

Fire hazard testing for electrotechnical products —

Part 2: Methods of test —

Section 2.3 Bad-connection test with heaters

[IEC title: Fire hazard testing — Part 2: Test methods —
Bad-connection test with heaters]

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the General Electrotechnical Engineering Standards Committee (GEL/-) to Technical Committee GEL/15 upon which the following bodies were represented:

- Association of Manufacturers of Domestic Electrical Appliances
- British Telecommunications plc
- Directorate of Telecommunications
- Electricity Supply Industry in England and Wales
- Electronic Components Industry Federation
- Electronic Engineering Association
- Engineering Equipment and Material Users' Association
- GAMBICA (BEAMA) Ltd.
- Ministry of Defence
- National Supervising Inspectorate
- Society of British Aerospace Companies Limited
- Society of Environmental Engineers
- Society of Motor Manufacturers and Traders Limited
- Telecommunication Engineering and Manufacturing Association (TEMA)

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

- British Electrical Systems Association (BEAMA)
- British Plastics Federation
- Business Equipment Trade Association
- ERA Technology Ltd.
- Electric Cable Makers' Confederation
- Electrical Installation Equipment Manufacturers' Association (BEAMA)
- Home Office
- Institution of Electrical Engineers

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National foreword

This British Standard has been prepared under the direction of the General Electrotechnical Engineering Standards Committee. It is identical with IEC Publication 695-2-3:1984 “*Fire hazard testing. Part 2: Test methods — Bad-connection test with heaters*”, published by the International Electrotechnical Commission (IEC) and is expected to be the subject of CENELEC HD 444.2.3.

The International Standard does not give any relation between this Part of the standard and the other published and envisaged Parts. There are, however, differences between the structure of the International Standard and that of this British Standard. Other Parts of this British Standard are as follows:

- *Part 1: General introduction;*
- *Part 2: Methods of test;*
- *Section 2.1: Glow-wire test;*
- *Section 2.2: Needle-flame test;*
- *Section 2.4: Bunsen-type flame test (in preparation);*
- *Part 3: Guidance on fire hazard testing (envisaged as future work).*

Terminology and conventions. The text of the International Standard has been approved as suitable for publication as a British Standard without deviation. Some terminology and certain conventions are not identical with those used in British Standards; attention is drawn especially to the following.

For the purposes of this Part of this standard, the scope is effectively contained in the fourth paragraph of clause 1 “Introduction and scope”.

Cross-references

International Standard ^a	Corresponding British Standard
IEC 51:1973 ^b	BS 89:1977 <i>Specification for direct acting indicating electrical measuring instruments and their accessories</i> (Identical)
IEC 212:1971	BS 2844:1972 <i>Memorandum on conditioning of solid electrical insulating materials prior to and during testing</i> (Identical)
IEC 695-2-1:1980	BS 6458 <i>Fire hazard testing for electrotechnical products</i> Part 2: <i>Methods of test</i> Section 2.1:1984 <i>Glow-wire test</i> (Identical) (HD 442.2.1)
IEC 695-2-2:1980	Section 2.2:1984 <i>Needle-flame test</i> (Identical) (HD 442.2.2)
ISO 4046:1978	BS 3203:1979 <i>Glossary of paper, board, pulp and related terms</i> (Identical)

^a Undated in the text.

^b Under revision.

Additional information. The following comments are given as guidance for the application in the United Kingdom of this standard which deals only with the method of test and the apparatus required. In drafting specifications calling for the use of this method of test, the following notes should be taken into account.

NOTE 1 The fourth paragraph of clause 2 indicates that the test is intended only for screw connections, having a rated current not exceeding 63 A, which require to be made during the installation, servicing or maintenance of electrotechnical equipment. As will be seen from Table II and Table III, only provisional values are given for some test heaters and it is stated that test heaters for tag and lug terminals are still under consideration.

NOTE 2 In clause 4, in the second paragraph on page 2, there is reference to the “specific type of conductor, solid or stranded, connected under normal conditions of use”. For any given specification for electrotechnical products to be tested in this manner, additional information should be given in order to reduce the degree of subjectivity.

NOTE 3 The value of the “extra-low voltage” in the fifth paragraph, on page 2, of clause 4 is not defined but it is normally taken as not exceeding 50 V a.c. r.m.s.

NOTE 4 As the reference to the accuracy of the voltmeter and ammeter in the sixth paragraph, on page 2, of clause 4 is only a recommendation, the “product” specification will have to confirm the requirement.

NOTE 5 In line fifteen of the seventh paragraph, on page 2, of clause 4 the reference to “tissue paper” should be understood as being to “wrapping tissue” as defined in 6.86 of ISO Standard 4046 from which an extract is given in the note to paragraph seven on page 2.

NOTE 6 In clause 5, the note to the second paragraph refers to “CEE”. In this context, “CEE” is to be understood as the “International Commission for Conformity Certification of Electrical Equipment”.

NOTE 7 In the second line of clause 7, the words “shall be” should be understood after “parameters”.

NOTE 8 As 8.5 gives no tolerance on the duration of application of the test power, i.e. 30 min, a tolerance will have to be given in the “product” specification if the normal significance of the numerical value is not acceptable.

WARNING NOTE. This British Standard calls for the use of procedures that may be injurious to health if adequate precautions are not taken. It refers only to technical suitability and does not absolve the user from legal obligations relating to health and safety at any stage. (See also the warning note in clause 8).

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 10, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

