

# SLOVENSKI STANDARD

## SIST EN 60695-11-5:2017

01-september-2017

Nadomešča:

SIST EN 60695-11-5:2005

---

**Preskušanje požarne ogroženosti - 11-5. del: Preskusni plameni - Preskusna metoda z igličastim plamenom - Preskusna naprava, priprava na potrditveni preskus in navodilo (IEC 60695-11-5:2016)**

Fire hazard testing - Part 11-5: Test flames - Needle-flame test method - Apparatus, confirmatory test arrangement and guidance (IEC 60695-11-5:2016)

**iTeh STANDARD PREVIEW**

Prüfungen zur Beurteilung der Brandgefahr - Teil 11-5: Prüfflammen - Prüfverfahren mit der Nadelflamme - Versuchsaufbau, Vorkerhungen zur Bestätigungsprüfung und Leitfaden (IEC 60695-11-5:2016)

[SIST EN 60695-11-5:2017](https://standards.iteh.ai/catalog/standards/sist/9c6f44eb-43cd-4a5d-9e7e-6d2e70657068/iec-60695-11-5-2017)

[https://standards.iteh.ai/catalog/standards/sist/9c6f44eb-43cd-4a5d-9e7e-](https://standards.iteh.ai/catalog/standards/sist/9c6f44eb-43cd-4a5d-9e7e-6d2e70657068/iec-60695-11-5-2017)

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 (IEC 60695-11-5:2016)

**Ta slovenski standard je istoveten z: EN 60695-11-5:2017**

---

**ICS:**

13.220.40	Sposobnost vžiga in obnašanje materialov in proizvodov pri gorenju	Ignitability and burning behaviour of materials and products
29.020	Elektrotehnika na splošno	Electrical engineering in general

**SIST EN 60695-11-5:2017**

**en**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN 60695-11-5:2017](https://standards.iteh.ai/catalog/standards/sist/9c6f44eb-43cd-4a5d-9e7e-6d2e72267768/sist-en-60695-11-5-2017)

<https://standards.iteh.ai/catalog/standards/sist/9c6f44eb-43cd-4a5d-9e7e-6d2e72267768/sist-en-60695-11-5-2017>

EUROPEAN STANDARD

**EN 60695-11-5**

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2017

ICS 13.220.40; 29.020

Supersedes EN 60695-11-5:2005

English Version

**Fire hazard testing - Part 11-5: Test flames - Needle-flame test  
method - Apparatus, confirmatory test arrangement  
and guidance  
(IEC 60695-11-5:2016)**

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  
(IEC 60695-11-5:2016)

Prüfungen zur Beurteilung der Brandgefahr -  
Teil 11-5: Prüfflammen - Prüfverfahren mit der Nadelflamme  
- Versuchsaufbau, Vorkehrungen zur Bestätigungsprüfung  
und Leitfadens  
(IEC 60695-11-5:2016)

This European Standard was approved by CENELEC on 2017-01-10. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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



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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

**EN 60695-11-5:2017****European foreword**

The text of document 89/1346/FDIS, future edition 2 of IEC 60695-11-5, prepared by IEC/TC 89 "Fire hazard testing" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60695-11-5:2017.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2017-12-16
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-06-16

This document supersedes EN 60695-11-5:2005.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

**Endorsement notice**

The text of the International Standard IEC 60695-11-5:2016 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

ISO 9626:2016	NOTE	Harmonized as EN ISO 9626:2016 (not modified).
IEC 60384-1:2016	NOTE	Harmonized as EN 60384-1:2016 (not modified).

<https://standards.iteh.ai/catalog/standards/sist/9c6f44eb-43cd-4a5d-9e7e-6d2e72267768/sist-en-60695-11-5-2017>

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60695-4	2012	Fire hazard testing - Part 4: Terminology concerning fire tests for electrotechnical products	EN 60695-4	2012
IEC Guide 104	-	The preparation of safety publications and - the use of basic safety publications and group safety publications	-	-
ISO/IEC Guide 51	-	Safety aspects - Guidelines for their inclusion in standards	-	-
ISO 291	-	Plastics - Standard atmospheres for conditioning and testing	EN ISO 291	-
ISO 4046-4	2016	Paper, board, pulps and related terms - Vocabulary - Part 4: Paper and board grades and converted products	-	-
ISO 13943	2008	Fire safety - Vocabulary	EN ISO 13943	2010
ASTM B187	-	Standard Specification for Copper, Bus Bar, Rod, and Shapes and General Purpose Rod, Bar, and Shapes	-	-

