

Fire hazard testing —

Part 11-40: Test flames — Confirmatory tests — Guidance

ICS 13.220.40; 29.020

National foreword

This Draft for Development reproduces verbatim IEC TS 60695-11-40:2002
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 it is a research report and not a full standard as it provides background information only, supporting development of test flame standards. 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.

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**Part 11-40:
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Confirmatory tests – Guidance**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIRE HAZARD TESTING –

**Part 11-40: Test flames –
Confirmatory tests – Guidance**

FOREWORD

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- 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.

This first edition of IEC 60695-11-40, which is a technical specification, has been prepared by IEC technical committee 89: Fire hazard testing.

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

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

Enquiry draft	Report on voting
89/468/DTS	89/494/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 3.

The committee has decided that the contents of this publication will remain unchanged until 2006. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

INTRODUCTION

Small-scale, standard flames (see note) are specified for various tests, where sufficient hardware design and use parameters are specified in an effort to ensure consistent flames. Hardware designs and dimensions, material specifications and fuel and air specifications are typical necessary parameters. Experience has shown that the quality of the resulting flames and, therefore, the associated test results, are influenced significantly by subtle variations in the equipment and test technique. Some simple checks on flame qualities, such as flame colour and dimensions, or the melting characteristics of silver wire, are often specified in conjunction with hardware, fuel, air or other normal adjustments.

The need for more precise and quantitative confirmation of flame qualities has been recognized, leading to the introduction of confirmatory tests based on the copper block calorimetry technique. This technical specification is intended to provide guidance for the design of test flame confirmatory tests using copper block calorimetry measurements.

Table 1 – Existing test flames with confirmatory tests

Nominal flame power W	Flame type ^a	Reference IEC 60695-	Approximate overall height mm	Approximate cone height mm	Copper block mass g	Copper block position above burner mm	Time spec. 100 °C to 700 °C s
1 000	PP-P	2-4/1 (11-2)	175	55	10	95	45
500	M-P	11-3	125	40	10	55	54
50	M-P	11-4	20	–	1,76	10	44
Needle	B-D	2-2 (11-5)	12	–	0,58	6	23,5
^a PP propane; M methane; B butane; P pre-mixed; D diffusion							
NOTE Flame power and height generally less than 2 000 W and 200 mm, respectively.							

NOTE Readers are encouraged to send test data to the TC 89 Secretary for further study by the author and as valuable feedback for the next revision. The coordinates of the secretary can be found on the IEC website <http://www.iec.ch>