



DEVON & CORNWALL FIRE PROTECTION TRAINING NOTES

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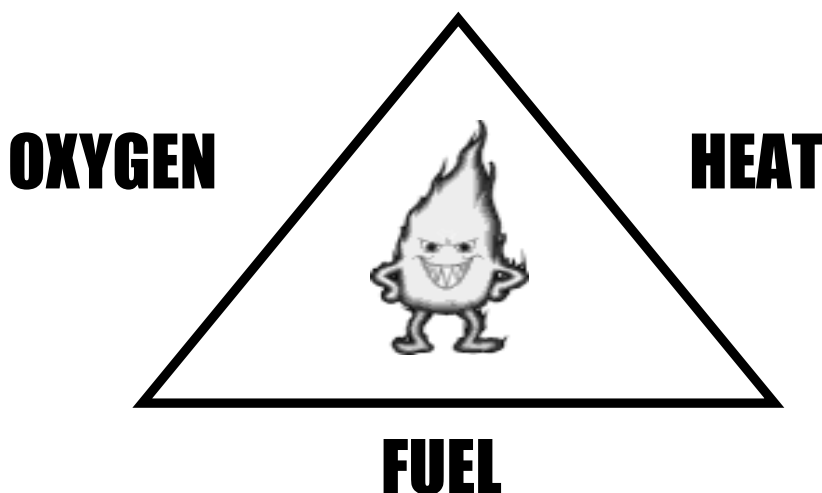
HOW DO FIRES START

One or more of the following reasons generally cause fires in the workplace.

- Faulty electrical equipment or wiring.
- Overheating machinery sparks hot metals.
- Open fires and heating appliances.
- Lack of maintenance.
- Flammable liquids.
- Bad storage or poor standards of housekeeping.
- Cigarettes – lack of care.

WHAT IS FIRE

Fire is a chemical reaction known as combustion, which occurs when oxygen and fuel are brought together with sufficient heat to cause ignition.



HEAT

Heat can be applied in a number of ways>

Deliberate> Arson.

Accidental> Heater placed too close to furnishings.

Bad Practice> Blocked machinery vents.

OXYGEN

It is normally present in the air around us in a sufficient quantity to support fire, approximately 21%.

FUEL

Comprises of the following>

Combustible solids / metals / liquids / gases.

Wood, paper, petrol, gas,

Class A



Fires involving freely burning materials. For example wood, paper, textiles and other carbonaceous materials.

Appropriate Extinguishers.

Water, Foam, ABC Dry Powder and Wet Chemical Extinguishers.
Extinguishers with white, yellow or blue labels.

Class B



Fires involving flammable liquids. For example petrol, diesel, solvents, lubricants and spirits.
Not alcohol or cooking oil.

Appropriate Extinguishers.

Foam, ABC Dry Powder, Monnex Dry Powder and CO² Gas Extinguishers.
Extinguishers with yellow, blue (not L2 or M28 Powder) or black labels.

Class C



Fires involving flammable gases. For example butane and propane.

Appropriate Extinguishers.

ABC Powder and Monnex Dry Powder Extinguishers.
Extinguishers with blue labels (not L2 or M28 Powder).

Class D



METAL Fires involving flammable metals. For example sodium, lithium, magnesium and aluminium when in the form of swarf or powder.

Appropriate Extinguishers.

L2 Powder and M28 Powder Extinguishers (M28 Powder does not cover lithium).
Extinguishers with blue labels (not ABC or Monnex Dry Powders).



Fires involving electrical equipment. For example photocopiers, fax machines and computers.

Appropriate Extinguishers.

ABC Powder, Monnex Dry Powder and CO² Gas Extinguishers.
Extinguishers with blue (not L2 or M28 Powder) or black labels.

Class F



Fires involving cooking oil and fat. For example olive oil, maize oil, sunflower oil, lard and butter.

Appropriate Extinguishers.

