

SLOVENSKI STANDARD
SIST EN 60695-11-10:2000/A1:2004
01-februar-2004

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Fire hazard testing -- Part 11-10: Test flames - 50 W horizontal and vertical flame test methods

Prüfungen zur Beurteilung der Brandgefahr -- Teil 11-10: Prüfflammen - Prüfverfahren mit 50-W-Prüfflamme horizontal und vertikal

Essais relatifs aux risques du feu -- Partie 11-10: Flamme d'essai - Méthodes d'essai horizontale et verticale à la flamme de 50 W

Ta slovenski standard je istoveten z: EN 60695-11-10:1999/A1:2003

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 60695-11-10:2000/A1:2004 en

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EUROPEAN STANDARD

EN 60695-11-10/A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2003

ICS 13.220.40; 29.020

English version

Fire hazard testing
Part 11-10: Test flames –
50 W horizontal and vertical flame test methods
(IEC 60695-11-10:1999/A1:2003)

Essais relatifs aux risques du feu
Partie 11-10: Flammes d'essai –
Méthodes d'essai horizontale et verticale
à la flamme de 50 W
(CEI 60695-11-10:1999/A1:2003)

Prüfungen zur Beurteilung der
Brandgefahr
Teil 11-10: Prüfflammen –
Prüfverfahren mit 50-W-Prüfflamme
horizontal und vertikal
(IEC 60695-11-10:1999/A1:2003)

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This amendment A1 modifies the European Standard EN 60695-11-10:1999; it was approved by CENELEC on 2003-09-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Lithuania, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, 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 89/587/FDIS, future amendment 1 to IEC 60695-11-10:1999, prepared by IEC TC 89, Fire hazard testing, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 60695-11-10:1999 on 2003-09-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2004-06-01
- latest date by which the national standards conflicting
with the amendment have to be withdrawn (dow) 2006-09-01

Endorsement notice

The text of amendment 1:2003 to the International Standard IEC 60695-11-10:1999 was approved by CENELEC as an amendment to the European Standard without any modification.

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

ISO 307

NOTE Harmonized as EN ISO 307:1997 (not modified), superseded by EN ISO 307:2003.

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NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC

60695-11-10

1999

AMENDEMENT 1
AMENDMENT 1
2003-06

PUBLICATION FONDAMENTALE DE SÉCURITÉ
BASIC SAFETY PUBLICATION

Amendement 1

Essais relatifs aux risques du feu –

Partie 11-10:
Flammes d'essai –
Méthodes d'essai horizontale
et verticale à la flamme de 50 W

<https://standards.iteh.ai/catalog/standards/sist/ecc12179-659e-4395-b4c8-785de13afa29/sist-en-60695-11-10-2000-a1-2004>

Amendment 1

Fire hazard testing –

Part 11-10:
Test flames –
50 W horizontal and vertical
flame test methods

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FOREWORD

This amendment has been prepared by IEC technical committee 89: Fire hazard testing.

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

FDIS	Report on voting
89/587/FDIS	89/596/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table. In ISO, the amendment has been approved by 16 P-members out of 16 having cast a vote.

The committee has decided that the contents of the base publication and its amendments will remain unchanged until 2010. At this date, the publication will be

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

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7 Test specimens

Replace the text of the existing Clause 7 by the following.

7.1 End product testing

Test specimens shall be cut from a representative sample of the moulded material taken from an end product. Where this is not possible, the test specimen shall be produced using the same fabrication process as would be normally used to mould a part of a product; and where this is not possible, the appropriate ISO method shall be used, e.g. casting and injection moulding in accordance with ISO 294, compression moulding in accordance with ISO 293 or ISO 295, or transfer moulding to the necessary shape.

If it is not possible to prepare test specimens by any of the methods outlined above, a type test shall be performed using the needle flame test in accordance with IEC 60695-2-2.

After any cutting operation, care shall be taken to remove all dust and any particles from the surface; cut edges shall be fine sanded to a smooth finish.

7.2 Material testing

The results of tests carried out on test specimens of different colour, thickness, density, molecular mass, anisotropic direction and type, or with different additives or fillers/reinforcements can vary.

Test specimens with extremes of density, melt flows and filler/reinforcement content may be provided and considered representative of the range if the test results yield the same flame test classification. If the test results do not yield the same flame test classification for all test specimens representing the range, evaluation shall be limited to the materials with the extremes of density, melt flows and filler/reinforcement contents tested. In addition, test specimens with intermediate density, melt flows, and filler/reinforcement content shall be tested to determine the representative range for each flame classification.

Uncoloured test specimens and test specimens with the highest level of organic and inorganic pigment loading by weight are considered representative of the colour range, if the test results yield the same flame test classification. When certain pigments are known to affect flammability characteristics, the test specimens containing those pigments shall also be tested. Test specimens which shall be tested are those that

- a) contain no colouring,
- b) contain the highest level of organic pigments,
- c) contain the highest level of inorganic pigments,
- d) contain pigments which are known to adversely affect flammability characteristics.

7.3 Bar test specimens

Bar test specimens shall measure 125 mm ± 5 mm long by 13,0 mm ± 0,5 mm wide, and shall be provided in the minimum and maximum thickness normally supplied. The thickness shall not exceed 13,0 mm. Edges shall be smooth, and the radius on the corners shall not exceed 1,3 mm. Other thicknesses may be used by agreement between the interested parties and, if so, shall be noted in the test report (see Figure 4).

A minimum of 6 bar test specimens for Method A and 20 test specimens for Method B shall be prepared.

