



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
- 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.

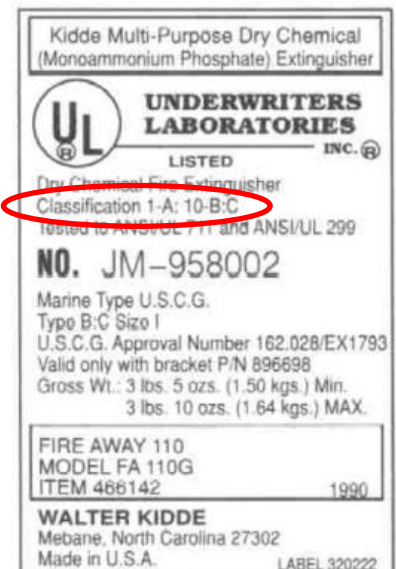
The label (pictured to the right) has the following classification:

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.



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>	 A
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>	 B
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>	 C
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>	
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>METALS</p>
Class K		<p>Kitchen Fires</p> <p>Fire involving combustible cooking fluids such as oils and fats. Travel distance to a class K extinguisher shall not exceed 30 feet.</p>	



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