

Portable Fire Extinguisher Presentation

Slide 1

Fire Extinguisher Training

A requirement of all Clemson University Employees as mandated by OSHA:
[Portable fire extinguishers. - 1910.157](#)

Sponsored by:  

Welcome to the Clemson University Online Fire Extinguisher Training Program. All Clemson employees are required by OSHA Standard 1910.157 to complete annual fire extinguisher training.

Slide 2

CU Fire Department

- Location:
Perimeter Road,
Box 34-4010
Clemson, SC 29634
864-656-2242
- CU Policy of Fire Protection
- What should YOU do as a CU Employee in the case of a fire?



IN CASE OF EMERGENCY, DIAL 911

My name is William Daniel and I am the Chief of the Clemson University Fire Department. From our station on Perimeter Road, the department provides round-the-clock fire and emergency medical coverage to the Clemson community.

The policy of Clemson University is for All faculty, staff, and students to evacuate the area they are in when a fire alarm sounds or they discover a fire.

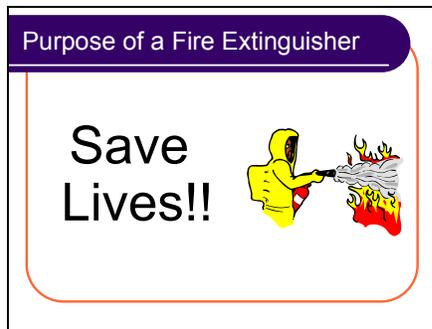
Anyone discovering a fire shall immediately:

- Sound the alarm then leave the building.
- Notify the Fire Department by calling 911 or 656-2222.
- Designated trained employees can evaluate the fire and decide if it is safe to fight. If the fire is large or conditions are unsafe, all employees should evacuate.

Before fighting a fire be sure....

- you have been trained to operate the extinguisher.
- someone has sounded the alarm and called the fire department
- you have an unobstructed escape route incase you cannot put out the fire.
- the fire is small, confined, and not spreading.
- you know what is burning and your extinguisher is right for the fire.

Slide 3



A portable fire extinguisher can save lives and property by putting out a small fire or containing it until the fire department arrives. 94% of all fires are extinguished by portable fire extinguishers according to the National Fire Equipment Dealers Association.

Most fires start small and can usually be brought under control if they are attacked correctly with the right type and size extinguisher within the first two minutes!

Portable Fire Extinguisher Presentation

Slide 4

Test your knowledge...

The purpose of a fire extinguisher is to:

- Make us feel safe.
- Fill empty space in hallways.
- Save lives.
- Keep the fire department from having to put out fires.

Submit Clear

Slide 5

The proper extinguisher

• Fire extinguishers are labeled for the type of fire they are intended to extinguish.



Fire Extinguishers are labeled for the type of fire they are intended to extinguish.

Slide 6

Five classes of fires

- A** Class A – ordinary combustibles (wood, cloth, paper)
- B** Class B – flammable liquids (gasoline, oil, oil-based paints)
- C** Class C – electrical equipment (wiring, fuse boxes, appliances)
- D** Class D – combustible metals (magnesium, sodium)
- K** Class K – cooking media (cooking oils)

WARNING: It is very dangerous to use water or an extinguisher labeled only for Class A fires on an oil, grease, or electrical fire.

The five classes of fire extinguishers are

Class A - ordinary combustibles such as wood, cloth, and paper.

Class B - flammable liquids such as oil and gasoline.

Class C - any energized electrical equipment.

Class D - combustible metals such as magnesium and sodium.

The most recent addition to the system is Class K for commercial cooking oils.

Slide 7

Most Common type of Fire Extinguisher at CU

	Class A – ordinary combustibles (wood, cloth, paper)
	Class B – flammable liquids (gasoline, oil, oil-based paints)
	Class C – electrical equipment (wiring, fuse boxes, appliances)

Fire Extinguishers in public access areas and mechanical rooms on campus are being standardized to five or ten pound Class ABC multipurpose type fire extinguishers and are suitable for use on almost every type of fire. Kitchen and cooking facilities are equipped with Class K extinguishers.

Slide 8

Test your knowledge...

What class of fire is a paper fire?