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN 60695-11-5:2017](https://standards.iteh.ai/catalog/standards/sist/9c6f44eb-43cd-4a5d-9e7e-6d2e72267768/sist-en-60695-11-5-2017)

<https://standards.iteh.ai/catalog/standards/sist/9c6f44eb-43cd-4a5d-9e7e-6d2e72267768/sist-en-60695-11-5-2017>



IEC 60695-11-5

Edition 2.0 2016-12

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

BASIC SAFETY PUBLICATION

PUBLICATION FONDAMENTALE DE SÉCURITÉ

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

**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**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

ICS 13.220.40; 29.020

ISBN 978-2-8322-3792-2

**Warning! Make sure that you obtained this publication from an authorized distributor.  
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

## CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references .....	7
3 Terms and definitions .....	8
4 Purpose of the test .....	10
5 Description of the test apparatus .....	10
5.1 Burner.....	10
5.2 Gas supply.....	10
5.3 Flame .....	10
5.4 Control valve.....	10
5.5 Laboratory fumehood/chamber.....	10
5.6 Layer .....	11
5.6.1 Specified layer.....	11
5.6.2 Standardized layer.....	11
5.7 Timing device .....	11
6 Test specimen.....	11
7 Flame application times.....	11
8 Conditioning and test conditions.....	12
8.1 Conditioning.....	12
8.2 Test conditions .....	12
9 Test procedure.....	12
9.1 General.....	12
9.2 Position of test specimen .....	12
9.3 Application of needle-flame.....	12
9.4 Number of test specimens.....	13
10 Observations and measurements.....	13
11 Evaluation of test results .....	13
12 Information to be given in the relevant specification.....	13
13 Test report.....	14
Annex A (normative) Confirmatory test arrangement.....	16
A.1 Confirmation of the test flame – Principle .....	16
A.2 Test apparatus.....	16
A.2.1 Burner .....	16
A.2.2 Control valve .....	16
A.2.3 Copper block .....	16
A.2.4 Thermocouple.....	16
A.2.5 Temperature/time indicating/recording devices .....	16
A.3 Procedure .....	16
Annex B (informative) Example of a product committee specification .....	21
Annex C (informative) Comparison of results of confirmatory tests using propane and butane as fuel.....	22
Bibliography.....	23



Figure 1 – Burner and flame .....	14
Figure 2 – Test positions .....	15
Figure A.1 – Copper block .....	18
Figure A.2 – Confirmatory test arrangement.....	19
Figure A.3 – Gauge to measure flame height and the distance between burner and copper block (example).....	20
Table B.1 – Severities and requirements.....	21
Table C.1 – Results of the confirmatory test using propane and butane as fuel.....	22

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN 60695-11-5:2017](https://standards.iteh.ai/catalog/standards/sist/9c6f44eb-43cd-4a5d-9e7e-6d2e72267768/sist-en-60695-11-5-2017)

<https://standards.iteh.ai/catalog/standards/sist/9c6f44eb-43cd-4a5d-9e7e-6d2e72267768/sist-en-60695-11-5-2017>

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## FIRE HAZARD TESTING –

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

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60695-11-5 has been prepared by IEC technical committee 89: Fire hazard testing.

This second edition cancels and replaces the first edition published in 2004. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) The scope has been broadened to allow this test method to also simulate the effects of small flames from outside the equipment;
- b) Propane and butane gas are the specified fuel source with a minimum purity of 95 %;
- c) 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;
- d) The burner tube material is now a referenced source;

- e) 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;
- f) Informative Annex C and a bibliography have been added.

The text of this standard is based on the following documents:

FDIS	Report on voting
89/1346/FDIS	89/1351/RVD

Full information on the voting for the approval of this standard 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.

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

A list of all the parts in the IEC 60695 series, under the general title *Fire hazard testing*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or [SIST EN 60695-11-5:2017](#)
- amended. <https://standards.iteh.ai/catalog/standards/sist/9c6f44eb-43cd-4a5d-9e7e-6d2e72267768/sist-en-60695-11-5-2017>

iteh STANDARD PREVIEW  
(standards.iteh.ai)