

Fire Extinguisher Reference Guide

The safety of yourself and others is always the first priority. In the event of a fire, your focus should be on evacuating to a safe place and activating the closest fire alarm pull station on the way out. If the fire is still in the early ignition stage (typically no larger than a small waste basket) and you have completed the CMU Fire Extinguisher Training, you may decide to attempt to extinguish the fire before evacuating.

The following guide can be used as a review of the 5 classes of fire, the available types of fire extinguishers and the how to effectively operate a fire extinguisher.

Classification of Fires



Class A Fires

Common combustibles such as wood, paper and fabric.



Class B Fires

Flammable liquids and gases such as gasoline, oils, alcohol and propane.



Class C Fires

Energized electrical equipment such as appliances, batteries, electrical panels and transformers.



Class D Fires

Combustible metals such as lithium, magnesium, sodium and potassium.



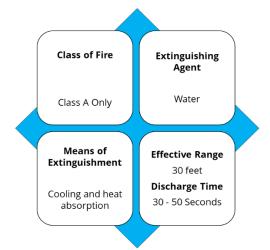
Class K Fires

Cooking media such as oils, fats and grease.

Types of Fire Extinguishers

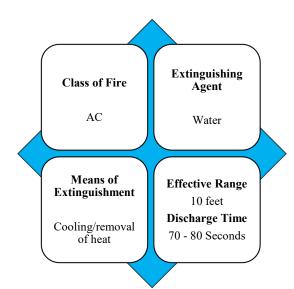
Air Pressurized Water





Air Pressurized Water-Mist





Special Note: Water mist fire extinguishers have been added to areas having laser cutters. This is because water is better suited to extinguish deeper seated fires that can be expected in the burning material that is being cut. The water mist is safe to use on electrical equipment, and will not damage sensitive electronic components on the laser cutters.

Dry Chemical (Multipurpose)



Agent

Class ABC

Monoammonium Phosphate

Extinguishing

Means of Extinguishment

Breaking of the chemical chain reaction

Effective Range 10 feet

Discharge Time

10 – 30 seconds



Dry Chemical (Regular)



Class of Fire

Class BC

Extinguishing Agent

Sodium Bicarbonate/ Potassium Bicarbonate

Means of Extinguishment

Breaking of the chemical chain reaction

Effective Range

10 feet

Discharge Time

10 - 30 seconds

Carbon Dioxide (CO2)

Class of Fire

Class BC

Extinguishing Agent

Carbon Dioxide (CO2)

Means of Extinguishment

Oxygen displacement

Effective Range

5 feet

Discharge Time

10 – 20 seconds



Halogenated Agent (Clean Agent)



Class of Fire

Extinguishing Agent

Class ABC / BC

Combinations of Halogens, Carbon & Hydrogen

Means of Extinguishment

Effective Range 10 feet

Breaking of the chemical chain reaction

Discharge Time 10 – 15 seconds

Dry Powder



Extinguishing Agent

Powdered Graphite, Sodium Chloride or Copper

Means of Extinguishment

Class D only

Effective Range

5 feet

Heat absorption through an occlusive crust **Discharge Time** 20 seconds



Wet Chemical



Class of Fire

Extinguishing Agent

Class K only

Potassium-based alkaline solutions

Means of Extinguishment

Effective Range 5 feet

Cooling / Suppression of grease-laden vapors

Discharge Time 50 seconds

Best Practices

- Always activate the closest manual fire alarm pull station before attempting to
 extinguish a fire. This will alert the fire department to respond to your location and
 allow the occupants of the building to begin the evacuation process. It is also best
 practice to have someone place a call directly to 911 to ensure the fire department
 is on the way.
- When choosing a fire extinguisher, select one that is classified for use on the type
 of fire that is involved. For example, you wouldn't want to select a water fire
 extinguisher (Class A fires only) for use on an electrical fire (Class C fires).
- Once you have selected the appropriate fire extinguisher, approach the fire from uphill and upwind, as applicable.
- As you approach the fire, utilize the P.A.S.S. method of operation, beginning about 10 feet away.

P= PULL THE PIN

A= AIM THE NOZZLE AT THE BASE OF THE FIRE

S= <u>SQUEEZE</u> THE DISCHARGE LEVER

S= <u>SWEEP</u> SIDE TO SIDE

 Pay attention to your surroundings at all times and never let the fire get between you and an exit.

Safety concern, training request or other inquiry?

Reach out to the Environmental Health and Safety Department today!

safety@andrew.cmu.edu

412-268-8182