

MARLOWE

FIRE & SECURITY

Fire Extinguisher

Information & User Guide



CONTENTS

1.0

Introduction Page 3

2.0

Fire Fighting Page 3

2.1 Types of Fire Page 4

2.2 Types of Portable
Fire Extinguishers Page 4

3.0

Colour Codes Page 7

4.0

Which Portable
Fire Extinguisher
to Use Page 7

5.0

How to Use a Fire
Extinguisher Page 8

1.0 INTRODUCTION

If we discover a fire or see smoke in our work area, the first thing we should do is sound the alarm.

By sounding the alarm, we put into practice a safety system which allows everyone in the workplace to make their means of escape to a predetermined place of safety.

In order to assist or enable your escape you may need to use a portable fire extinguisher.

It is important you know which fire extinguisher you should use in each instance.

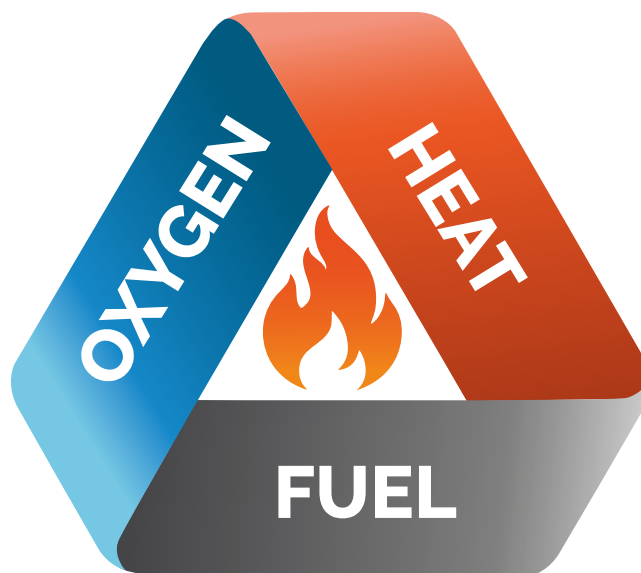
This user guide explains each type of portable fire extinguisher and how to use it in case of an emergency.

2.0 FIRE FIGHTING

Portable fire extinguishers and fire blankets are designed as first aid fire fighting equipment. You should not spend more than ten seconds taking control of a fire. Do not put yourself or others at risk and always keep your means of escape behind you when tackling a small fire.

2.1 THE FIRE TRIANGLE

To have combustion we require three elements. These are **heat**, **fuel** and **oxygen**.



Oxygen is 21% of the air we breathe; it surrounds us all the time. Fuel can be any combustible material.

All we need is a source of **heat** and we have combustion.

Fire extinguishers work by removing one or more of the above elements.

2.1 TYPES OF FIRE



CLASS A

Fires involving solid materials such as wood, paper or plastic.



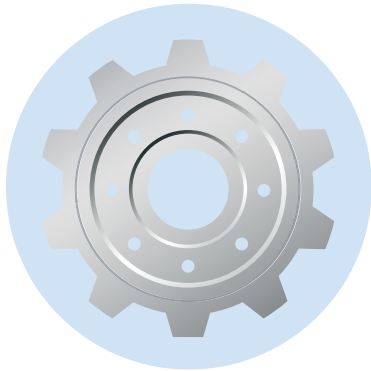
CLASS B

Fires that involve flammable liquids such as petrol and oil.



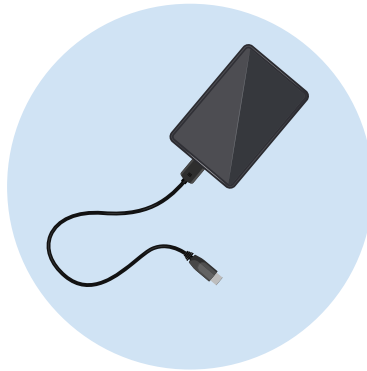
CLASS C

Fires that involve flammable gases such as propane and butane.



CLASS D

Fires that ignite with metals such as magnesium and swarf.



ELECTRICAL FIRES

Fires caused by electricity such as computers and charging cables.



CLASS F

Fires that are ignited with cooking oils and fats.

2.2 TYPES OF PORTABLE FIRE EXTINGUISHERS



Plain Water Fire Extinguisher

Used for: Class A



Plain water extinguishers are the most common and cover freely burning materials such as:

- Paper
- Wood
- Curtains

Water extinguishers are not safe on electrical risks or flammable liquids such as cooking oils, petroleum, and petroleum products.

