

# Fire Extinguisher Classifications

Fire extinguishers are classified by the type of fire that they will extinguish. There are five different fire extinguishers classifications. If the proper fire extinguisher class is not used there is a risk that the fire will not be suppressed. All fire extinguishers have classification labels to identify the type of fire they can be used upon. Everyone should learn about the different classifications so that only the appropriate type will be selected in an actual fire emergency.



## A Class

A class fire extinguishers are used for ordinary combustibles, such as wood, paper, some plastics, and textiles. This class of fire requires the heat absorbing effects of water or the coating effects of certain dry chemicals. Extinguishers that are suitable for Class A fires should be identified by a triangle containing the letter "A."



## B Class

B fire extinguishers are used for flammable liquid and gas fires such as oils and gasoline. These fire extinguishers deprive the fire of oxygen and interrupt the fire chain by stopping the release of combustible vapors. Extinguishers that are suitable for Class B fires should be identified by a square containing the letter "B."



## C Class

C fire extinguishers are used on fires that involve live electrical equipment. These extinguishers deprive the fire of oxygen through the use of CO2. As a gas the extinguisher will suppress the fire and not further damage the electrical equipment as a dry chemical extinguisher would. Extinguishers that are suitable for Class C fires should be identified by a circle containing the letter "C."



## D Class

D fire extinguishers are used on combustible metals, such as magnesium, titanium, or aluminum and require an extinguishing medium that does not react with the burning metal. Extinguishers that are suitable for Class D fires should be identified by a five-point star containing the letter "D."



## K Class

K fire extinguishers are used on fires involving cooking greases and oils in commercial kitchen settings such as a restaurant. These fire extinguishers work on the principle of saponification. Saponification takes place when alkaline mixtures are applied to burning cooking oil or fat. The alkaline mixture combines with the fatty acid creating a "soapy" foam on the grease surface holding in the vapors and extinguishes the fire. Employees should be trained that these extinguishers are intended to be used as a supplement to the commercial kitchen's automatic extinguishing system which should always be activated first. Appropriate signage is required to be hung above the extinguisher reminding employees of the intended use.



## Multi-Purpose Fire Extinguishers

Many extinguishers are multi-class for a combination of fire types (Class AB, Class BC, and Class ABC)

## Training

Where the employer has provided fire extinguishers for employee use, the employer must provide an educational program to familiarize employees on the principles and use of the extinguishers. This training should be completed during the initial hiring and annually thereafter.

## Inspection

A monthly visual inspection should be completed to ensure the extinguisher is in its designated location and has not been used or damaged. Additionally, an annual maintenance inspection should be conducted by a qualified fire extinguisher contractor which includes appropriate annual tagging.

For more information, contact the State Auto Claims and Risk Engineering Department:

1-800-755-1853 ext. 4837

[AskRiskEngineering@StateAuto.com](mailto:AskRiskEngineering@StateAuto.com)

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