



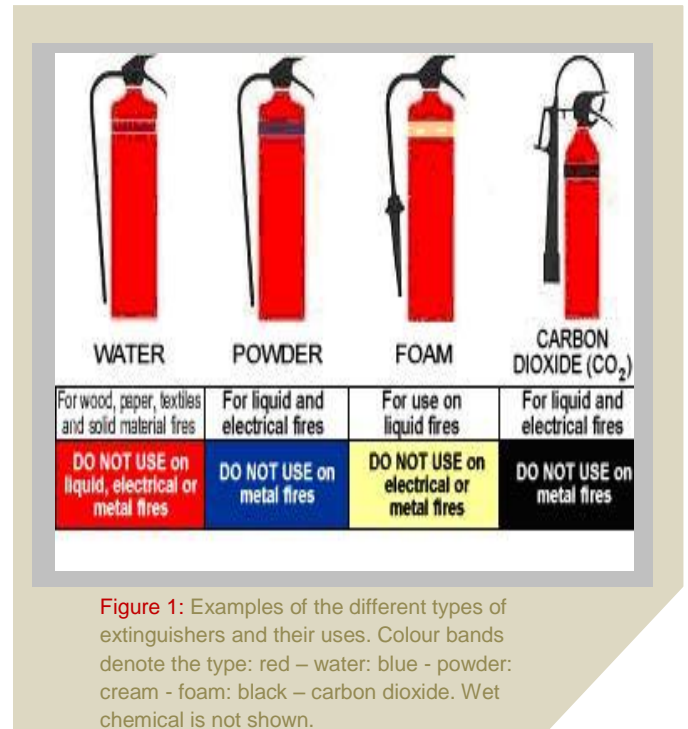
Introduction – Classes of Fire

A basic knowledge of the different classes of fire needs to be understood in order to provide and use the correct fire fighting equipment for the likely fires that may occur in church premises.

The various classes of fire are:

- **Class A** – involving solids (wood, paper, plastics).
- **Class B** – involving liquids or liquefiable solids (oils, paints, wax, fuel).
- **Class C** – involving gas (liquefied petroleum gas LPG, natural gas, etc.).
- **Class D** – involving metals.
- **Class F** – involving cooking fats/oils.

Although not a class of fire, fires in live electrical equipment cause an additional hazard requiring special consideration and the provision of suitable fire fighting equipment.



Types of Portable Fire Extinguishers

Water - water extinguishers can only be used on solids like paper and wood, and work by cooling the burning material to below its ignition temperature. They are the most common of fire extinguishing media. However only a “hydrospray” type water extinguisher or a similar “water with additive” can be used safely near electrical equipment.

Foam - foam is especially suitable for extinguishing Class B fires involving burning liquids and solids which melt and turn to liquid as they burn. The main way foam works is to smother the burning liquid and in so doing deprives it of oxygen which it requires to burn.

Powder - similarly to foam this type of extinguisher uses a smother effect by delivering a thin film of non combustible powder to the burning object. Whilst powder extinguishers can be used on live electrical equipment they are likely to cause severe damage to it.

Special powders have also been developed for dealing with Class D fires involving metals but you are unlikely to need such media in a church environment.

Carbon Dioxide - these extinguishers work by replacing the oxygen in the atmosphere surrounding the fuel and the fire is consequently extinguished. Most carbon dioxide extinguishers last only a short space of time and therefore only small fires can be tackled with this type of extinguisher. Users should also be aware that as CO₂ is an asphyxiant it should not be used in confined spaces unless the operator can withdraw quickly.

CO₂ is safe and very suitable for use on live electrical equipment.

Wet Chemical - are specifically designed for use on cooking oils and fats. The extinguishing agent is water salts and it extinguishes the fire by making chemical changes to cooking oils. It should be available in any kitchen with a deep fat fryer as it is the only type of extinguisher suitable for Class F fires. A **Fire Blanket** may be sufficient where the deep fat fryer is very small and of the table top variety.



Numbers of Extinguishers

For Class A fires the number of extinguishers required in a given area can be determined by their size and extinguishing capacity relative to the floor space. Extinguishers should be marked with a letter and a number; the letter denotes the class of fire for which it is suitable and the number the size of fire tested against. Typically a 9 litre water extinguisher will have a rating of 13A.

The basic requirement for such extinguishers to comply with BS5306: Part 8 is a minimum of 2 extinguishers per floor up to a floor area of 400m² with a minimum total rating of 26A.

Other extinguishers should be provided in accordance with the risks identified in the Fire Risk assessment, for example CO₂ to deal with electrical equipment.

Siting of Extinguishers

The siting of portable fire extinguishers is important, they should always be sited:

- On the line of exit routes.
- Near to room exits, inside or outside according to occupancy and/or risk.
- Near, but not too near to danger points.
- Where possible in groups forming fire points.
- With the carrying handle about one metre from the floor to facilitate ease of handling and removal from the wall.
- So that no person need travel more than 30 metres to reach a Class A extinguisher, 10 metres for Class B, and 5 metres for Class F.

Maintenance of Extinguishers

British standard BS5306: Part 3 details the inspection, maintenance and testing of portable fire extinguishers.

Monthly inspection: should include a check to ensure they are located in the proper place and unobstructed; not discharged; at the correct pressure; and there is no obvious external damage.

Annual inspection and maintenance: a more thorough inspection should be carried out by a competent person on an annual basis.

Training Requirements

Fire (Scotland) Act 2005, supported by the Fire Safety (Scotland) Regulations 2006 requires suitable and sufficient instruction and training on the appropriate precautions and actions to be taken by employees. If an employee is expected to make use of extinguishers then it confirms that initial and periodic training must take place.

Any person who may be called upon to use a fire extinguisher, should be trained in the selection and practical use of the equipment.



References:

1. Health and Safety Executive

<http://www.hse.gov.uk/toolbox/fire.htm>

2. Fire Scotland Act

<http://www.legislation.gov.uk/asp/2005/5/contents>

3. British Standard 5306

<http://www.bsigroup.com/en-GB/>

4. Practical Fire Safety Guidance for places of Entertainment & Assembly (there is no specific guide available for churches)

<http://www.scotland.gov.uk/Topics/Justice/public-safety/Fire-Rescue/FireLaw/FireLaw/SectorSpecificGuidance/PlacesEntertainment/EntertainmentPremises>

5. Church of Scotland Insurance Services Ltd

<http://www.cosic.co.uk/guidelines>

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TELEPHONE: 0131 220 4119.

IF YOU PREFER YOU CAN E-MAIL US AT:

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OR VISIT OUR WEB SITE AT:

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