SLOVENSKI STANDARD
SIST EN 60695-2-2:1999/A1:1999

01-julij-1999

Fire hazard testing -- Part 2: Test methods -- Section 2: Needle-flame test - Amendment A1 (IEC 60695-2-2:1991/A1:1994)

Fire hazard testing -- Part 2: Test methods -- Section 2: Needle-flame test

Prüfungen zur Beurteilung der Brandgefahr -- Teil 2: Prüfverfahren -- Hauptabschnitt 2: Prüfung mit der Nadelflamme

Essais relatifs aux risques du feu -- Partie 2: Méthodes d'essai -- Section 2: Essai au brûleur-aiguille

Ta slovenski standard je istoveten z: EN 60695-2-2:1994/A1:1995

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 60695-2-2:1999/A1:1999 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60695-2-2/A1

November 1995

UDC 621.3.001.4 536.468.083::536.46::615.473.2 614.841.2.004.11
ICS 13.220.40

Descriptors: Methods of test, fire test, laboratory test, gas burner, calibrated thin flame, ignition of specimen, ignition of surroundings, extent of burning, duration of burning after removal of source of ignition

English version

Fire hazard testing
Part 2: Test methods
Section 2: Needle-flame test
(IEC 695-2-2:1991/A1:1994)

Essais relatifs aux risques du feu
Partie 2: Méthodes d'essai
Section 2: Essai au brûleur-aiguille
(CEI 695-2-2:1991/A1:1994)

Prüfungen zur Beurteilung der Brandgefahr
Teil 2: Prüfverfahren
Hauptabschnitt 2: Prüfung mit der Nadelflamme
(IEC 695-2-2:1991/A1:1994)

This amendment A1 modifies the European Standard EN 60695-2-2:1994; it was approved by CENELEC on 1995-09-20. 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, 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 amendment 1:1994 to the International Standard IEC 695-2-2:1991, prepared by IEC TC 89, Fire hazard testing, was submitted to the formal vote and was approved by CENELEC as amendment A1 to EN 60695-2-2:1994 on 1995-09-20 without any modification.

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) 1996-09-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 1996-09-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex A is normative.

Endorsement notice

The text of amendment 1:1994 to the International Standard IEC 695-2-2:1991 was approved by CENELEC as an amendment to the European Standard without any modification.

NORME INTERNATIONALE
INTERNATIONAL STANDARD

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1991

AMENDEMENT 1
AMENDMENT 1

1994-03

PUBLICATION FONDAMENTALE DE SÉCURITÉ
BASIC SAFETY PUBLICATION

Amendement 1

Essais relatifs aux risques du feu –

Partie 2:
Méthodes d'essai –
Section 2 – Essai au brûleur-aiguille

Amendment 1

Fire hazard testing –

Part 2:
Test methods –
Section 2 – Needle-flame test

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IEC
Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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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:

DIS	Rapport de vote
89(CO)26	89(CO)35

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

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Contents

Add the title of the following new annex:

Annex

A Subsidiary test method for confirming the flame

Page 11

4 Description of test apparatus

Replace the third existing paragraph of subclause 4.1 by the following:

With the axis of the burner in the vertical position, the gas supply is adjusted without artificial air supply so that the length of the flame is 12 mm ± 1 mm, when viewed in subdued light against a dark background (see figure 1). In the event of dispute or when required by the relevant specification, the flame should be confirmed using the apparatus and the procedure detailed in annex A. The test time for the temperature to increase from 100 °C ± 2 °C to 700 °C ± 3 °C shall be 23,5 s ± 1,0 s.

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Subclause 8.3

Replace the existing text of subclause 8.3 by the following:

During the adjustment of the test flame, any influence of heat or radiation on the specimen shall be avoided. If required by the relevant specification or in the event of dispute, the flame shall be confirmed.

After page 18

Add the following new annex:

Annex A
(normative)

Subsidiary test method for confirming the flame

This subsidiary test method for confirming the flame is used where required by the relevant specification or in case of dispute.

A.1 Confirmation

A.1.1 *Principle*

The time for the temperature of the copper block, described in figure A.1 to increase from 100 °C to 700 °C shall be 23,5 s ± 1,0 s, when the flame test arrangement of figure A.2 is used.

A.1.2 *Procedure*

An example of a suitable jig for the adjustment of flame height is given in figure A.3. The jig shall be constructed such that it does not rest on the end of the burner tube nor disturb the root of the burner flame.

Set up the arrangement according to figure A.2 in a draught-free environment, ensuring leak-free gas connections.

Temporarily remove the burner away from the block to ensure no influence of the flame on the block during the preliminary adjustment of the gas flow rate.

Ignite the gas and adjust the gas flow rate to give a flame height of 12 mm ± 1 mm when viewed in subdued light against a dark background.

Wait for a period of at least 5 min to allow the burner conditions to reach equilibrium and then readjust the flame height, if necessary.

With the temperature/time indicating/recording devices operational, re-position the burner under the block.

Make three determinations of the time for the temperature of the block to increase from 100 °C ± 2 °C to 700 °C ± 3 °C. Allow the block to cool naturally in air to below 50 °C between determinations.

If the copper block has not been used before, make a preliminary run to condition the block surface. Discard the result.

