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Australian Standard 2444—1981

PORTABLE FIRE EXTINGUISHERS SELECTION AND LOCATION

STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

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THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL ORGANIZATIONS and departments were officially represented on the committee entrusted with the preparation of this standard:

Board of Fire Commissioners of New South Wales

Building Owners and Managers Association of Australia Limited

Commonwealth Fire Board

Department of Consumer Affairs, N.S.W.

Department of Defence

Department of Housing and Construction

Department of Industrial Relations

Department of Mineral Resources

Fire Protection Industry Association of Australia

Insurance Council of Australia

Metropolitan Fire Brigades Board, Victoria

Telecom Australia

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AUSTRALIAN STANDARD

PORTABLE FIRE EXTINGUISHERS
SELECTION AND LOCATION

AS 2444—1981

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PREFACE

This standard was prepared by the Association's Committee on Fire Extinguishers. It provides guidance for the selection of fire extinguishers based on classification and rating. The location of fire extinguishers in relation to the potential hazard is also included.

For some time, portable fire extinguishers have been required to carry a classification and rating which indicates the size of fire on which they can be expected to be effective. A list of fire extinguishers which have been tested is available from the Quality Assurance and Certification Department at the Head Office of the Standards Association.

Commonwealth and State regulations require all fire extinguishers to comply with the relevant Australian standards and to bear the 'AS' Mark. Regulations in a number of areas have nominated extinguishers of specific types and sizes for certain applications.

Attention is drawn to the fact that reversible fire extinguishers, i.e. those which are turned over to operate, are no longer acceptable for the purpose of the 'AS' Mark. Those which are in service need not be replaced until they are no longer serviceable.

Associated Australian standards are as follows:

AS 1840	Water (Soda Acid) Type Portable Fire Extinguishers
AS 1841	Water (Gas Container) Type Portable Fire Extinguishers
AS 1842	Water (Stored Pressure) Type Portable Fire Extinguishers
AS 1843	Foam (Chemical) Type Portable Fire Extinguishers
AS 1844	Foam (Gas Container) Type Portable Fire Extinguishers
AS 1845	Foam (Stored Pressure) Type Portable Fire Extinguishers
AS 1846	Dry Chemical Type Portable Fire Extinguishers
AS 1847	Carbon Dioxide Type Portable Fire Extinguishers
AS 1848	Halogenated Hydrocarbon Type Portable Fire Extinguishers
AS 1849	Identification Colours for Portable Fire Extinguishers
AS 1850	Classification, Fire Testing and Rating of Portable Fire Extinguishers
AS 1851	Maintenance of Fire Protection Equipment Part 1—Portable Fire Extinguishers

This standard requires reference to the following Australian standards:

AS 1940	SAA Flammable and Combustible Liquids Code
AS 2036	Manually Operated Fire Alarm Call Points
AS 2441	Installation of Fire Hose Reels
AS K185	Colours for Specific Purposes

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
PORTABLE FIRE EXTINGUISHERS—SELECTION AND LOCATION

SECTION 1. SCOPE AND DEFINITIONS

1.1 SCOPE. This standard sets out guidelines for the selection and location of portable fire extinguishers. The recommendations and information given herein are intended to ensure protection to the minimum extent deemed necessary.

NOTE: Portable fire extinguishers are intended as first attack devices for fires of limited size and are needed even if the property is equipped with fixed protection equipment such as automatic fire sprinklers and fire hydrants. Where fire hose reels are installed, fire extinguishers are needed for specific hazards.

1.2 DEFINITIONS. For the purpose of this standard, the following definitions apply:

Approved—approved by the authority having jurisdication.

Authority having jurisdiction—a Statutory Authority administering Acts of Parliament or regulations under such acts.

Fixed automatic fire suppression system—an approved automatic operating fire suppression system which is permanently installed to protect an individual Class B hazard or group of Class B hazards (see Clause 2.2).

Portable fire extinguisher—a first attack firefighting appliance which is designed to be carried and operated by hand and which in working order has a gross mass not greater than 23 kg.

NOTE: This limit of 23 kg may be reconsidered internationally and could be reduced to 20 kg.

