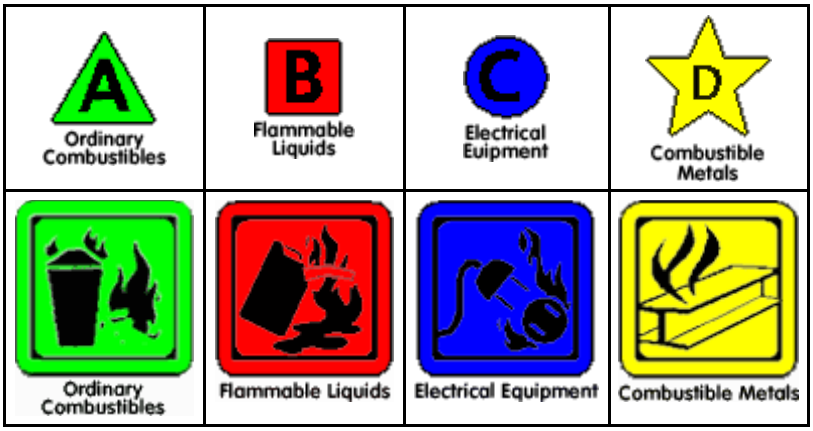
Fire Extinguishers | Escape Ladders

Classes of Fires

Before starting to talk about the types of fire extinguishers, we should know a little about the different classes of fires.



There are 4 different classes of fires:

- **Class A** - This class deals with ordinary combustibles, such as wood, clothe, paper, many plastics, and other common materials that burn easily. This class can be identified as the letter "A" with a green triangle around it. There is also another new symbol.

- **Class B** - Class B deals with flammable liquids, such as gasoline, oil, grease, tar, oil-based paint, lacquer, and flammable gas. The symbol for this class of fire is the letter "B" with a red box around it. There is also a new symbol for this type as well.

- **Class C** - This class is primarily concerned with electrical equipment, such as computers, wiring fuse boxes, circuit breakers, machinery and appliances. The symbol for this class of fire is the letter "C" surrounded by a blue circle. There is also a new symbol.

- **Class D** - This class is very rarely something you will very rarely deal with. It is concerned with combustible metals such as magnesium, aluminum, lithium, and other combustible metals or metal dust. The symbol to indicate this type of fire is the letter "D" and surrounded by a yellow star.

- **Class K** - This class deals with the commercial cooking industry because it is concerned with combustible cooking oils or fats.

Types of Fire Extinguishers

Now that we know the different categories that fires fit into, we can talk about the different types of fire extinguishers available. Fire extinguishers that work on a Class A fire put out the fire by cooling it. Class B fire extinguishers cover the fuel and stop the reaction along the surface. The Class C fire extinguishers work by displacing oxygen and smothering the fire.

- **Pressurized Water (APW)** extinguishers can only be used on Class A fires. Water is located inside the canister and will spray a stream about 15-30 feet. This stream lasts for about 30-60 seconds. Water freezes at 0 C, so these extinguishers must not be stored at temperatures below 4 C (40 F). Using this type of fire extinguisher on another fire class intensifies the fire. Also if you use this type of extinguisher on electrical, or Class C, fires you run the risk of electric shock.

- **Dry Chemical** fire extinguishers require that you be careful using them indoors because they cause a dense cloud of dust. This cloud limits your vision and could cause you to choke. There are class B and C dry chemical fire extinguishers (flammable liquids and electrical/energized fires), as well as ones that will work on class A, B, and C fires (flammable materials, flammable liquids, and electrical/energized fires). They range in size from 2 - 30 pounds, spray about 5-20 feet and last for about 10-25 seconds.

    a. Ammonium Phosphate dry chemical extinguisher can be used on Class A, B, and C fires. NEVER use this extinguisher on a commercial grease fryer. The fryer's automatic fire protection system becomes less effective leaving the possibility of a re-flash.

    b. Sodium Bicarbonate dry chemical is suited for Class B and C fires.

    c. Potassium Bicarbonate, Urea-Base Potassium Bicarbonate and Potassium Chloride dry chemical are used on Class B and C fires. These fire extinguishers perform better and require less of the agent inside the canister to be dispensed than the sodium bicarbonate extinguisher.

- **Carbon Dioxide** fire extinguishers can be used on Class B and Class C fires (liquids and electrical). They spray about 3-8 feet, but the gas disperses quickly. Inside the canister the carbon dioxide is stored as a compressed liquid. When the gas is sprayed out it cools the surrounding area and can sometimes form ice around the nozzle of the extinguisher. This fire extinguisher is very tricky though because even if it looks like the fire has been put out, you should continue to use the extinguisher until it is finished. Make sure that you watch the fire area after it has stopped in case it re-ignites. NEVER use on a Class D fire because it is dangerously reactive on with metal fires.

- **Metal/Sand** extinguishers are used for Class D fires (flammable metals). This extinguisher contains powered copper metal or sodium chloride inside the extinguisher canister that will smoother the metal fire when sprayed.

Fight or Flight?

You should only fight a fire if:

- The fire department has been called (call 911).
- Everyone has left the building or is in the process of leaving.
- The fire is a small contained fire that does not seem to be spreading anywhere past the initial starting point.
- You have a safe escape route behind you so that if need be you can escape.
- You have the correct type of fire extinguisher for the class of fire that is burning AND it is working properly.
- You have been trained on how to use a fire extinguisher and you are very confident that you can properly use one.

If you are not sure about any of these things then you should NOT fight the fire. Get out and stay out. Let the firefighters put out the fire.

DON'T fight a fire if:

- The fire has spread or is spreading past its original point of ignition or the fire large already.
- The fire could prevent you from using your escape route.
- You are not sure how to operate a fire extinguisher.

- You are not sure that you have the correct fire extinguisher for the class of fire you are trying to extinguish.

If **ANY** of the above are true, then you should leave the building, closing the doors and windows on your way out if possible. The fire department will be there soon to put out the fire.

Inspection and Maintenance

Just like your smoke alarm, a fire extinguisher must be inspected and maintained in order to be sure that it will protect you. You should check the fire extinguisher every month looking at:

1. It is properly mounted on the wall in an accessible location.
2. It is easy to see and get to.
3. The operating instructions for the fire extinguishers making sure that they are visible and facing outwards.
4. The outside of the extinguisher to see if the safety seals are intact, nothing is missing or broken, and that nothing has been tampered with in any way.
5. The weight of the fire extinguisher to ensure that it is full.
6. The fire extinguisher to make sure that there is no physical damage, corrosion, leakage, or anything clogged in the nozzle.
7. The pressure gauge to ensure that it is at the correct pressure.
8. If you have a wheeled unit you should check the entire unit to make sure that it is in proper working condition.

The fire extinguisher should be inspected by a fire safety company every year, to make sure that it is in working order.