A.1.3 Calculate the mean time in seconds as the result.

A.1.4 The flame is confirmed if the result is within the range 23,5 s ± 1,0 s.

A.2 Test apparatus

A.2.1 *Burner*

The burner shall be in accordance with clause 4.

A.2.2 *Control valve*

One control valve is required to set the gas flow rate.

A.2.3 *Copper block*

4 mm diameter, of mass 0,58 g ± 0,01 g in the fully machined but undrilled state, see figure A.1.

A.2.4 *Thermocouple*

Sheathed fine wire type K (NiCr/NiAl), outer sheath diameter 0,5 mm, suitable for long-term operation at >1 050 °C.

The preferred method of fastening thermocouple to block is by compressing the copper around the thermocouple, see figure A.2.

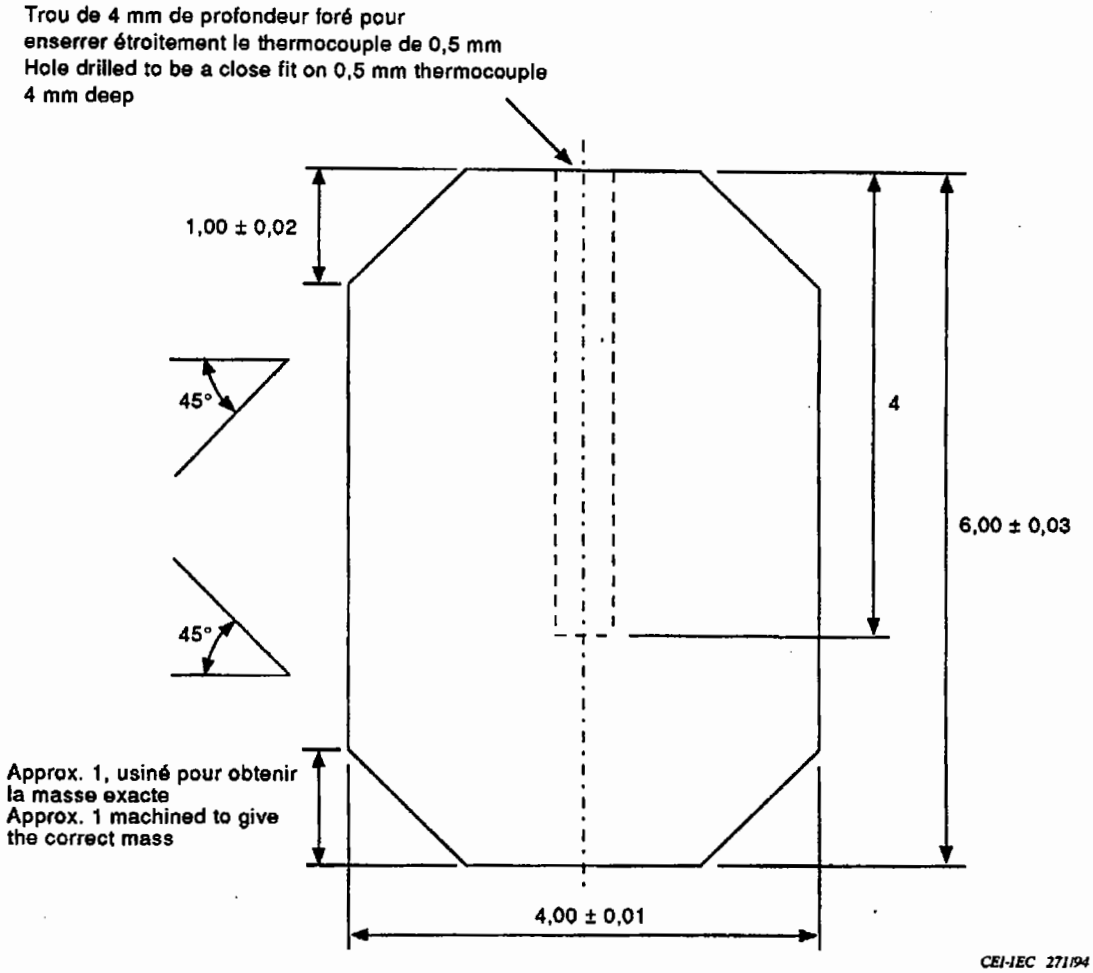
A.2.5 *Temperature indicating, recording and timing devices*

Appropriate for the measurement of the time for the block to heat up from 100 °C ± 2 °C to 700 °C ± 3 °C with a time uncertainty of 0,1 s.

A.2.6 *Fuel gas*

Butane with a purity of at least 95 %.

If the purity of the butane fuel gas is less than 95 %, the flame shall be confirmed in accordance with this normative annex every time the gas supply is changed or replaced.



Dimensions en millimètres *Dimensions in millimetres*

Matériau: Cuivre (électrolytique) de haute conductivité, poli sur toute sa surface

Masse avant perçage: 0,58 g ± 0,01 g

Material: High-conductivity (electrolytic) copper polish all external surfaces

Mass before drilling: 0,58 g ± 0,01 g

Figure A.1 – Bloc de cuivre poli sur toute sa surface

Copper block polish external surfaces