SECTION 2. SELECTION AND INSTALLATION OF EXTINGUISHERS

2.1 GENERAL. Portable fire extinguishers provide a convenient means with which to attack fire in its initial stages. The selection of suitable equipment for a given situation will depend on a number of factors, including the following:

(a) Expected character of the fire.
(b) Construction and occupancy of the individual property.
(c) Property to be protected.
(d) Ambient temperature.
(e) Reliability of water supplies.
(f) Expected delay before a fire brigade can arrive.
(g) Expertise of the probable user.

2.2 CLASSIFICATION AND RATING.

2.2.1 General. Fire extinguishers complying with Australian standards are marked with a classification and rating, determined in accordance with AS 1850, which indicates the class and size of fire for which they are suitable. An extinguisher must be selected for its suitability for use on the class of fire which is anticipated.

THERE IS NO ONE TYPE OF FIRE EXTINGUISHER OR FIRE EXTINGUISHANT WHICH IS EQUALLY SUITABLE AND DESIRABLE FOR USE ON ALL CLASSES OF FIRE.

2.2.2 Class A. Class A fires are those involving carbonaceous solids. Extinguishers of the water type are preferred for Class A fires. Where they are appropriately classified, foam, dry chemical and halogenated hydrocargon type extinguishers may also be suitable.

The rating indicates the size of Class A fire which has been extinguished by an experienced operator.

2.2.3 Class B. Class B fires are those where flammable liquid is involved. Suitable extinguishers for Class B hazards include dry chemical, foam, halogenated hydrocarbon and carbon dioxide.

The rating, obtained from testing by an experienced operator, is a figure between 1 and 80 and indicates the approximate area (in tenths of a square metre) of a deep layer flammable liquid fire which an inexperienced operator can reasonably be expected to extinguish.

2.2.4 Class C. Class C fires are those involving flammable gases. No Australian standard test exists for this classification and specialist advice should be sought.

2.2.5 Class D. Class D fires are those involving combustible metals. No Australian standard test exists for this classification and specialist advice should be sought.

2.2.6 Electrical Hazards. Where a fire including an electrical hazard can be anticipated, the extinguishant must be electrically non-conductive, in addition to having the relevant classification. The marking of 'E' on the fire extinguisher indicates the agent as discharged is electrically non-conductive.

2.3 CATEGORY OF HAZARD.

NOTE: For Class B hazards. see also AS 1940.

2.3.1 Light Hazard. A light hazard exists where the amount and type of combustibles present is such that fires of small initial size may be expected:

(a) *Class A.* Light hazards of Class A may include premises such as offices, schoolrooms, churches and assembly halls.
(b) *Class B.* Light hazards of Class B may include flammable liquid storage where total quantity in a single location does not exceed 25 L, flammable liquid dispensing systems and vapours issuing from containers or piping systems. An example of the hazard is flammable liquid spillage on an open surface, possibly from a ruptured container.

2.3.2 Ordinary Hazard. An ordinary hazard exists where the amount and type of combustibles present is such that fires of moderate initial size may be expected:

(a) *Class A.* Ordinary hazards of Class A may include mercantile storage and display, showrooms and workshops.
(b) *Class B.* Ordinary hazards of Class B may include flammable liquids in storage or open process tanks where the total quantity in a single location does not exceed 200 L or the surface area of the liquid does not exceed 2 m^2.

2.3.3 High Hazard. A high hazard exists where the amount and type of combustibles present is such that a fire of severe magnitude may be expected:

(a) *Class A.* High hazards of Class A may include woodworking areas, warehouses with high-piled storage, foam plastics processing and storage.
(b) *Class B.* High hazards of Class B may include flammable liquids in storage or open process tanks where the total quantity in a single location exceeds 200 L or the surface area of the liquid exceeds 2 m^2.

2.3.4 Domestic Hazard. In a normal household situation, a light Class A and Class B hazard will generally be present with the possibility of an electrical hazard.

2.4 INSTALLATION.

2.4.1 Support. Each extinguisher should be supported by a substantial hook or bracket of suitable type, fastened to a wall, partition or other suitable structure. The extinguisher should be supported so that its top is not more than 1.2 m above the floor. In no case should the bottom of the extinguisher be less than 150 mm from the floor. The extinguisher should be supported so that the identification label is visible from the direction of approach.

The extinguisher may be installed in an unlocked cabinet or enclosure which is at a suitable height. The cabinet or enclosure should be marked with the words 'FIRE EXTINGUISHER' in letters 50 mm high in a contrasting colour. Where the extinguisher may be