

CITY AND COUNTY OF CARDIFF

CODE OF GUIDANCE

FIRE EXTINGUISHERS

This Code of Guidance is an aide memoir for employees who have been trained in the use of fire extinguishers.

The Code of Guidance addresses the following:

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- 2.0 Fire extinguishers
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1.0 Introduction

Only employees who have had training in the use of fire extinguishers should attempt to tackle a fire with a fire extinguisher. Under no circumstances should an employee attempt to tackle a fire or continue to tackle it, if there is any risk of injury to the employee or any other person.

The nearest fire alarm must be sounded before tackling a fire.

2.0 Fire extinguishers

Different types of fire extinguishers are suitable for different types of fire. It should be noted that BS. EN3 effective from the 1st January, 1997 requires all new portable fire extinguishers to have red bodies. Under BS. 7863, the extinguishing medium contained in such extinguishers is identified by a coloured panel affixed to the body. These panels which must not cover more than 5% of the surface area, must follow the following coding:

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EXTINGUISHING MEDIUM	PANEL
Water (Red)	Not applicable (as background is red)
Foam	Cream
Carbon dioxide	Black
Dry Powder	Blue

Extinguishers currently in use, which conform to BS. 5423 (now withdrawn) and have bodies coloured to the above coding, may continue to be used until the end of their useful life.

TYPES OF FIRE EXTINGUISHER

(a) **Water**

Principle use: fires involving ordinary **COMBUSTABLE MATERIALS** e.g. wood, paper, textile fabrics.

It works via cooling action.

(b) **Foam**

Principle use: **FLAMMABLE LIQUID** fires.

Works by forming a blanket on the surface of the burning liquid. This remains in position for some time to prevent re-ignition and allows the liquid to cool.

(c) **Dry Powder**

Principle use: **FLAMMABLE LIQUID** and **ELECTRICAL EQUIPMENT** fires.

Works by extinguishing the flames over the liquid. Dry powder works more rapidly than foam and deals more effectively with large areas of burning liquids than other extinguishers of a comparable size.

Dry powder is a non-conductor and can safely be used on electrical equipment.

(d) **Carbon Dioxide**

Principle use: **FLAMMABLE LIQUID** and **ELECTRICAL EQUIPMENT** fires.

Works by extinguishing flames over the liquid, acts more rapidly than foam.

Use carbon dioxide extinguishers where damage or contamination by dry powder deposit or foam is to be avoided.

3.0 Tackling a fire

ONLY DO SO IF IT IS SAFE

Take up a position where access to the fire is unrestricted, but where a quick and safe retreat is possible e.g. on the side of the fire nearest the door or, when outside a building windward to the fire.

A crouching attitude will help the operator keep clear of smoke and avoid heat and permit a closer approach to the fire.

Care should always be taken to ensure that a fire is completely extinguished and not liable to re-ignite or continue smouldering.

4.0 General Operation of Extinguishers

Water Extinguishers

- (1) Hold the cylinder upright, remove safety guard, uncoil hose, strike knob.
- (2) Direct the jet at the base of the flame and keep it moving across the area of the fire.
- (3) Vertically spreading fires should be attacked at the lowest point and followed upwards.
- (4) Seek out any hot spots after the main fire is extinguished.

Foam Extinguishers

- (1) Remove safety pin, squeeze handles together and direct over flames to form a blanket.
- (2) Where a liquid is on fire in a container.
 - (a) Direct the jet at the far inside edge of the container or,
 - (b) At an adjoining vertical surface above the level of the burning liquid.

This breaks the jet and allows the foam to build up and flow across the surface of the liquid.

Where this is not possible

- (a) Stand well back.

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- (b) Direct the jet in an arc onto the liquid surface.
- (c) Gently sweep back and forth allowing the foam to drop and lie on the surface.
- (d) Foam extinguishers have a jet length of at least 20 feet.
- (e) Do not aim the jet directly into the liquid as this will drive the foam beneath the surface and render it ineffective.

Dry Powder, Carbon Dioxide

- (1) Remove safety pin, squeeze handles together and direct over flames to form a blanket.
- (2) **Fires involving liquids**
 - (a) Direct the jet or discharge horn towards the near edge of the fire.
 - (b) With a rapid sweeping motion drive the fire towards the far edge until all the flames are extinguished.
- (3) **Fires involving electrical equipment**
 - (a) Turn off the current if possible.
 - (b) Direct the jet or horn straight at the fire.

If the extinguisher has no shut-off to control the discharge then continue until it is empty.

If a shut-off is fitted then when the fire appears to be extinguished shut off the discharge, wait until the atmosphere clears and if any flames are still visible, discharge again.

5.0 Annual testing

Unused extinguishers should be subject to annual testing by a competent body and date of test recorded.

6.0 Carbon dioxide extinguishers and confined spaces

Persons should leave confined spaces if carbon dioxide extinguishers are used.

7.0 Recharging extinguishers

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Extinguishers should be recharged immediately after use, irrespective of whether they have completely or partially discharged.

8.0 Fires involving flammable liquids

Water should not be used on the burning liquid itself, but can be effectively used to cool and extinguish fires in the surroundings.

9.0 Fires involving electrical equipment

Water and Foam are both conductors of electricity and should not be used if the equipment is live. Once the power is cut off, however, water can be effectively used.

10.0 Fires involving gas

Water should be used to cool containers and surroundings, but gas flames should be extinguished **ONLY** by cutting off the gas supply. Where gas cylinders are involved employees should not attempt to tackle the fire as there is a danger of the cylinders exploding. The area should be vacated immediately.

Further information:

Fire Precautions Act 1971

Management of Health & Safety at Work Regulations 1999.

Fire Precautions (Workplace) Regulations 1997 (as amended 1999)

Fire extinguishers British Standard BS7863:1996, BS EN 3.

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