AS 4487—2013
(Incorporating Amendment No. 1)

AS 4487—2013

Condensed aerosol fire extinguishing systems—Requirements for system design, installation and commissioning and test methods for components

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The following are represented on Committee FP-011:

- Australian Industry Group
- Australian Museum
- Chamber of Commerce and Industry, Qld
- CSIRO Manufacturing and Materials Technology
- Engineers Australia
- Fire Protection Association Australia
- National Fire Industry Association
- Security Providers Association of Australia

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Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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Australian Standard®

Condensed aerosol fire extinguishing systems—Requirements for system design, installation and commissioning and test methods for components

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PREFACE

This Standard was prepared by Standards Australia Committee FP-011, Special Hazard Fire Protection Systems, to supersede AS/NZS 4487:1997, *Pyrogen fire extinguishing systems*.

This Standard incorporates Amendment No. 1 (March 2017). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

A1 This update references AS 1670.5 for electrical detection actuation and control system requirements in place of Appendix A of the previous edition of this Standard.

Pyrogen is a specific brand of condensed aerosol product and was the only commercially available condensed aerosol product available when the Standard was originally published in 1997. As a result, the original publication contained product specific information and requirements that are not relevant to other brands of condensed aerosol products. In recent years a number of different condensed aerosol products have been commercialized and there was a need to prepare a non-brand specific condensed aerosol standard which could be used for the design, installation and commissioning of all condensed aerosol systems. This revised Standard was published to meet this need and was developed using ISO 15779, *Condensed aerosol fire extinguishing systems—Requirements and test methods for components and system design, installation and maintenance—General requirements*, as the primary source document.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

This Standard incorporates a commentary on some of the clauses. The commentary directly follows the relevant clause shown in italics font-type and enclosed in a panel. The commentary is for information only and does not need to be followed for compliance with the Standard. Commentaries on clauses explain the purpose of a clause and give, in some cases background information.

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FOREWORD

Firefighting systems covered in this Standard are designed to provide a supply of condensed aerosol extinguishing medium for the extinction of fire.

The requirements of this Standard are made in the light of the best technical data known to the working group at the time of writing but, since a wide field is covered, it has been impracticable to consider every possible factor or circumstance that might affect implementation of the recommendations.

It has been assumed in the preparation of this Standard that the execution of its provisions is entrusted to people appropriately qualified and experienced in the specification, design, installation, testing, approval, inspection, operation and maintenance of systems and equipment, for whose guidance it has been prepared, and who can be expected to exercise a duty of care to avoid unnecessary release of condensed aerosol.

It is important that the fire protection of a building or plant be considered as a whole. Condensed aerosol extinguishing systems form only a part, though an important part, of the available facilities, but it should not be assumed that their adoption necessarily removes the need to consider supplementary measures, such as the provision of portable fire extinguishers or other mobile appliances for first aid or emergency use, or to deal with special hazards.

Condensed aerosol extinguishing agents have for many years been recognized effective media for the extinction of flammable liquid fires and fires in the presence of electrical and ordinary Class A hazards, but it should not be forgotten, in the planning of comprehensive schemes, that there may be hazards for which these media are not suitable, or that in certain circumstances or situations there may be dangers in their use requiring special precautions.

It is essential that firefighting equipment be carefully maintained to ensure instant readiness when required.

Appendix E specifies the tests for determination of the extinguishing application density and system performance and they are designed in such a way to allow individual condensed aerosol manufacturers to use their system to carry out all of the extinguishing tests. The tests presented in Appendix E have been established to evaluate application densities suitable for the protection of Class A fires with wood crib fire tests and plastic fuel hazards such as may be encountered in information technology, telecommunications and process control facilities, as well as Class B fires with heptane pan and heptane can test fires in an enclosure of 100 m^3.

STANDARDS AUSTRALIA

Australian Standard

Condensed aerosol fire extinguishing systems—Requirements for system design, installation and commissioning and test methods for components

1 SCOPE

This Standard specifies requirements for the design, installation, testing, commissioning and safety requirements for condensed aerosol firefighting systems in buildings, plants or other structures. The characteristics of condensed aerosol extinguishing agents and types of fire for which they are a suitable extinguishing medium are also specified. Appendices D and E specify test methods for components and extinguishing application density and coverage.

This Standard covers total flooding systems utilizing electrically non-conducting condensed aerosol fire extinguishing agents for which there are sufficient data currently available to enable validation of performance characteristics by a listing organization.

Local applications of condensed aerosol extinguishing systems are not covered by this Standard. Any local applications require a pre-engineered and pre-designed system which has been tested and approved for a specific application.

2 NORMATIVE REFERENCES

The following are the normative documents referenced in this Standard.

NOTE: Documents referenced for informative purposes are listed in the Bibliography.

AS

1603 Automatic fire detection and alarm systems
1603.11 Part 11: Visual warning devices

1670 Fire detection, warning, control and intercom systems (All parts)
1670.1 Part 1: System design, installation and commissioning—Fire
A1 1670.5 Part 5: Special hazards systems

1851 Routine service of fire protection systems and equipment

4428 Fire detection, warning, control and intercom systems
4428.0 Part 0: Control and indicating equipment—General requirements and test methods
4428.1 Part 1: Control and indicating equipment—Fire
4428.3 Part 3: Control and indicating equipment—Fire brigade panel
4428.4 Part 4: Control and indicating equipment—Intercommunication systems for emergency purposes
4428.5 Part 5: Control and indicating equipment—Power supply units
4428.6 Part 6: Control and indicating equipment—Alarm signalling equipment
4428.7 Part 7: Control and indicating equipment—Air-handling fire mode control panel
4428.9 Part 9: Control and indicating equipment—Requirements for wire-free alarm zone circuits
4428.10 Part 10: Control and indicating equipment—Alarm investigation

7240 Fire detection and alarm systems
7240.2 Part 2: Control and indicating equipment (ISO 7240-2:2003, MOD)