Powder Fire Extinguisher

Used for: Classes A, B, C & Electrical



Powder extinguishers are multi-purpose extinguishers that cover the following types of fire:

- Freely burning materials such as paper, wood, curtains, etc.
- Flammable liquids such as petrol, diesel etc.
- Flammable gases such as butane, propane, etc.
- Electrical risk fires

Powder is not suitable on cooking oil fires. Powder is not for use in enclosed spaces.



Fluorine-Free Foam Fire Extinguisher

Used for: Classes A & B



Fluorine-free Foam extinguishers are dual purpose and provide cover for freely burning materials such as the water extinguisher does. It also provides cover for the following flammable liquids:

- Petrol
- Diesel
- White spirits

Foam extinguishers are not safe to use on cooking oil.



CO2 Fire Extinguisher

Used for: Classes B & Electrical



Carbon dioxide extinguishers cover electrical risk fires, and liquid fires.

CO2 fire extinguishers are a clean agent. They do not have the cooling effect of a foam extinguisher, meaning that if there is a fuel fire, the person operating the extinguisher may need to follow up with a foam extinguisher.





Wet Chemical Fire Extinguisher

Used for: Class A & F



Wet chemical extinguishers are designed for cooking oil fires only.

Stand at least 1 metre away from the deep fat fryer and then discharge into the deep fat fryer.

Wet chemical extinguishers also cover freely burning materials such as paper, wood and curtains.

Lithium-Ion Battery Fire Extinguisher

Used for: Lithium-ion battery fires & Class A



Lithium Battery Fire Extinguishers are specialist high performance extinguishers designed to stop lithium-ion battery fires fast.

Lithium-ion extinguishers are suited to confined spaces where lithium-ion battery fires need to be suppressed in their infancy before developing into a fully established fire.



Fire Blanket

Fire blankets are used to smother smaller fires, cutting off the oxygen supply.







Fire blankets can cover the following:



3.0 COLOUR CODES

There are six different types of fire extinguisher, which are set apart by different coloured bands at the top of the extinguisher. Their purpose is to make identification easier and faster for the user.









These codes are as follows:

Type	BS EN 3 Colour Code
Water	 Signal Red
Flourine-free foam	 Red with a cream panel above the operating instructions
M28 Powder	 Red with a blue panel above the operating instructions
Carbon Dioxide	 Red with a black panel above the operating instructions
Wet Chemical	 Red with a yellow panel above the operating instructions
Lithium-ion	 Red with a green base and panel above the operating instructions

4.0 WHICH PORTABLE FIRE EXTINGUISHER TO USE

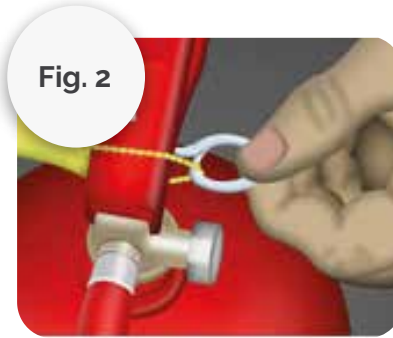
Each extinguisher is designed to be used on a specific class of fire. It is important to use the right extinguisher to ensure that your actions are as effective as possible and don't further ignite the fire.

We recommend using the extinguishers outlined in the below table for each class of fire.

Classification								
Type of Fire Extinguisher	Water	Powder Open Space	Fluorine Free Foam Enclosed Space	Powder	M28 / L2	Wet Chem	CO2	Lithium ion Battery
Types of Risk	Wood, paper, textiles & other carbonaceous materials	Flammable liquids	Flammable liquids	Flammable gases	Fires involving burning metals	Cooking oils and fats	Electrical fault where electric current may be present	Lithium-ion battery fire
Examples of Items	Desk, tables, carpet and chairs	Petrol, oil and spirits	Petrol and oil	Butane and propane	Magnesium and Zinc	Olive oil and lard	Plugs, heaters and chargers	Phones, tablets, laptops, vapes, E-Scooters and cordless tools

Please note: this guide is for reference only. Please speak to a member of the team for expert advice relating to your specific circumstances.

5.0 HOW TO USE A FIRE EXTINGUISHER



Plain Water Fire Extinguisher

1. Before attempting to fight a fire with a fire extinguisher it is important to check that it is fully charged (Fig. 1) and the safety pin is not bent (Fig. 2).
2. Ensure you remain a safe distance from the fire and remove the safety pin (Fig 3). This will break the tamper seal.
3. Where to aim the fire extinguisher hose:
 - a. Fire spreading horizontally: Aim the hose at the base of the fire, moving the jet across the area of the fire.
 - b. Fire spreading vertically: Aim the hose at the base of the fire, slowly moving the jet upwards following the direction of the fire.

