

Fire hazard testing —

Part 11-5: Test flames — Needle-flame test method — Apparatus, confirmatory test arrangement and guidance

The European Standard EN 60695-11-5:2005 has the status of a
British Standard

ICS 13.220.40; 29.020

National foreword

This British Standard is the official English language version of EN 60695-11-5:2005. It is identical with IEC 60695-11-5:2004. It supersedes BS EN 60695-2-2:1995 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee GEL/89, Fire hazard testing, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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

Cross-references

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 19 and a back cover.

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English version

**Fire hazard testing
Part 11-5: Test flames -
Needle-flame test method -
Apparatus, confirmatory test arrangement and guidance
(IEC 60695-11-5:2004)**

Essais relatifs aux risques du feu
Partie 11-5: Flammes d'essai -
Méthode d'essai au brûleur-aiguille -
Appareillage, dispositif d'essai
de vérification et lignes directrices
(CEI 60695-11-5:2004)

Prüfungen zur Beurteilung
der Brandgefahr
Teil 11-5: Prüfflammen -
Prüfverfahren mit der Nadelflamme -
Versuchsaufbau, Vorkehrungen
zur Bestätigungsprüfung und Leitfaden
(IEC 60695-11-5:2004)

This European Standard was approved by CENELEC on 2005-02-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 89/676/FDIS, future edition 1 of IEC 60695-11-5, prepared by IEC TC 89, Fire hazard testing, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60695-11-5 on 2005-02-01.

This European Standard supersedes EN 60695-2-2:1994 + A1:1995.

The structure of the standard remains essentially the same with some major new changes and concepts added:

- The scope has been broadened to allow this test method to also simulate the effects of small flames from outside the equipment.
- A new concept has been added which allows the burner to be moved during the test to avoid dripping material from falling onto the tip of the burner tube.
- The burner tube material is now a referenced source.
- The reference for the copper block material has changed - the ISO publication (ISO 1337) has been withdrawn with no replacement. A new callout is now used.
- Informative Annex B and a bibliography have been added.

The following dates were fixed:

- | | | |
|--|-------|------------|
| – latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2005-11-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2008-02-01 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60695-11-5:2004 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

ISO 9626	NOTE	Harmonized as EN ISO 9626:1995 (not modified).
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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.

Parts of electrotechnical equipment which might be exposed to excessive thermal stress due to electric effects, the deterioration of which might impair the safety of the equipment, should not be unduly affected by heat and by fire generated within the equipment.

Parts of insulating material or of other combustible material which are liable to propagate flames inside the equipment may be ignited by flames produced by a failing component. Under certain conditions, for example a fault current flowing over a tracking path, overloading of components or parts and bad connections, flames may also occur; such flames may impinge upon combustible parts in the vicinity.

This part of IEC 60695 should be used to measure and describe the properties of materials, products or assemblies in response to heat and flame under controlled laboratory conditions and should not be used to describe or appraise the fire hazard or fire risk of materials, products, or assemblies under actual fire conditions. However, results of this test may be used as elements of a fire risk assessment which takes into account all of the factors which are pertinent to an assessment of the fire hazard of a particular end use.

This standard may involve hazardous materials, operations and equipment.

It does not purport to address all of the safety problems associated with its use.

It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

FIRE HAZARD TESTING –

Part 11-5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance

1 Scope

This part of IEC 60695 specifies a needle-flame test to simulate the effect of a small flame which may result from fault conditions, in order to assess by a simulation technique the fire hazard.

It is applicable to electrotechnical equipment, its sub-assemblies and components and to solid electrical insulating materials or other combustible materials.

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 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*

ISO 4046-4:2002, *Paper, board, pulps and related terms – Vocabulary – Part 4: Paper and board grades and converted products*

ASTM-B187, *Standard specification for copper, bus bar, rod, and shapes and general purpose rod, bar, and shapes*

3 Terms and definitions

For the purposes of this document, the terms and definitions of ISO/IEC 13943 apply.