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8.4 Classification

Add, in subclause 8.4, "HB," in front of "HB40" to read:

The materials shall be classified HB, HB40 or HB75 (HB = horizontal burning) in accordance with the criteria given below.

8.4.1

Renumber the existing subclauses 8.4.1 and 8.4.2 as 8.4.2 and 8.4.3, respectively.

Insert the following new subclause 8.4.1:

8.4.1 A material classified HB shall conform to one of the following criteria:

- a) it shall not visibly burn with a flame after the ignition source is removed;
- b) if the test specimens continue to burn with a flame after removal of the ignition source, the flame front shall not pass the 100 mm mark;
- c) if the flame front passes the 100 mm mark, it shall not have a linear burning rate exceeding 40 mm/min for a thickness of 3,0 mm to 13,0 mm or a burning rate not exceeding 75 mm/min for a thickness of less than 3,0 mm;
- d) if the linear burning rate does not exceed 40 mm/min for tests with 3,0 mm \pm 0,2 mm thickness, it shall automatically be accepted down to a 1,5 mm minimum thickness.

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9 Test method B – Vertical burning test

Renumber the existing subclause 9.1.3 as 9.1.4.

Insert the following new subclause 9.1.3:

9.1.3 As an alternative to the conditioning described in 9.1.2, industrial laminates may be conditioned for 24 h at 125 °C \pm 2 °C.

Renumber the existing subclauses 9.2.3, 9.2.4, 9.2.5 and 9.2.6 as 9.2.4, 9.2.5, 9.2.6 and 9.2.7, respectively.

Insert the following new subclause 9.2.3:

9.2.3 The position of the test specimen, the operator and the burner shall be as indicated in Figure 6.

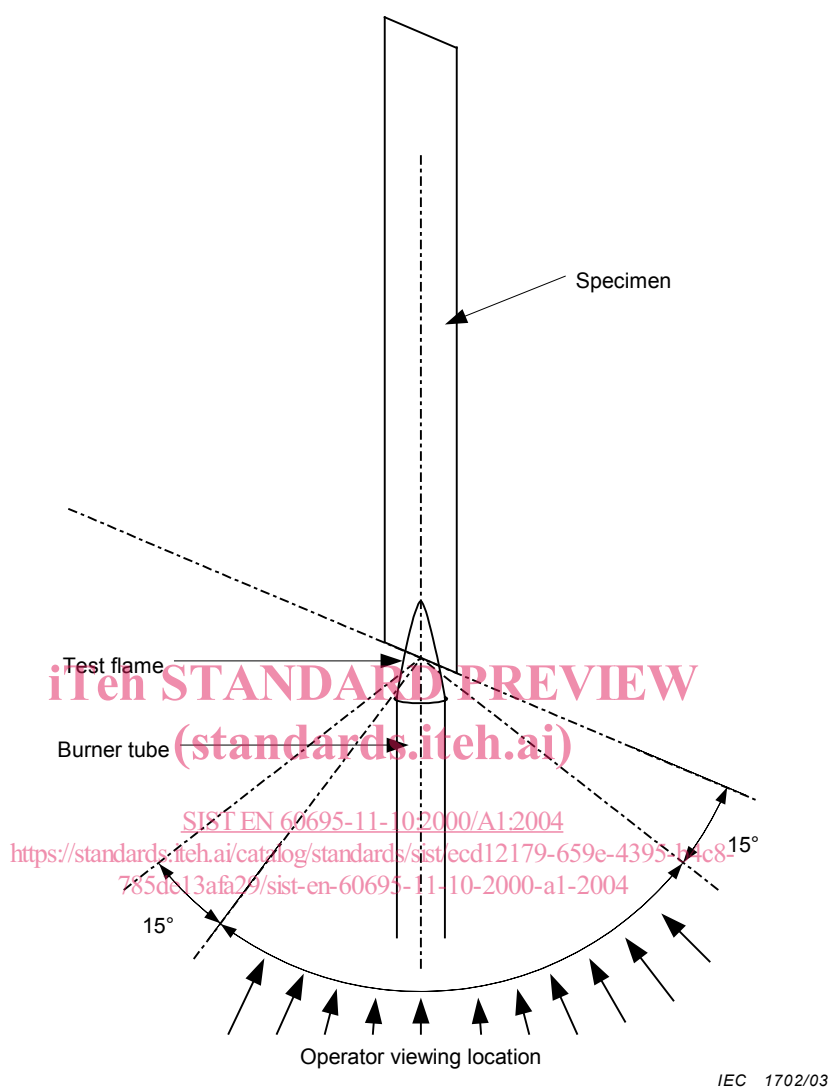
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Add a new subclause 9.2.8:

9.2.8 Some materials due to their thickness, distort, shrink, or are consumed up to the holding clamp when subjected to this test. These materials may be tested in accordance with the test procedure in ISO 9773, provided test specimens can be properly formed.

NOTE Type PA 66 nylon materials classed V-2 should have a viscosity of less than 225 ml/g, as determined using the 96 % sulfuric acid preparation method, or 210 ml/g, as determined using the 90 % formic acid preparation method, in the supplied form, according to ISO 307. Alternatively, if the relative viscosity is greater than 225 ml/g or 210 ml/g respectively, the relative viscosity of the moulded test specimen should not be less than 70 % of the relative viscosity in the supplied form.

Add, after the existing Figure 5, the following new Figure 6:



NOTE The operator viewing angle is 60°.

Figure 6 – Burner / Operator / Test specimen orientation

Replace, in Table B.1 under the Material column, "PPO" with "PPE+PS".