

Fire hazard testing —

Part 11-4: Test flames — 50 W flame — Apparatus and confirmational test method

ICS 13.220.40; 29.020

National foreword

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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 the subject matter is in an area which is rapidly developing. It should be applied on this provisional basis, so that information and experience of its practical application may be obtained.

Comments arising from the use of this Draft for Development are requested so that UK experience can be reported to the international organization responsible for the Technical Specification. A review of this publication will be initiated not later than 3 years after its publication by the international organization so that a decision can be taken on its status at the end of its 3-year life. Notification of the start of the review period will be made in an announcement in the appropriate issue of *Update Standards*.

According to the replies received by the end of the review period, the responsible BSI Committee will decide whether to support the conversion into an international standard, to extend the life of the Technical Specification for another 3 years or to withdraw it. Comments should be sent in writing to the Secretary of BSI Technical Committee GEL/89, Fire hazard testing, at British Standards House, 389 Chiswick High Road, London W4 4AL, giving the document reference and clause number and proposing, where possible, an appropriate revision of the text.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international publications referred to in this document may be found in the BSI Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

Summary of pages

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Fire hazard testing –

Part 11-4:

Test flames – 50 W flame –

Apparatus and confirmational test method



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIRE HAZARD TESTING –

Part 11-4: Test flames – 50 W flame – Apparatus and confirmational test method

FOREWORD

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- the required support cannot be obtained for the publication of an International Standard, despite repeated efforts, or
- the subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.

Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC 60695-11-4, which is a technical specification, has been prepared by IEC technical committee 89: Fire hazard testing.

This second edition cancels and replaces the first edition published in 2000 and constitutes a technical revision. It is to be used in conjunction with IEC 60695-1-1 and IEC 60695-11-3.

The main changes with respect to the previous edition are described below:

- The introduction has been revised.
- Test methods B and C have been withdrawn. Test method A has been retained with its original letter designation.
- Normative reference ISO 1337 has been withdrawn without a replacement by ISO/TC 26. The callout Cu-ETP UNS 11000 is the replacement for all references to ISO 1337. It is taken from ASTM B187-00 and describes high conductivity electrolytic copper.
- A new Annex H has been added which provides access to equipment manufacturers and suppliers.
- Alignment with other publications in the IEC 60695-11 series has been made, where appropriate.

It has the status of a basic safety publication in accordance with IEC Guide 104 and ISO/IEC Guide 51.

The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
89/624/DTS	89/647/RVC

Full information on the voting for the approval of this technical specification can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until 2012. At this date, the publication will be

- transformed into an International standard;
- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

INTRODUCTION

The best method for testing electrotechnical products with regard to fire hazard is to duplicate exactly the conditions occurring in practice. In most instances this is not possible. Accordingly, for practical reasons, the testing of electrotechnical products with regard to fire hazard is best conducted by simulating as closely as possible the actual effects occurring in practice.

This technical specification provides a general description of the apparatus required to produce a test flame and a general description of the principle of a calibration procedure to check that the flame produced meets the requirements. Detailed information for the confirmation of a test flame can be found in IEC 60695-11-40.

This technical specification provides:

- a) guidance on the design and use of a flame test method to assess the effect on the test specimen of flames such as may arise from other ignited items in the vicinity, or from a fire in its early stages;
- b) a general description of the apparatus required to produce the test flame;
- c) a general description of the principle of a calibration procedure to check that the flame produced meets the requirements.

The detailed description of the apparatus needed to produce and verify the test flames is given in a series of sheets, of which this is one.

The status of this series of test flames, currently under study, is summarized as follows:

Nominal power of the flame W	Type	Gas	Present status	Apparent overall height mm
50 (A)	Pre-mixed	Methane	Method A of this technical specification	Approximately 20
50 (B)	(Withdrawn)			
50 (C)	(Withdrawn)			
NOTE IEC 60695-11-2 describes the apparatus and confirmatory test method for a 1 000 W nominal test flame and IEC 60695-11-3 describes the apparatus and confirmatory test method for a 500 W nominal test flame.				

The aim of the work, initiated by ACOS, is to make available an appropriate (minimum) series of standardized test flames, covering a range of powers for the use of all committees needing test flames. Wherever possible these test flames have been based on existing types, but with improved specifications.

Method A as described in Clause 4 produces the 50 W nominal test flame using a single gas supply tube, a needle valve to adjust the gas back pressure, a flowmeter to adjust the gas flow rate and adjustable air ports on the burner tube. This method has been developed as a technical enhancement of previous technology.

Flame A as described in Clause 4 is produced by methane and makes use of a more tightly specified version of a burner that has been used in some countries for many years.

FIRE HAZARD TESTING –

Part 11- 4: Test flames – 50 W flame – Apparatus and confirmational test method

1 Scope

This technical specification provides detailed requirements for the production of a 50 W nominal, pre-mixed type test flame. The approximate overall height is 20 mm.

One of the responsibilities of a technical committee is, wherever applicable, to make use of basic safety publications in the preparation of its publications.

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.

IEC 60584-1:1995, *Thermocouples – Part 1: Reference tables*

IEC 60584-2:1982, *Thermocouples – Part 2: Tolerances*

IEC 60695-4:1993, *Fire hazard testing – Part 4: Terminology concerning fire tests*

IEC Guide 104:1997, *The preparation of safety publications and the use of basic safety publications and group safety publications*

ISO/IEC Guide 51:1999, *Safety aspects - Guidelines for their inclusion in standards*

ISO/IEC 13943:2000, *Fire safety – Vocabulary*

ASTM-B187, *Standard Specification for Copper, Bus Bar, Rod, and Shapes and General Purpose Rod, Bar, and Shapes*

3 Terms and definitions

For the purpose of this document, the terms and definitions given in ISO/IEC 13943 and IEC 60695-4, as well as the following definition, apply.

3.1

standardized 50 W nominal test flame

test flame that conforms to this technical specification and meets all of the requirements given in Clause 4