Wet Chemical Extinguishers.
Extinguishers with yellow labels.

COLOUR CLASSIFICATION OF FIRE EXTINGUISHERS BS5423 & EN3

ALL EXTINGUISHERS FROM JANUARY 1997 MUST BE MANUFACTURED TO BS 7863 EN3 1996 WITH IS A RED FIRE EXTINGUISHER WITH A COLOURED STRIPE NO MORE THAN 5% OF THE BODY.

	WATER	DRY POWDER	CO2	AFFF
BS5423	RED	BLUE	BLACK	CREAM
BS/EN3	RED EXTINGUISHER	BLUE STRIPE	BLACK STRIPE	CREAM STRIPE

METHODS OF EXTINGUISHING FIRES

Heat Fuel Oxygen is necessary for fire to exist; if one or more of these are removed fire will be extinguished.

Removal of heat

Water is used for cooling a fire, it has the greatest heat absorbing properties of all liquids, and it is cheap and readily available.

Removal of fuel

Removal of fuel by starvation e.g. shutting off a gas supply.

Removal of Oxygen

Removing or limiting its supply of oxygen can extinguish a fire.

THE SPREAD OF FIRE

Heat energy passes from hotter to cooler regions by one of the following methods.

Convection

Is the primary agent of fire spread, it is distributed in rising convection currents of hot gases at temperatures of 800-1000 degrees centigrade, heating and igniting everything in its path.

Once stopped by the ceiling, the hot gases will spread laterally to walls and falling down almost to the floor filling the room with smoke and toxic fumes. This is why it is important to keep all doors, especially fire resisting doors closed at all times to protect fire escapes.

Radiation

Is the transfer of heat energy as electromagnetic waves. Radiation heats fats solids and liquids indirectly; it will pass through glass and can spread to adjacent buildings.

Conduction

Is the passage of heat through a material, Conducted heat can travel through walls, floors and ceilings of rooms e.g. along metal joists pipes.

FIRE INSTRUCTION & DRILLS

All members of staff including staff whose work is engaged outside normal working hours, such as cleaners, should receive training and instruction in appropriate emergency procedures. This training should be based on written instructions and a copy given to each member.

All new members of staff should receive induction training covering> action to be taken on discovery of a fire, action on hearing the fire alarm, escape routes from the building to assembly points.

This Induction should be followed by a more in-depth instruction no latter than one month after appointment, and should cover all fire precautionary measures with which the premises is provided, and any special or unusual risks that are in the building should be pointed out.

This should contain Action on discovering fire, raising the alarm and procedures this sets in motion, action on hearing fire alarm, arrangements for calling the Fire Brigade, Evacuation, assembly points, location and use of fire fighting equipment, location of escape routes, how to open escape doors, importance of keeping doors and windows closed, isolating power supplies, reason for not using lifts, importance of Fire Precautions and good house-keeping.

After initial instruction, refresher training should be given twice yearly for staff on day duties and three monthly for staff on night duties (residential). Exercises involving all the staff should be held at least once every twelve months for industrial and commercial premises, and six monthly for residential care, pubs and clubs, large shops and department stores.

In addition to the general fire instruction referred to above certain categories of staff should be instructed in specific matters appropriate to their responsibilities. I.e. Fire Wardens / Marshall's.

A record of all training and instruction should be kept, and include date of instruction, duration of instruction, type of instruction or exercise, name of instructor, names of persons receiving training instruction.

Any questions that you have after the training course please call our team and we will be glad to help in any way we can.

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As from the 24th of December 1998 all safety signs must now comply with health & safety regulations (1996) for employers to provide comprehensive and relevant information for each employee including training in the meaning of safety signs. The regulations are based on the European Directive 92/58/EEC and within these regulations the same pictogram is used for a running man towards a doorway. British Standard 5499 running person inside doorway will meet the requirements of the regulations as long as there is no mixing of standards.