
**Preskusi na električnih kablji in kablji iz optičnih vlaken v požarnih razmerah
– 2-2. del: Preskus navpičnega širjenja ognja po posamezni majhni izolirani
žici ali kablu – Postopek z difuzijskim plamenom**

Tests on electric and optical fibre cables under fire conditions – Part 2-2: Test for vertical flame propagation for a single small insulated wire or cable – Procedure for diffusion flame (IEC 60332-2-2:2004)

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EUROPEAN STANDARD

EN 60332-2-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2004

ICS 13.220.40; 29.020; 29.060.20

Supersedes EN 50265-2-2:1998

English version

Tests on electric and optical fibre cables under fire conditions
Part 2-2: Test for vertical flame propagation
for a single small insulated wire or cable -
Procedure for diffusion flame
(IEC 60332-2-2:2004)

Essais des câbles électriques
et à fibres optiques soumis au feu
Partie 2-2: Essai de propagation verticale
de la flamme sur conducteur
ou câble isolé de petite section -
Procédure pour une flamme
de type à diffusion
(CEI 60332-2-2:2004)

Prüfungen an Kabeln, isolierten Leitungen
und Glasfaserkabeln im Brandfall
Teil 2-2: Prüfung der vertikalen
Flammenausbreitung an einer kleinen
Ader, einer kleinen isolierten Leitung
oder einem kleinen Kabel -
Prüfverfahren mit leuchtender Flamme
(IEC 60332-2-2:2004)

[SIST EN 60332-2-2:2005](https://standards.iteh.ai/catalog/standards/sist/46c68cf0-e282-41ac-ba82-0650f0766209/sist-en-60332-2-2-2005)

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This European Standard was approved by CENELEC on 2004-09-01. 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 20/700/FDIS, future edition 1 of IEC 60332-2-2, prepared by IEC TC 20, Electric cables, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60332-2-2 on 2004-09-01.

This European Standard supersedes EN 50265-2-2:1998.

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) 2005-06-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2007-09-01

Annex ZA has been added by CENELEC

Endorsement notice

The text of the International Standard IEC 60332-2-2:2004 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:

IEC 60332-1-2 **NOTE** Harmonized as EN 60332-1-2:2004 (not modified).
[SIST EN 60332-2-2:2005](https://standards.iteh.ai/catalog/standards/sist/en-60332-2-2-2005)
<https://standards.iteh.ai/catalog/standards/sist/en-60332-1-2-2004> (not modified).
0650f0766209/sist-en-60332-2-2-2005

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE Where an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60332-2-1	- ¹⁾	Tests on electric and optical fibre cables under fire conditions Part 2-1: Test for vertical flame propagation for a single small insulated wire or cable – Apparatus	EN 60332-2-1	2004 ²⁾
IEC 60695-4	- ¹⁾	Fire hazard testing Part 4: Terminology concerning fire tests	EN 60695-4	1995 ²⁾
IEC Guide 104	- ¹⁾	The preparation of safety publications and the use of basic safety publications and group safety publications	-	-

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¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

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**NORME
INTERNATIONALE
INTERNATIONAL
STANDARD**

**CEI
IEC**

60332-2-2

Première édition
First edition
2004-07

**PUBLICATION GROUPEE DE SECURITE
GROUP SAFETY PUBLICATION**

**Essais des câbles électriques
et à fibres optiques soumis au feu –**

Partie 2-2:

**Essai de propagation verticale de la flamme
sur conducteur ou câble isolé de petite section –
Procédure pour une flamme de type à diffusion**

**Tests on electric and optical fibre cables
under fire conditions –**

Part 2-2:

**Test for vertical flame propagation
for a single small insulated wire or cable –
Procedure for diffusion flame**

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
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For price, see current catalogue*

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**TESTS ON ELECTRIC AND OPTICAL FIBRE CABLES
UNDER FIRE CONDITIONS –****Part 2-2: Test for vertical flame propagation
for a single small insulated wire or cable –
Procedure for diffusion flame**

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.
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International Standard IEC 60332-2-2 has been prepared by IEC technical committee 20: Electric cables.

It has the status of a group safety publication in accordance with IEC Guide 104.

This first edition of International Standard IEC 60332-2-2, together with IEC 60332-2-1, cancel and replace the third edition of IEC 60332-2, published in 1989, and constitute a technical revision, calling for the re-structurization of the standard into two separate parts.

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

FDIS	Report on voting
20/700/FDIS	20/714/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.

IEC 60332 consists of the following parts, under the general title *Tests on electric and optical fibre cables under fire conditions*:

Part 1-1: Test for vertical flame propagation for a single insulated wire or cable – Apparatus

Part 1-2: Test for vertical flame propagation for a single insulated wire or cable – Procedure for 1kW pre-mixed flame

Part 1-3: Test for vertical flame propagation for a single insulated wire or cable – Procedure for determination of flaming droplets/particles

Part 2-1: Test for vertical flame propagation for a single small insulated wire or cable – Apparatus

Part 2-2: Test for vertical flame propagation for a single small insulated wire or cable - Procedure for diffusion flame

SIST EN 60332-2-2:2005

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site 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
- amended.

TESTS ON ELECTRIC AND OPTICAL FIBRE CABLES UNDER FIRE CONDITIONS –

Part 2-2: Test for vertical flame propagation for a single small insulated wire or cable – Procedure for diffusion flame

1 Scope

This part of IEC 60332 specifies the procedure for testing the resistance to vertical flame propagation for a single small vertical electrical insulated conductor or cable, or optical cable, under fire conditions. The apparatus is given in IEC 60332-2-1.

This standard gives the procedure for testing small optical fibre cables or a small insulated conductor or cable when the method specified in IEC 60332-1-2 is not suitable because some small optical fibre cables may break or small conductors may melt during the application of the flame. The recommended range of application is for the testing of small single insulated conductors or cables of less than 0,5 mm² cross-section.

NOTE Since the use of insulated conductor or cable which retards flame propagation and complies with the recommended requirements of this standard is not sufficient by itself to prevent propagation of fire under all conditions of installation, it is recommended that wherever the risk of propagation is high, for example, in long vertical runs of bunches of cables, special installation precautions should also be taken. It cannot be assumed that because the sample of cable complies with the performance requirements recommended in this standard, that a bunch of cables will behave in a similar manner. (See IEC 60332-3 series.)

Recommended requirements for performance are given in Annex A.

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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 60332-2-1, *Tests on electric and optical cables under fire conditions – Part 2-1: Test for vertical flame propagation for a single small insulated wire or cable – Apparatus*

IEC 60695-4, *Fire hazard testing – Part 4: Terminology concerning fire tests*

IEC Guide 104, *The preparation of safety publications and the use of basic safety publications and group safety publications*