- Class A
- Class B
- Class C
- Class D

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Slide 9

Where Fire Extinguishers are Located around Campus

- Virtually All Buildings on Campus
- Where they are:
 - Conspicuous
 - Readily Accessible
 - Near an Exit



Fire Extinguishers are installed in virtually all buildings on campus and are located where they are conspicuous, readily accessible, and near an exit.

Slide 10

Fire extinguisher labeling

- All fire extinguishers are labeled using standard symbols for the classes of fires they can be used on.
- A red slash through any of the symbols tells you the extinguisher cannot be used on that class of fire.
- A missing symbol tells you only that the extinguisher has not been tested for a given class of fire, but may be used provided an extinguisher with the rating of the fire is not available.

Slide 11

Old Style of Fire extinguisher labeling



- This is the old style of labeling indicating suitability for use on Class A, B, and C fires.

Portable Fire Extinguisher Presentation

Slide 12

New Style of Fire extinguisher labeling



- This is the new style of labeling that shows this extinguisher may be used on Ordinary Combustibles, Flammable Liquids, or Electrical Equipment fires.

Slide 13

Labels with Diagonal Red Line



- This is the new labeling style with a diagonal red line drawn through the picture to indicate what type of fire this extinguisher is NOT suitable for
 - In this example, the fire extinguisher could be used on Ordinary Combustibles and Flammable Liquids fires, but not for Electrical Equipment fires.

Slide 14

Using a portable fire extinguisher

- Keep your back to an exit and, depending on the size of your extinguisher, stand 10 to 20 feet away from the fire.
- Follow the four-step **PASS** procedure.
- If the fire does not begin to go out, immediately, leave the area at once.

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Slide 15

PASS procedure

The password is **PASS**. It is a four step method.

- P** **PULL** the pin. This will unlock the operating handle and allow you to discharge the extinguisher.
- A** **AIM** at the base of the fire.
- S** **SQUEEZE** the operating handle. This will discharge the fire fighting agent.
- S** **SWEEP** from side to side. Move carefully in on the fire, aiming at the base, sweep back and forth.

Slide 16

Pull

- Pull the pin



- This unlocks the operating lever and allows you to discharge the extinguisher.

Slide 17

Aim

- Aim low



- Point the extinguisher hose (or nozzle) at the base of the fire.

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Slide 18

Squeeze

- Squeeze the lever above the handle

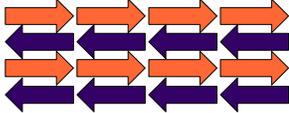


- This discharges the extinguishing agent. Releasing the lever will stop the discharge. See special instructions for cartridge operated dry-chemical extinguishers.

Slide 19

Sweep

- Sweep from side to side



- Moving carefully toward the fire, keep the extinguisher aimed at the base of the fire and sweep back and forth until the flames appear to be out. Watch the fire area. If the fire re-ignites, repeat the process. Always be sure the fire department inspects the fire site, even if you think you've extinguished the fire.

WARNING: Portable fire extinguishers discharge faster than most people think. Many within 15 to 30 seconds.

Slide 20

Test your knowledge...

What does "PASS" stand for?

- Pull the pin; Aim at the base of the fire; Squirt the extinguisher; Sing as loud as you can.
- Pull the pin; Aim at the base of the fire; Squeeze the operating handle; Sweep from side to side.
- Pull the pin; Ask for questions; Squeeze the operating handle; Scream real loud.
- Put on a mask; Aim at the base of the fire; Squeeze the operating handle; Sweep from side to side.

Portable Fire Extinguisher Presentation

Slide 21

The Different Types of Extinguishers

- Pressurized Water Models
- Carbon Dioxide (CO₂) Extinguishers
- Dry Chemical Extinguishers
- Sodium Bicarbonate Extinguishers
- Potassium Bicarbonate
- Foam Extinguishers

Different types of fire extinguishers you may come across include.....

Slide 22

Pressurized water models

- Are appropriate for use on Class A (wood, cloth, paper) fires only.
- These must **never** be used on:
 - Class B (flammable-liquid)
 - Class C (electrical fires)



Pressurized water extinguishers are filled with 2 1/2 gallons of water and are appropriate for use on Class a Fires ONLY. Never use water on a Class B (flammable liquid) fire or Class C(Energized Electrical Equipment) fires.

