



BSI Standards Publication

DRAFT FOR DEVELOPMENT

Fixed fire protection systems – Industrial and commercial watermist systems –

Part 5: Tests and requirements for watermist systems for the protection of combustion turbines and machinery spaces with volumes up to and including 80 m³

This publication is not to be regarded as a British Standard. See Foreword for further information.

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Summary of pages

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Foreword

Publishing information

This part of DD 8489 is published by BSI and came into effect on 28 February 2011. It was prepared by Subcommittees FSH/18/2, *Sprinkler systems* and FSH/18/6, *Gaseous extinguishing media and systems*, under the authority of Technical Committee FSH/18, *Fixed fire fighting systems*. A list of organizations represented on these committees can be obtained on request to their secretary.

Relationship with other publications

DD 8489 is published in a series of parts:

- Part 1: *Code of practice for design and installation*;
- Part 4: *Tests and requirements for watermist systems for local applications involving flammable liquid fires*;
- Part 5: *Tests and requirements for watermist systems for the protection of combustion turbines and machinery spaces with volumes up to and including 80 m³*;
- Part 6: *Tests and requirements for watermist systems for the protection of industrial oil cookers*;
- Part 7: *Tests and requirements for watermist systems for the protection of low hazard occupancies*.

At present this document does not include a spray cooling test which records the change of heat flux on a simulated turbine casing. It is anticipated that once robust pass/fail criteria have been established, this test will be incorporated.

Information about this document

Third-party testing/certification. Users of this Draft for Development are advised to consider the desirability of third-party testing/certification of conformity with this Draft for Development.

This publication is not to be regarded as a British Standard.

It is being issued in the Draft for Development series of publications and is of a provisional nature because watermist is a new technology, and publication as a Draft for Development will enable the committee to gauge reactions and gather feedback before a full British Standard is produced. It should be applied on this provisional basis, so that information and experience of its practical application can be obtained.

A review of this Draft for Development will be carried out not later than 2 years after its publication.

Notification of the start of the review period, with a request for the submission of comments from users of this Draft for Development, will be made in an announcement in the appropriate issue of *Update Standards*.

According to the replies received, the responsible BSI Committee will judge whether the Draft for Development can be converted into a British Standard or what other action should be taken.

Any observations should be sent to the Secretary of BSI Technical Committee FSH/18 at British Standards House, 389 Chiswick High Road, London W4 4AL, if it is felt that they require attention before the official call for comments.

Use of this document

As a Draft for Development, this document is of a provisional nature. It should not be quoted as if it were a British Standard and particular care should be taken to ensure that claims of compliance are not misleading.

This Draft for Development is intended for use by manufacturers, designers and installers of watermist systems, and for authorities having jurisdiction.

It has been assumed in the preparation of this Draft for Development that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its methods are expressed as a set of instructions, a description, or in sentences in which the principal auxiliary verb is "shall". Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a Draft for Development cannot confer immunity from legal obligations.

1 Scope

This part of DD 8489 describes tests and specifies requirements for industrial and commercial watermist systems for the protection of combustion turbines and machinery spaces with volumes up to and including 80 m³.

This part of DD 8489 is applicable to rooms with machinery such as oil pumps, oil tanks, fuel filters, generators, transformer vaults, gear boxes, drive shafts, and lubrication skids, diesel engine driven generators, and other similar machinery using fuel and/or lubrication fluids with volatilities less than or equal to light diesel.

It is not applicable to rooms with equipment using fuel and/or lubrication fluids with volatilities greater than those of diesel.

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.

DD 8489-1, *Fixed fire protection systems – Industrial and commercial watermist systems – Part 1: Code of practice for design and installation*

BS EN ISO/IEC 17025:2005, *General requirements for the competence of testing and calibration laboratories*

ASTM A36, *Standard specification for carbon structural steel*¹⁾

3 Terms and definitions

For the purposes of this part of DD 8489, the terms and definitions given in DD 8489-1 apply.

4 Apparatus

NOTE Unless otherwise stated, the following tolerances apply:

- length: $\pm 2\%$;
- volume: $\pm 5\%$;
- pressure: $\pm 3\%$;
- temperature: $\pm 5\%$.

4.1 Test hall, constructed of wood or metal frame with an inner lining of minimum 13 mm gypsum or 0.7 mm galvanized steel, and with main dimensions of 5.6 m $\times$ 3.6 m $\times$ 3.9 m high. To minimize leakages, all joints and gaps shall be sealed. In one of the shorter walls, at the junction of a longer wall, a 0.81 m $\times$ 2.03 m high personnel door shall be installed with a locking mechanism. At least two hinged ceiling hatches measuring nominally 0.91 m $\times$ 1.83 m shall be installed in opposite diagonal corners for heat and smoke release after the conclusion of the test.

NOTE A small louvered vent may be provided to allow intake of air to prevent excessive suctioning of the walls and ceiling and to maintain structural integrity of the fire enclosure.

¹⁾ Published by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428–2959 USA.