



Basics of Fire Extinguishers

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Course Objective

The objective of VBN Pavings Introduction to Fire Extinguishers course is educate the client on the minimal requirements of fire Safety set under the regulations of the Ontario Occupational Health and Safety Act R.S.O. 1990, c. O.1, O. Reg. 213/91: CONSTRUCTION PROJECTS sections 52 to 55.

Program Outline:

- Introduction to Fire Extinguishers
- Elements of Fire
- The proper use and handling of Fire Extinguishers
- Classes of Fire Extinguishers
- When to use an Extinguisher
- The PASS method to Extinguishing a fire
- Extinguisher Inspection, Maintenance, & Storage
- Fire Extinguisher Training for Employees
- Summary of course and what we have learned
- Ontario Occupational Health and Safety Act R.S.O. 1990, c. O.1, O. Reg. 213/91: CONSTRUCTION PROJECTS sections 52 to 55
- Review Quiz

Course Introduction

Workplace fires can happen at any time. That's why it's important to know what to do when a fire starts, know when and how to fight it and when not to. This program will provide viewers with the basic information they need to react safely in a potentially dangerous situation. Topics include classes of fire and extinguishers, when to use an extinguisher, using the PASS method to put out a fire and extinguisher inspection, maintenance and storage.

Class of Fire	Type of Fire	Type of Extinguisher	Extinguisher Identification	Symbol
A	Ordinary combustibles: wood, paper, rubber, fabrics, and many plastics	Water, Dry Powder, Halon		
B	Flammable Liquids and Gases: gasoline, oils, paint, lacquer, and tar	Carbon Dioxide, Dry Powder, Halon		
C	Fires involving Live Electrical Equipment	Carbon Dioxide, Dry Powder, Halon		
D	Combustible Metals or Combustible Metal Alloys	Special Agents		
K	Fires in Cooking Appliances that involve Combustible Cooking Media: Vegetable or Animal Oils and Fats			

Classes of Fire & Extinguishers

Introduction to Fire Extinguisher's

There's more than one kind of fire extinguisher because there is more than one kind of fire, the five basic classes of fire are A, B, C, D and K.

Elements of a Fire



- To burn, fire needs three things: Fuel, Oxygen, and a Heat Source.
- Combine those things and you have a fire, remove one of them and the fire will die.
- In essence, that's what a fire extinguisher does; it removes or neutralizes the fuel, the oxygen or the heat source and sometimes than one. When that happens, the fire goes out

Class A fires involve ordinary combustible materials like cloth, paper, and wood. These are fires that can be put out with water using and air-pressurized water extinguisher.

(Note: Class A Fires may create Ash)

Class B fires should never be put out with water. They involve flammable liquids like gasoline, alcohol, paints, thinners and so on. Instead of putting them out, water only spreads them and makes them more dangerous.

Class B fires need to be smothered using a class BC or ABC extinguisher. These are multi-purpose dry chemical extinguishers that also leave a non-flammable substance on the extinguished material, reducing the likelihood of re-ignition.

(Note: Class B fires may bubble and boil)

Class C fires are electrical fires. They involve energized electrical equipment; that is, equipment still connected to a live source.

When faced with an electrical fire, you must use either a Class BC or ABC extinguisher. It is also important to try and turn off the power at its source if it can be safely accomplished.

(Note: Class C Fires may create current)

Class D fires involve combustible metals like magnesium, titanium and potassium. These are very dangerous fires that require a special kind of extinguisher depending upon what type of metal is involved.

There are two types of Class D extinguishers: Type 1 uses Sodium Chloride and is effective at controlling magnesium, sodium, potassium and powdered aluminium metal fires. Type 2 extinguishers use a copper-based dry powder designed to smother the fire and displace heat.

(Note: Class D Fires may require a smothering agent like dirt)

Class K fires are Kitchen fires that involve vegetable oils, animal oils, or fats in cooking appliances. They occur in commercial kitchens, the kind you find in restaurants, cafeterias and caterers.

Class K extinguishers use a potassium acetate agent discharged in a fine mist to avoid spreading a grease fire or to help cool the appliance after the fire is out.

(Note: Class K fires usually happen in a kitchen)

The Class ABC Extinguisher

The most common type of extinguisher, and the one you are most likely to see in your workplace, is the multi-purpose ABC extinguisher, which is effective on Class A, B, and C fires.