Slide 23

Carbon dioxide (CO₂) extinguishers

- Contain pressurized liquid carbon dioxide, which turns to a gas when expelled. CO₂ is not corrosive.
- Since CO₂ does not react with water or conduct electricity, these models are rated for use on Class B (flammable liquid) and C (electrical) fires.
- Never hesitate to use a CO₂ extinguisher on a Class A (wood, cloth, paper) fire.



Carbon Dioxide extinguishers contain liquid CO₂ which turns to a gas when expelled. CO₂ is suitable for use on Class B & C fires by displacing the oxygen and has a cooling effect but have limited effect on Class A fires due to the limited volume of the agent in a portable unit. CO₂ extinguishers have no gauge and are check by weight.

Portable Fire Extinguisher Presentation

Slide 24

Dry-chemical extinguishers

- Blanket burning materials with powdered chemicals.
- In some models the chemicals are stored under pressure; *to use these, simply pull the pin and squeeze the handle.*
- In others, the chemicals are expelled by pressure supplied by a separate gas-filled cartridge; *to operate these, depress the lever on the unit, then squeeze the nozzle at the end of the hose to expel the agent.*
- The dry chemicals used are corrosive.



Slide 25

Sodium bicarbonate extinguishers

- Suitable for fighting Class B and C fires
- Are preferred over other dry-chemical extinguishers for fighting grease fires.
- Never fight a grease fire from closer than 10 feet and be careful not to splash grease. Fighting grease fires requires special training.
- Where provided, an extinguishing system protecting the cooking appliances is always more effective. Know the locations of the manual releases for these systems.



Slide 26

Potassium bicarbonate

- Urea-based potassium bicarbonate, and potassium chloride extinguishers can put out bigger fires than extinguishers using sodium bicarbonate
- Can leave a heavy residue of powdered chemical that can damage electrical equipment.



Portable Fire Extinguisher Presentation

Slide 27

Foam extinguishers (or AFFF and FFFP)

- Coat the surface of a burning flammable liquid with a chemical foam to lower its temperature or cut off oxygen.
- Since the foam contains water, which conducts electricity, foam extinguishers cannot be used on electrical fires.



Slide 28

Further Reference

- Link to the OSHA Portable Fire Extinguisher Guideline:
 - http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_d=9811

Slide 29

CU Fire Department

- Once a Fire Extinguisher Has been Extinguished:
 - Report it IMMEDIATELY to the CU Fire Department Dispatcher at 656-2222 OR
 - During Normal Business Hours to the CU Fire Marshall at 656-2242
 - Do not bring discharged Fire Extinguishers to the Fire Station.

Once a fire has been extinguished you should report it immediately to the Clemson University Fire Department dispatcher at 656-2222 or during business hours the University Fire Marshal at 656-2242. A report on the fire will be completed and the campus fire extinguisher maintenance contractor will be sent to replace or recharge the extinguisher. Do not bring discharged extinguishers to the Fire Station. Provide the location and a contact number when you report the extinguisher used so we can

be sure it is replaced in the proper location.

Slide 30

Test your knowledge...

Once a Fire Extinguisher Has been Extinguished, you should report it immediately to the CU Fire Department Dispatcher.

True
 False

Slide 31

In Conclusion

- CU Fire Department
 - Perimeter Road
 - 864-656-2242
 - <http://staff.clemson.edu/cufd/>
- Environmental Health and Safety
 - <http://ehs.clemson.edu/>



Thank you for participating in this required annual training program. We encourage you to visit the Fire Station on Perimeter Road to meet our Fire Fighters and Paramedics or visit our web site at the address shown on your screen.

If you have any occupational health and safety questions or concerns, contact Environmental Health and Safety or visit their web site at the address shown on your screen.

Remember - Prevention is the

Slide 32

Quiz Results and Form Completion

{questions} out of {total-questions} were correct
You scored {score} out of {total-score}

Please click the following link and submit the form for proof of completion of this course. This course is an **annual** OSHA requirement.

http://www.clemson.edu/humanres/Training_Dev/elop/fire_exting_completion_form.htm

Thank you for your participation.