

# THE FIRE TRIANGLE

## SAFETY TOOL BOX TALK

Let's talk about what makes a fire and what we can do to prevent one.

Fire can be compared to a triangle. Three sides are necessary to make a triangle and three ingredients are necessary to cause a fire. These are heat, air, and fuel. If any one of these three sides is missing, there can be no fire.

### HEAT

Heat, the first side of the fire triangle, can come from many sources. It can be generated by sparks from welding operations, discarded cigarette butts, electrical shorts, frayed wiring, friction from power tools, and hot exhaust pipes.

### FUEL

Fuel, the second side of the fire triangle, may be liquid, such as gasoline or solvents; a solid, such as paper or wood scraps; or a gas, such as propane.

### AIR

Air, the third side of the fire triangle, contains oxygen which is necessary to sustain a fire. This is one side of the triangle we can't do much about. Air is usually present. Heat, fuel, and air must be in the proper proportion for fire to occur. It is possible to have these three ingredients without causing a fire. For example, there may not be enough heat or air to ignite the fuel and cause it to burn.

### ELIMINATING THE TRIANGLE

- Maintaining a neat and clean work area, thus preventing an accumulation of rubbish.
- Putting oily or paint-soaked rags in covered metal containers.
- Observing all "No Smoking" signs.
- Keeping all combustible materials away from furnaces or other sources of ignition.
- Reporting any fire hazards we, personally, cannot eliminate. This includes electrical hazards, which are the source of many fires.
- Arranging cold weather heating devices so that tarps won't blow into them.

When you know the angles, it's easier to prevent and control fires. Remember the fire triangle: heat, air, and fuel. When you find these three ingredients present, take heed. A fire could be in the making.



# THE ABC'S OF FIRE EXTINGUISHERS

## SAFETY TOOL BOX TALK

Just as there is a right tool for every job, there is a right extinguisher for every fire.

The class of an extinguisher, identified on its nameplate, corresponds to the class or classes of fire the extinguisher controls. On most construction jobs, we are concerned with Class A, B and C fires. Consequently, the best extinguisher to have on a job is a multi-purpose Class ABC extinguisher, which contains a dry, powdered chemical under pressure.

The following describes the classes of fire and the kind of extinguisher that can be used on each:

### **CLASS A FIRES**

Wood, paper, trash, and other materials that have glowing embers when they burn. Extinguisher to Use: For Class A fires, use a Class A or Class ABC extinguisher. Always remember that a Class A extinguisher contains water and should be used only on a Class A fire. Used on gasoline, it can spread the fire; used on electrical fires, it can cause you to be electrocuted.

### **CLASS B FIRES**

These are fires involving flammable liquids and gases, such things as gasoline, solvents, paint thinners, grease, LPG, and acetylene. Extinguisher to Use: Use Class B or Class ABC extinguishers.

### **CLASS C FIRES**

These are fires in energized electrical equipment. Extinguisher to Use: Use a Class BC or Class ABC extinguisher.

1. Use the fire extinguisher whose class corresponds to the class of the fire.
2. Never use a Class A extinguisher, which contains water or foam, on a liquid or electrical fire.
3. Know where extinguishers are located and how to use them. Follow the directions printed on the label.
4. Keep the area around the fire extinguisher clear for easy access.
5. Don't hide the extinguisher by hanging coats, rope, or other materials on it.
6. Take care of the extinguishers just as you do your tools.
7. Never remove tags from extinguishers. They indicate the last time the extinguisher was serviced and inspected.
8. Report defective or suspect extinguishers to your Supervisor, so that they can be replaced or repaired.

9. When inspecting extinguishers, look for cracked hoses ,plugged nozzles, and corrosion. Also, look for damage that may have been done by equipment running into the extinguishers.
10. Don't use extinguishers for purposes other than fighting fires.

Nobody wants a fire. But if one starts, know what extinguishers to use and how to use them.

