

## Fire Extinguisher Selection Guide

Choosing the correct Fire Extinguisher for the application, can be an overwhelming task at times. This guide is designed to provide important information to make the selection process easier. As always, please check with your local authority having jurisdiction (Fire Marshall/Inspector) for more specific requirements.

### The National Fire Protection Association (NFPA) classifies fires into five general categories:



**Class A** fires involve ordinary materials like burning paper, lumber, cardboard, plastics, etc.



**Class B** fires involve flammable or combustible liquids such as gasoline, kerosene, and common organic solvents used in the laboratory.



**Class C** fires involve energized electrical equipment, such as appliances, switches, panel boxes, power tools, hot plates, and stirrers. Water can be a dangerous extinguishing medium for class C fires because of the risk of electrical shock unless a specialized water mist extinguisher is used.



**Class D** fires involve combustible metals, such as magnesium, titanium, potassium and sodium, as well as pyrophoric organometallic reagents such as alkyllithiums, Grignards and diethylzinc. These materials burn at high temperatures and will react violently with water, air, or other chemicals. Handle with care!



**Class K** fires are kitchen fires. This class was added to the NFPA portable extinguishers Standard 10 in 1998. Kitchen extinguishers installed before June 30, 1998 are "grandfathered" into the standard.

Some fires may be a combination of these. Fire extinguishers should have ABC ratings on them. These ratings are determined under ANSI/UL Standard 711 and may look something like "4A:20B:C". Higher numbers mean more firefighting power. A breakdown of the numbers are as follows:

- 1.) The A rating is a water equivalency rating. Each A is equivalent to 1.25 gallons of water. 4A=5 gal. of water.
- 2.) The B:C rating is equivalent to the amount of square footage that related to the degree of training and experience of the operator, the extinguisher can cover. 20 B:C=20 sq. ft. of coverage.
- 3.) The C indicates it is suitable for use on electrically energized equipment.

When analyzing these ratings, note that there is not a numerical rating for Class C or Class D fires. Class C fires are essentially either a Class A or Class B fire involving energized electrical equipment where the fire extinguishing media must be non-conductive. The fire extinguisher for a Class C fire should be based on the amount of the Class A or Class B component. For Class D extinguisher use, the relative effectiveness is detailed on the extinguisher nameplate for the specific combustible metal fire for which it is recommended.

### MAGNETIC FIELD WARNING



If you work around extremely high field magnets such as magnetic resonance imaging (MRI) machines or nuclear magnetic resonance spectrometers (NMR's), you should only have non-magnetic fire extinguishers on hand. The magnetic field of an MRI or NMR machine is strong enough to make a steel cylinder fly across the room with lethal force.



Information sources include UL, NFPA, WW Grainger

If you are still having difficulty choosing a fire extinguisher, please contact us at [askzoro@zoro.com](mailto:askzoro@zoro.com) or 855-289-9676

Product Compliance and Suitability.

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