Always remember that before you use an extinguisher, make sure it's intended for the type of fire you need to put out. As mentioned before, using a Class A water extinguisher on a

Class B Fire will only spread the flammable liquid and make the fire much more dangerous.

The ABC fire extinguisher sprays a dry chemical powder that smothers the fire. It also leaves behind a huge mess, but when you must choose between a fire and a mess, choose the mess.

When to use an Extinguisher

This is very important to remember: extinguishers should only be used to put out small fires, these are also called incipient stage fires.

An incipient stage fire is one that's just getting started, that is still small and contained. An extinguisher will effectively put out a fire this size. That's what it is designed to do. That's all it's designed to do.

An extinguisher can't begin to handle a larger fire, and you only put yourself in danger if you try to fight a fire like this with an extinguisher.

Whatever the size of the fire, you should always follow the site-specific protocol in the event of a fire. If there is no specific protocol, immediately call 911 before trying to put the fire out. Small fires can quickly turn into large fires, and seconds count to a firefighter.

Remember that lives are always more important than property; don't take chances. If you're not sure you can extinguish a fire safely, leave the area and close the door behind you to keep the fire from spreading.

Fully understand that smoke from any type of fire kills more people than the actual fire. If smoke is present, it's best not to try and use an extinguisher, the fumes and gases of smoke are very toxic and can kill.

If you do fight the fire with an extinguisher, always keep your back to an available escape route. You don't want to get trapped in the room by the fire.

Using the “PASS” Method to extinguish a fire

Remember the word “**PASS**”, This is a shortcut to remind you how to use the extinguisher: **P**ull the pin; **A**im the nozzle; **S**queeze the handle; and **S**weep from side to side.

Remove the extinguisher from its mount and take it to the fire. Pull the Pin, then aim the extinguisher nozzle towards the base of the fire, standing six to ten feet from the fire. Then squeeze the handle.

If you stand too close to the fire and squeeze the handle, the force of the pressurized gas and extinguishing agent could actually spread the flames.

Activate the extinguisher well before you reach the fire. Move in slowly, making sure not to spread the fire.

After the fire is out, check to make sure it's really out. That's another reason for calling the fire department.

If you are successful in putting out the fire, the professionals can double check to make sure it's fully extinguished. They don't mind arriving to find out that you already extinguished the fire, but they get real upset if you don't call them until the fire gets out of hand.

Fire Extinguisher Training for Employees

Your company may coordinate training with the local fire department or bring in a vendor to conduct hands on training.

Don't be afraid to let your supervisor know you've never used an extinguisher. Most people haven't and putting out a fire with an extinguisher does require a little training and practice.

For example, extinguishers are pressurized. The force of the expelled gas can be strong, so hang on to the extinguisher if you're going to pull the pin and squeeze the handle.



Also, if you've never had, you can't put out a fire with an extinguisher that's empty. That's why regular maintenance is so important.

Extinguisher Inspection, Maintenance, and Storage

Extinguisher inspections and maintenance should be a major part of your facility’s fire prevention policy.

Check them at least once per month to make sure they’re in good shape; look them over weekly if they’re outdoors.

When your examining the extinguisher, make sure the pressure gauge shows that it’s fully charged. The locking pin and plastic tamper seal are in place, the hose and horn are unobstructed and in good shape and the metal parts are free of corrosion.

Never test an extinguisher to see if it is working. Once the valve has been opened, the extinguisher will lose pressure and may empty completely within a few days.



current; if it’s over a year old, the extinguisher needs to be serviced immediately.

Every six years an extinguisher is required to be hydrostatically tested. This is usually performed by your servicing company and should be regularly checked during inspection under the Hydrostatic Test Record on the inspection tag.

This

A Fire extinguisher is no good at all if you can’t find it when you need it. Never store an extinguisher on the floor, in a closet or behind furniture, plants or decorations.

Extinguishers should be mounted on hangers or in marked fire extinguisher cabinets where they can be clearly seen.

When a fire starts, there’s not time to search for an extinguisher that works. They must be within easy reach and ready to go.

means that any time an extinguisher is used, even for a moment, it must be completely serviced and recharged. If this does not happen, it may be useless when you need it.

