you'll want to use the extinguisher to put the fire out. always position yourself with an exit or means of escape at your back before you attempt to use an extinguisher to put out a fire.

3: The A- PASS Method for Using a Fire Extinguisher

There's a simple, method you can follow to use a fire extinguisher properly. The fire extinguisher steps are known as PASS, and each letter in the word PASS (P, A, S, and S) stands for the first word of each step.

We added an A to the method to remind you to always sound the alarm and call the fire department, first.



Alarm

- **Sound the alarm**
- Use building alarm system or your voice
- Call 911 for assistance



Pull the Pin...

- Give it a quick test



Aim at the base of the fire.



Squeeze the top handle

- This will cause the fire extinguisher to begin working.



Sweep from side to side.



Continue extinguishing the fire until the fire is completely out. After the fire appears to be out, back away from an extinguished fire but watch the area in case the fire breaks out again.

DO NOT TURN YOUR BACK ON THE FIRE

you may need to repeat the use of the extinguisher.



4: When to Quit Fighting the Fire and Evacuate

When you're actively fighting the fire, you should remember there may be cases when you'll have to give up, quit fighting the fire, and evacuate the fire area for your own safety.

Here are some reasons to quit fighting a fire and to evacuate immediately:

- **The fire is spreading too quickly**
- **The fire could block your only exit**
- **The fire is too large**
- **The fire is so hot you can't get close enough to fight it effectively (10-15 feet)**
- **You've had to get down on your knees and/or crawl because you can't see well otherwise, because of high temperatures, or because of smoke**

Each component of an extinguisher has a specific role. They all work together to put out fires quickly.

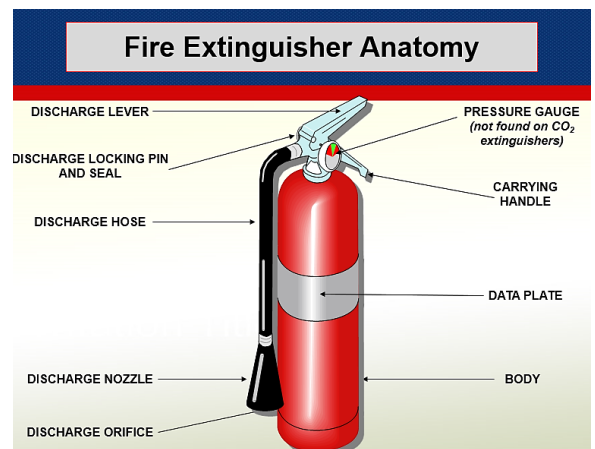
Fire extinguishers should be regularly inspected and recharged as needed.

Maintenance and Inspection Requirements

The requirements for fire extinguishers are contained in NFPA® 10, Standard for Portable Fire Extinguishers.

BASIC REQUIREMENTS:

- Monthly visual inspections.
- Annual maintenance check.
- Twelve (12) year hydrostatic test.
- Six (6) year tear down maintenance.
- Extinguishers must be promptly recharged or replaced if used.



MAINTAINING THE FIRE EXTINGUISHER

Periodic inspection or electronic monitoring of fire extinguishers shall include a check of at least the following items:

- (1) Location in designated place
- (2) Visibility of the extinguisher or means of indicating the extinguisher location
- (3) Access to the extinguisher
- (4) Pressure gauge reading or indicator in the operable range or position
- (5) Fullness determined by weighing or hefting
- (6) Condition of tires, wheels, carriage, hose, and nozzle for wheeled extinguishers
- (7) Indicator for non-rechargeable extinguishers using push to-test pressure indicators

Bottom Line: Is it ready to be used?

Location and Placement

This list identifies which occupancies require extinguishers and where they should be placed within them. It also outlines related fire extinguisher requirements in NFPA® 10, Standard for Portable Fire Extinguishers.

Fire extinguishers are required in the following occupancy types:

- Ambulatory health care, Hotel and dormitory, Health care
- Apartments, Industrial, Educational
- Assemblies, Lodging and rooming, Storage
- Businesses, Mercantile, Detention and correctional
- Day care Occupancies in special structures, Residential board, and care

For more information on occupancy requirements, see Table 13.6.1.2 of NFPA 1, Fire Code (2018)

As a general rule, where portable fire extinguishers are installed, a person should not have to travel more than 40

feet.
(12 meters) to reach one and never have to travel up or down stairs to reach it.

Training and Education

OSHA standards 1910.157(g)(1)

Where the employer has provided portable fire extinguishers for employee use in the workplace, the employer shall also provide an educational program to familiarize employees with

the general principles of fire extinguisher use and the hazards involved with incipient stage firefighting.

1910.157(g)(2)

The employer shall provide the education required in paragraph (g)(1) of this section upon initial employment and at least annually thereafter.

1910.157(g)(3)

The employer shall provide employees who have been designated to use firefighting equipment as part of an emergency action plan with training in the use of the appropriate equipment.

Nothing compares to actual practice. Hands-on training is by far the most successful way to familiarize someone with extinguisher usage. Watching a video or providing a classroom demonstration is no substitute for seeing a fire, reaching for an extinguisher, pulling the pin and squeezing the trigger yourself.

Most employees who haven't actually used an extinguisher are amazed at how little discharge time one has. A standard 10-pound ABC extinguisher provides just 20 seconds of discharge. Training not only builds confidence, it also breaks down overconfidence. Hands-on training helps employees further assess risk and appreciate the limits of portable extinguishers.

Special note on Portable Fire Extinguishers and Children

The National Fire Protection Association (NFPA) believes that children should not be trained how to operate portable fire extinguishers.

Teaching children to use portable fire extinguishers runs counter to NFPA messaging to get out and stay out if there is a fire. Furthermore, children may not have the maturity to operate a portable fire extinguisher properly or decide whether or not a fire is small enough to be put out by the extinguisher. They may not have the physical ability to handle the extinguisher or dexterity to perform the complex actions required to put out a fire. In the process of extinguishing flames, children may not know how to respond if the fire spreads.

NFPA continues to believe that only adults who know how to operate portable fire extinguishers should use them.



Thank You!

**FOR TAKING PART IN THIS FIRE SAFETY
& EXTINGUISHER TRAINING PROGRAM**