

Applied Safety

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WELCOME to the **fifth issue** of Applied Safety the Applied Inspection health & safety newsletter.

In this edition we will look at fire safety.

BURNING DESIRES

Many people may consider fire, or how to make fire, to be the first great discovery of mankind. It has at times, however, been one of the most devastating forces mankind has faced.

Different people, of different ages and in different parts of the world will have different recollections of disasters when fire is discussed. This helps demonstrate how many fire disasters there have been.

The Bradford City stadium fire

in 1985 killed 56 and injured at least 256. The fire was started by a discarded cigarette, which was not properly extinguished. At least two people poured drinks on the start of the fire to try and stop it.



Around 90 seconds after the fire was first noticed by the television match commentator, virtually the entire main stand of the stadium was engulfed in flame.

The Kings cross fire 1987 was thought to have been caused by a discarded lit match igniting grease that was laden with waste. The fire killed 31 people and hospitalised 100, 19 with serious injuries.

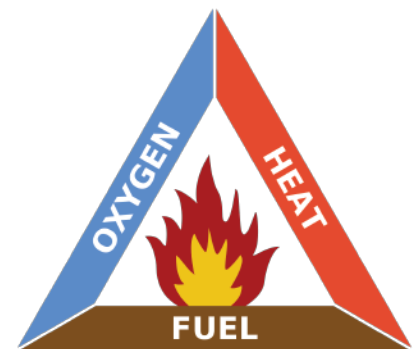
Both of these tragedies demonstrate both the speed with which fire spreads, and peoples' unwillingness, at times, to respond

to the danger. The Kings Cross underground fire particularly demonstrates how people are so easily trapped and killed by fire. When the fire was initially being assessed by the fire service Station Officer attending the call, it was about the size of a small camp fire on only two or three treads of the escalator. Even he, a very experienced fireman, failed to recognise the risk the fire presented. At that time there had been no station-wide alarm and no action to evacuate the station. The only restriction in the station

from the fire at that time was to direct people away from the escalator, where the fire had been discovered, to use a different escalator. Within two minutes of that initial assessment, the station ticket hall filled with flame and smoke.



FIRE PREVENTION







Many people will have heard of 'The Fire Triangle' which describes most fires. Fire, generally, requires a fuel source to burn, a heat source of sufficient ignition energy, and oxygen to support the combustion. Once a fire has started, it generates its own heat. If left alone, the fire will continue and usually grow until all available fuel has been consumed, or all available oxygen has been consumed.

If one side of the triangle is removed, a fire will either not start, or if it has started, will be extinguished. Unfortunately what we are able to do in order to break the fire triangle is limited. It is usually not practical to remove all flammable material (fuel) from the workplace and having a workplace without air (oxygen) has obvious difficulties, so we are normally left with controlling ignition sources (heat) as the principal objective for fire prevention.

In a business reliant on hot work for one of its revenue streams, however, it is not practical to eliminate all heat sources. Ensuring there are no combustible materials around hot work is therefore vital, as is ceasing all hot work for a fire-watch period, commonly 30 to 45 minutes at the end of each shift, to allow heat to dissipate and ensure there is no ignition.

FIRE EXTINGUISHERS

There are commonly four types of fire extinguishers available in the workplace. All are now red, but a coloured band on the extinguisher denotes the contents. All workplaces are required to have suitable equipment for fighting fires, but are not required to train people to use that equipment. Fire extinguishers are in workplaces principally as an aid to assist escape from the workplace in the event of a fire.

EXTINGUISHER		TYPE OF FIRE				
Colour	Type	Solid (wood, paper, cloth etc)	Flammable Liquids	Flammable Gasses	Electrical Equipment	Cooking Oils & Fats
	Water	✓ Yes	✗ No	✗ No	✗ No	✗ No
	Foam	✓ Yes	✓ Yes	✗ No	✗ No	✓ Yes
	Dry Powder	✓ Yes	✓ Yes	✓ Yes	✓ Yes	✗ No
	Carbon Dioxide (CO2)	✗ No	✓ Yes	✗ No	✓ Yes	✓ Yes

FIRE ACTION

The most important action for anyone discovering a fire is to alert other people to the fact there is a fire. For most workplaces, this means activating a fire alarm. Only try to extinguish a fire if it is absolutely safe, your escape is assured, you know how to operate the fire fighting equipment, and how to extinguish a fire.

Which of these means “will not burn in normal circumstances”?

Flammable
Imflammable

Non-flammable
Combustible

Inflammable
Incombustible

Answer at bottom of page

Causes of fires at work

The most common causes of fires in the workplace are electrical systems and equipment, and lack of control of flammable materials, including waste.

Neglect, misuse, overloading and other ways in which electrical systems and equipment can generate excess heat are the single most common cause of workplace fires as it provides the ignition source. Although this has been recognised, it is likely to continue



as the most significant cause of workplace fires for some time. We must always report any safety concerns with electrical installations or equipment.

Removing and limiting the quantity of flammable materials in the workplace, including ensuring waste is minimised and properly contained, reduces fire loading and means, even if an ignition source develops, there will be no fire. Accumulated waste was the base fuel first ignited at both Kings Cross and Bradford City stadium.

Never accept any increase in fire risk. Always ensure it is reported immediately.

Which of these means “will not burn in normal circumstances”: Answer; Non-flammable and Incombustible

Flammable - means generally capable of supporting combustion. Non-flammable - means not generally capable of supporting combustion.

Combustible - means generally capable of supporting combustion. Incombustible - means not generally capable of supporting combustion.

Inflammable - means the same as flammable, but has been less used over recent years. Imflammable - is a common miss-spelling of inflammable.