After an extinguisher has been inspected and serviced, the servicing company will issue a service tag that’s good for one year. During your monthly inspections, check to make sure it’s

Summary

Fire Extinguishers can save property and lives, so you need to know how to use them.

Know what classes of fire might occur at your facility and which extinguishers you can use to fight them.

Make sure that extinguishers are mounted in plain sight, checked regularly and inspected annually.

Follow site specific fire protocol, sound the alarm, and call 911 before trying to tackle a blaze. Always keep your back to an escape route and get out if the situation becomes too dangerous.

Remember the PASS method: Pull the Pin; aim the nozzle; squeeze the trigger; sweep from side to side.

Talk to your local Fire Department about getting hands on experience with extinguishers.

Fires can start anywhere, at any time, but with the proper training and with the right extinguisher, you may be able to extinguish a small fire before it gets out of control.

The Act

Ontario Occupational Health and Safety Act R.S.O. 1990, c. O.1, O. Reg. 213/91: CONSTRUCTION PROJECTS sections 52 to 55

Fire Safety

52. (1) Fire extinguishing equipment shall be provided at readily accessible and adequately marked locations at a project. O. Reg. 213/91, s. 52 (1).

(1.1) Every worker who may be required to use fire extinguishing equipment shall be trained in its use. O. Reg. 145/00, s. 16.

(2) Without limiting subsection (1), at least one fire extinguisher shall be provided,

(a) where flammable liquids or combustible materials are stored, handled or used;

(b) where oil-fired or gas-fired equipment, other than permanent furnace equipment in a building, is used;

(c) where welding or open-flame operations are carried on; and

(d) on each storey of an enclosed building being constructed or altered. O. Reg. 213/91, s. 52 (2).

(3) At least one fire extinguisher shall be provided in a workshop for each 300 or fewer square metres of floor area. O. Reg. 213/91, s. 52 (3).

(4) Clause (2) (d) and subsection (3) do not apply to a building,

(a) that is to be used as a detached or semi-detached single-family dwelling;

(b) that has two storeys or less and is to be used as a multiple family dwelling; or

(c) that has one storey with no basement or cellar. O. Reg. 213/91, s. 52 (4).

53. (1) Fire extinguishing equipment shall be of a suitable type and size to permit the evacuation of workers during a fire. O. Reg. 213/91, s. 53 (1).

(2) Every fire extinguisher,

(a) shall be a type whose contents are discharged under pressure; and

(b) shall have an Underwriters' Laboratories of Canada rating of at least 4A40BC. O. Reg. 213/91, s. 53 (2); O. Reg. 345/15, s. 10.

54. (1) Fire extinguishing equipment shall be protected from physical damage and from freezing. O. Reg. 213/91, s. 54 (1).

(2) After a fire extinguisher is used, it shall be refilled or replaced immediately. O. Reg. 213/91, s. 54 (2).

55. Every fire extinguisher shall be inspected for defects or deterioration at least once a month by a competent worker who shall record the date of the inspection on a tag attached to it. O. Reg. 213/91, s. 55.



Basics of Fire Extinguishers Review Quiz

Name: _____ Date: _____

The following questions are provided to check how well you understand the information presented during this program.

1. Which class of fire involves energized electrical equipment
 - A. Type A
 - B. Type B
 - C. Type C

2. Smoke from any type of fire kills more people than the actual fire.
 - A. True
 - B. False

3. If a fire is in its incipient stage, you should start fighting it immediately and then follow site specific fire protocol, sound the alarm, or call 911 when it is extinguished.
 - A. True
 - B. False

4. How far should you be standing from a fire when you begin to extinguish a fire?
 - A. 2-3 feet
 - B. 6-10 feet
 - C. 12-15 feet

5. How often should you check the condition of a fire extinguisher?
 - A. Daily
 - B. Monthly
 - C. Weekly

6. You should never test a fire extinguisher to see if it is working.
 - A. True
 - B. False

7. How often should a fire extinguisher be Hydrostatically tested?
 - A. 1 year
 - B. 2 years
 - C. 6 years

8. If a fire extinguisher has been set off, but not fully used, it can go back on the mount.
 - A. True
 - B. False

9. Class B fires can be put out with water.
 - A. True
 - B. False

10. Fire Extinguishers can be placed.
 - A. In a job box
 - B. On a mount
 - C. On the floor