

## Portable Extinguisher Selection Guide

The National Fire Protection Association (NFPA) has established the requirements for the number, size, placement, performance, and maintenance of portable fire extinguishers. These requirements are contained in NFPA 10, "Standard for Portable Fire Extinguishers". Within this Standard it is stated that the selection of fire extinguishers for a given situation is determined by the character of the fires anticipated to be encountered, the construction and occupancy of the property to be protected, the ambient temperature of the area where the extinguisher will be located, and other factors that may dictate the selection of a particular type of extinguisher.

### CLASSIFICATION

Generally, fire extinguishers are selected based on the hazard(s) they are intended to protect. Classifications have been established to categorize what type of extinguishing agent is best suited for the fire hazard. These classifications are A, B, C, D, and K.

A fire extinguisher assigned a Class A classification is suitable for use on ordinary combustibles; wood, paper, cloth, rubber, and many of the plastics. The B classification is intended for use on flammable liquids, combustible liquids, petroleum greases, oils, oil-based paints, solvents, alcohols, and flammable gases. Class C extinguishers are for use on fires involving energized electrical equipment. For fires involving combustible metals (magnesium, lithium, zirconium, etc.), Class D extinguishers are best to use. An extinguisher designated Class K best protects cooking appliances that utilize cooking media such as vegetable oils and animal fats.

### RATING

Along with the classification, the numerical rating of an extinguisher is an important factor in the proper selection of an extinguisher.

The rating is a measure of the extinguishing potential of the fire extinguisher and is developed on the basis of comparative fire tests (Reference UL 711, Standard for Rating and Testing of Fire Extinguishers). Only the Class A and Class B classifications carry numerical ratings. Basically, the higher the number associated with the classification letter, the larger the fire the extinguisher has the potential to put out. Please refer to NFPA 10 when determining the rating necessary for the floor area requiring protection.

There are no numerical ratings associated with Class C, D, or K classifications. Comparative fire tests are not conducted. In the case of Class C, the electrical nonconducting characteristics of the agent are verified, not the extinguishing potential. For Class D, only the amount of agent and application method needed to control a metal fire of a certain size and type is tested. And for Class K, the fire extinguishing characteristics of the extinguisher have only been determined for a single size fire source. In the typical rating of an extinguisher, for example 3A-40B:C, the 3 and the 40 indicate the extinguishing potential of the unit for a Class A and Class B fire respectively. The C indicates that the extinguishing agent will not conduct electricity, preventing shock to the user if used on energized electrical equipment.

On the following page is a reference chart with the basic rating parameters for extinguishers.

### SUMMARY

To provide the best protection of life and property from the destructive force of fire, it is critical that the proper fire extinguisher selection be made. The Classification and Rating of an extinguisher are vital pieces of information for making that selection.

Using NFPA 10 for guidance, matching the right fire extinguisher to the potential hazard, providing a sufficient number of extinguishers for the area to be protected, locating the extinguishers for maximum visibility and accessibility, and personnel trained in the use and maintenance of the extinguisher will significantly lessen the risk of loss.