TECHNICAL SPECIFICATION

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Fire protection — Portable and wheeled fire extinguishers —

Part 1: Selection and installation

Protection contre l'incendie — Extincteurs portatifs et extincteurs sur roues —

Partie 1: Choix et installation

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of document:

— an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;

— an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

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An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/TS 11602-1 was prepared by Technical Committee ISO/TC 21, *Equipment for fire protection and fire fighting*, Subcommittee SC 2, *Manually transportable fire extinguishers*.

This first edition of ISO/TS 11602-1 cancels and replaces ISO 11602-1:2000, of which it constitutes a technical revision.

ISO 11602 consists of the following parts, under the general title *Fire protection — Portable and wheeled fire extinguishers*:

— *Part 1: Selection and installation* [Technical Specification]

— *Part 2: Inspection and maintenance* [Technical Specification]

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Introduction

This part of ISO 11602 presents a limited number of provisions for the selection and installation of portable and wheeled fire extinguishers, in the knowledge that different countries have particular environments and climates which can affect the size, shape and occupancy of buildings.

A country's specific building configurations can affect the selection and installation of fire extinguishers; therefore, this part of ISO 11602 could be reinforced in respect of fire-extinguishing performance characteristics in the presentation of a general-purpose standard.

It is proposed that further investigation be undertaken in light of the above for the purposes of a future revision of this part of ISO 11602.

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Fire protection — Portable and wheeled fire extinguishers —

Part 1:
Selection and installation

1 Scope

This part of ISO 11602 gives requirements for the selection and installation of portable and wheeled fire extinguishers. It is intended as a companion to ISO/TS 11602-2.

Portable fire extinguishers are a first line of defence against fires of limited size. They are needed even if the property is equipped with automatic sprinklers, standpipe and hose, or other fixed protection equipment.

This part of ISO 11602 is not applicable to permanently installed systems for fire extinguishment, even though portions of such systems may be portable (such as hose and nozzles attached to a fixed supply of extinguishing media).

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Its requirements are minimum requirements. The use of larger, higher-rated or greater numbers of extinguishers will, in general, improve protection.

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Extinguishers for use on board aircraft, watercraft and vehicles are outside the scope of ISO 11602.

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2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 7165, *Fire fighting — Portable fire extinguishers — Performance and construction*

ISO 8421-1, *Fire protection — Vocabulary — Part 1: General terms and phenomena of fire*

ISO 11601, *Fire fighting — Wheeled fire extinguishers — Performance and construction*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8421-1 and the following apply.

3.1
clean agent
electrically non-conductive gaseous or vaporizing fire extinguishant that does not leave a residue upon vaporization

[ISO 7165:2009, 3.5]

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3.2
film-forming foam
extinguishing media comprising the aqueous film-forming foam (AFFF) and film-forming fluoroprotein (FFFP) foam types, and including grades suitable for polar solvents (water-soluble flammable liquids) and those not suitable for polar solvents

3.3
fire extinguisher
extinguisher
appliance containing an extinguishing medium which can be discharged and directed onto a fire by the action of internal pressure

NOTE 1 The internal pressure may be provided by

— a stored pressure (pressurization of the extinguishing medium container at the time of charging), or

— a gas cartridge (pressurization at the time of use through the release of gas from a separate cylinder into the medium container).

NOTE 2 Adapted from ISO 7165:2009, definition 3.11.

3.4 Hazard classes

3.4.1
class A hazard
occupancies or fuel sources where Class A fires, involving materials such as wood, cloth, paper, rubber and many plastics, may be expected to develop

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3.4.2
class B hazard
fuel sources where Class B fires, involving materials such as oils, greases and paints, may be expected to develop

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3.4.3
class C hazard
fuel sources where Class C fires, involving materials such as natural and propane gas, may be expected to develop

3.4.4
class D hazard
fuel sources where Class D fires, involving materials such as magnesium, sodium and potassium, may be expected to develop

3.4.5
class F hazard
fuel sources where Class F fires, involving materials in cooking appliances such as combustible cooking media (vegetable or animal oils and fats), may be expected to develop

3.5 Hazard types (see also Annex A)

3.5.1
high hazard
location where the total amount of Class A combustibles and Class B flammables present, in storage, production use and/or finished product, is over and above those expected under moderate hazard occupancies

3.5.2
low hazard
location where the total amount of Class A combustible materials, including furnishings, decorations, and contents, is of minor quantity

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NOTE This classification anticipates that the majority of items contained are either non-combustible or so arranged that a fire is not likely to spread rapidly. Small amounts of Class B flammables used for duplicating machines, art departments, etc., are included provided that they are kept in closed containers and safely stored.

3.5.3
moderate hazard
location where the total amount of Class A combustibles and Class B flammables are present in greater amounts than expected under low hazard occupancies

3.6
inspection
brief examination to ensure that an extinguisher is available and will operate

NOTE This is intended to give reasonable assurance that the extinguisher is fully charged and operable. This is done by seeing that it is in its designated place, that it has not been actuated or tampered with, and that there is no obvious damage or condition to prevent its operation.

3.7
maintenance
thorough examination of the extinguisher

NOTE This is intended to give maximum assurance that an extinguisher will operate effectively and safely. It includes a thorough examination and any necessary repair or replacement. It will normally reveal if hydrostatic testing is required.

3.8
portable fire extinguisher
fire extinguisher that is designed to be carried and operated by hand and that, in working order, has a mass of not more than 20 kg

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NOTE Subject to local acceptance, extinguishers having a total mass of 25 kg when fully charged are permitted.

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[ISO 7165:2009, 3.15]

3.9
rating
comparative number associated with the classification assigned to an extinguisher and indicative of its capability in the extinguishment of a standard fire

3.10
travel distance
distance a person must travel from any point to the closest appropriate extinguisher

3.11
water-type extinguisher
fire extinguisher which contains a water-based medium, such as water, aqueous film-forming foam (AFFF) or film-forming fluoroprotein (FFFP) foam and/or antifreeze

3.12
wheeled extinguisher
fan appliance on wheels having a total mass of more than 20 kg but not greater than 450 kg, which is designed to be transported to the fire and operated by one person

NOTE See ISO 11601.

4 Classifications, ratings and performance of extinguishers

4.1 Extinguishers are classified for use on certain classes of fires and rated for relative extinguishing effectiveness by testing laboratories. This is based on the classification of fires and the fire-extinguishing potentials as determined by fire tests.

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