Powder Fire Extinguisher

1. Before attempting to fight a fire with a fire extinguisher it is important to check that it is fully charged (Fig. 1) and the safety pin is not bent (Fig. 2).
2. Ensure you remain a safe distance from the fire and remove the safety pin (Fig 3). This will break the tamper seal.
3. Where to aim the fire extinguisher hose:
 - a. Solid materials: aim the hose at the base of the flames, moving across the area of the fire.
 - b. Spilled liquids: aim the hose at the near edge of the fire and with a rapid sweeping motion; drive the fire towards the far edge until the flames have been extinguished.
 - c. Flowing liquid: direct the hose at the base of the fire and sweep upwards until the flames have been extinguished.
 - d. Electrical equipment: switch off the power (if safe to do so) and then direct the hose straight at the fire.
4. Squeeze the lever slowly to begin discharging the extinguisher. As the fire starts to diminish, carefully move closer to it.
5. Ensure all the fire has been extinguished; re-ignition can be possible when a powder fire extinguisher has been used.

Fluorine-Free Foam Fire Extinguisher

1. Before attempting to fight a fire with a fire extinguisher it is important to check that it is fully charged (Fig. 1) and the safety pin is not bent (Fig. 2).
2. Ensure you remain a safe distance from the fire and remove the safety pin (Fig 3). This will break the tamper seal.
3. Where to aim the fire extinguisher hose:
 - a. Flammable liquids: aim the hose at a vertical surface near the fire, do not spray directly at the fire as this could cause the fire to be pushed and spread to surrounding areas.
 - b. Fluorine-free foam extinguishers allow a build up of foam across the surface of the fire causing it to be smothered.
 - c. Solid combustibles: aim the hose at the base of the fire, moving across the area of the fire.
4. Squeeze the lever slowly to begin discharging the extinguisher. As the fire starts to diminish, carefully move closer to it.
5. Ensure all the fire has been extinguished; the foam creates a blanket of fire and helps to prevent re-ignitions.

CO₂ Fire Extinguisher

1. Before attempting to fight a fire with a fire extinguisher it is important to check that it is fully charged (Fig. 1) and the safety pin is not bent (Fig. 2).
2. Ensure you remain a safe distance from the fire and remove the safety pin (Fig 3). This will break the tamper seal.
3. **DO NOT** hold the horn as it becomes extremely cold during use and can lead to severe frost burns.
4. Aiming the extinguisher:
 - a. Flammable liquids: aim the horn at the base of the fire and move across the area.
 - b. Electrical equipment: switch off the power (if safe to do so) and then direct the hose straight at the fire.
5. Squeeze the lever slowly to begin discharging the extinguisher. As the fire starts to diminish, carefully move closer to it.
6. Ensure all the fire has been extinguished as re-ignition is possible when a CO₂ extinguisher has been used.



Wet Chemical Fire Extinguisher

1. Before attempting to fight a fire with a fire extinguisher it is important to check that it is fully charged (Fig. 1) and the safety pin is not bent (Fig. 2).
2. Turn off the heat source if it safe to do so.
3. Ensure you remain a safe distance from the fire and remove the safety pin (Fig 3). This will break the tamper seal.
4. Hold the lance at arm's length, well above the fire with its nozzle at least 1 metre away from the fire.
5. Squeeze the lever slowly to begin discharging the extinguisher.
6. Apply the fine spray in slow circular movements. This allows the wet chemical agent to fall gently onto the surface of the fire and helps to prevent hot oils splashing on to the user.
7. Discharge the entire contents of the extinguisher to ensure that all of the fire has been extinguished; the wet chemical formula helps to prevent re-ignition.

Lithium-Ion Fire Extinguisher

1. Ensure you remain a safe distance from the fire and remove the safety pin (Fig 3). This will break the tamper seal.
2. Aim the nozzle or hose at the base of the flames (the battery or device itself).
3. Holding the lever in your other hand, squeeze the lever slowly to begin discharging the Lithium-ion fire extinguisher.
4. Ensure the battery or device is completely covered. As the fire starts to die down, you can then start to move closer.
5. Discharge the entire contents of the Lithium-ion fire extinguisher. This will create a film over the surface which instantly dries to create an oxygen barrier. This means the fire begins to burn itself out, cooling down and preventing re-ignition.

Fire Blanket

1. Turn off the heat source if it is safe to do so (**DO NOT** attempt to move the pan).
2. Pull the tapes to release the blanket from its container.
3. Hold the blanket in a shield position and if possible, wrap the blanket around your hands for protection.
4. Place the blanket gently over the pan/container to smother the fire.
5. Leave the pan to cool completely – **DO NOT** attempt to uncover until it is completely cool.

Fire blankets can also be used on fire involving personal clothing, simply wrap the blanket tightly around the fire to smother.

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