

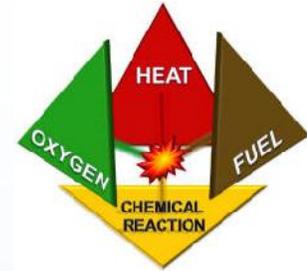


Fire Extinguisher Basics

To understand how fire extinguishers work, you need to understand a little about fire. Fire is a very rapid chemical reaction between oxygen and a combustible material, which results in the release of heat, light, flames and smoke.

For the fire to exist, the following four elements must be present at the same time:

- Enough oxygen to sustain combustion (16%)
- Enough heat to raise the material to its ignition temperature
- Some sort of fuel or combustible materials.
- The chemical reaction that is fire.



How a Fire Extinguisher Works

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, agent is expelled out of the nozzle.

All portable fire extinguishers must be approved by a nationally recognized testing laboratory to verify compliance with applicable standards. Equipment that passes the laboratory's tests are labeled and given an alpha-numeric classification based on the type and size of fire it will extinguish.

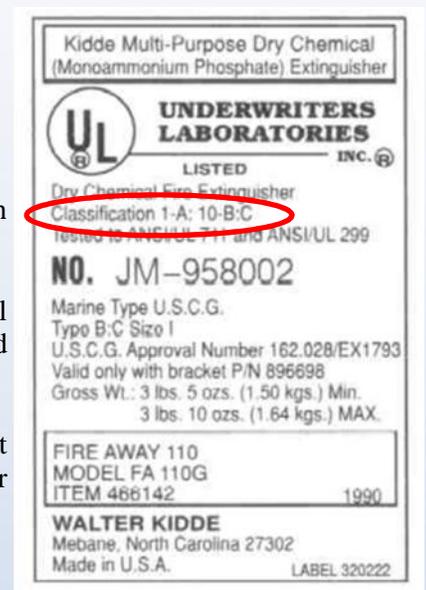
The label (pictured to the right) has the following classification:

1-A: 10-B: C

The letters (A, B and C) represent the type of fire for which the extinguisher has been approved.

The number in front of the A rating indicates how much water the extinguisher is equal to and represents 1.25 gallons of water for every unit of one. For example, a 4-A rated extinguisher would be equal to five (4 x 1.25) gallons of water.

The number in front of the B rating represents the area in square feet of a class B fire that a non-expert user should be able to extinguish. Using the example, a non-expert user should be able to put out a flammable liquid fire that is as large as 10 square feet.



This fact sheet is not intended to be exhaustive. The discussion and best practices suggested herein should not be regarded as legal advice. Readers should pursue legal counsel or contact their insurance providers to gain more exhaustive advice

For additional information on this topic please contact ACWA JPIA Risk Control Department, Terry Lofing, Administrative Assistant (tlofing@acwajpia.com) or 800-231-5742

Types of Fire Extinguishers

Extinguisher Type		Type of Fire	
Water		<p>Ordinary Combustibles</p> <p>Fires in paper, cloth, wood, rubber and many plastics require a water type extinguisher labeled A.</p>	 <p>A</p>
CO ₂		<p>Flammable Liquids</p> <p>Fires in oils, gasoline, some paints, lacquers, grease, solvents, and other flammable liquids require an extinguisher labeled B.</p>	 <p>B</p>
Dry Chemical		<p>Electrical Equipment</p> <p>Fires in wiring, fuse boxes, energized electrical equipment, computers, and other electrical sources require an extinguisher labeled C.</p>	 <p>C</p>
Multi-Purpose		<p>Ordinary Combustibles, Flammable Liquids, or Electrical Equipment</p> <p>Multi-purpose dry chemical is suitable for use on class A, B and C.</p>	 <p>A B C</p> <p>Trash, paper, cloth etc. Gasoline, propane and solvents. Computers, fax machines etc.</p>
Class D		<p>Metal</p> <p>Fires involving powders, flakes or shavings of combustible metals such as magnesium, titanium, potassium and sodium require special extinguishers labeled D</p>	<p>COMBUSTIBLE</p>  <p>D</p> <p>METALS</p>

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<p>Class K</p>		<p align="center">Kitchen Fires</p> <p>Fire involving combustible cooking fluids such as <u>vegetable</u> oils and <u>animal</u> fats. Travel distance to a class K extinguisher shall not exceed 30 feet.</p>	
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Components and Proper Use



P	Pull (Safety Pin)
A	Aim (at base of flames)
S	Squeeze (handle)
S	Sweep (left to right)

Installation

To prevent fire extinguishers from being moved or damaged, they should be mounted on brackets or in wall cabinets with the carrying handle placed 3 ½ to 5 feet above the floor. Larger fire extinguishers need to be mounted at lower heights with the carrying handle approximately 3 feet from the floor.

TYPE OF FIRE		TRAVEL DISTANCE
Class A	Paper, wood, cloth, rubber, some plastics	75 feet or less
Class B	Flammable liquids – oils, gasoline, some paints, lacquers, grease, solvents	50 feet or less
Class C	Electrical equipment	As appropriate based upon existing Class A or B hazards
Class D	Combustible metal – powders, flakes, shavings (generated once every 2 weeks)	75 feet or less
Class K	Combustible cooking media – vegetable or animal oils and fats	30 feet or less

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