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**Merjenje gostote dima pri gorenju kablov pri določenih pogojih – 1. del:  
Preskusni aparat (IEC 61034-1:2005)**

Measurement of smoke density of cables burning under defined conditions - Part 1:  
Test apparatus (IEC 61034-1:2005)

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EUROPEAN STANDARD

**EN 61034-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2005

ICS 13.220.40; 29.20; 29.060.20

Supersedes EN 50268-1:1999

English version

**Measurement of smoke density of cables  
burning under defined conditions  
Part 1: Test apparatus  
(IEC 61034-1:2005)**

Mesure de la densité de fumées  
dégagées par des câbles brûlant  
dans des conditions définies  
Partie 1: Appareillage d'essai  
(CEI 61034-1:2005)

Messung der Rauchdichte von Kabeln  
und isolierten Leitungen beim Brennen  
unter definierten Bedingungen  
Teil 1: Prüfeinrichtung  
(IEC 61034-1:2005)

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This European Standard was approved by CENELEC on 2005-06-01. 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.

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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 20/754/FDIS, future edition 3 of IEC 61034-1, prepared by IEC TC 20, Electric cables, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61034-1 on 2005-06-01.

The principal change with respect to EN 50268-1 is a closer definition of the support for the cable(s) under test.

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) 2006-03-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2008-06-01

Annex ZA has been added by CENELEC.

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## iTeh STANDARD PREVIEW Endorsement notice (standards.iteh.ai)

The text of the International Standard IEC 61034-1:2005 was approved by CENELEC as a European Standard without any modification.

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## 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 60695-4	2005	Fire hazard testing - Part 4: Terminology concerning fire tests for electrotechnical products	-	-
IEC Guide 104	1997	The preparation of safety publications and the use of basic safety publications and group safety publications	-	-
ISO 13943	2000	Fire safety - Vocabulary	EN ISO 13943	2000

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NORME  
INTERNATIONALE  
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IEC

61034-1

Troisième édition  
Third edition  
2005-04

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PUBLICATION GROUPEE DE SÉCURITÉ  
GROUP SAFETY PUBLICATION

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**Mesure de la densité de fumées  
dégagées par des câbles brûlant  
dans des conditions définies –**

**Partie 1:  
Appareillage d'essai**

PREVIEW  
(standards.iteh.ai)

**Measurement of smoke density of cables  
burning under defined conditions –**

SIST EN 61034-1-2005  
<https://standards.iteh.ai/catalog/standards/sist/daa41d1c-3079-4e07-8b5f-9f8c8d158b91/sist-en-61034-1-2005>

**Part 1:  
Test apparatus**

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Международная Электротехническая Комиссия

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MEASUREMENT OF SMOKE DENSITY OF CABLES  
BURNING UNDER DEFINED CONDITIONS –****Part 1: Test apparatus**

## 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 61034-1 has been prepared by IEC technical committee 20: Electric cables.

This third edition cancels and replaces the second edition published in 1997 and constitutes a technical revision.

The principal changes with respect to the previous edition are as follows:

- a) closer definition of the draught screen and the chamber orifices;
- b) closer definition of the support for the cable(s) under test;
- c) removal of minor differences with equivalent CENELEC work to allow parallel voting with that body.

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

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

FDIS	Report on voting
20/754/FDIS	20/766/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 61034 consists of the following parts, under the general title *Measurement of smoke density of cables burning under defined conditions*,

Part 1: Test apparatus

Part 2: Test procedure and requirements

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.

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## INTRODUCTION

The measurement of smoke density is an important aspect in the evaluation of the burning performance of cables as it is related to the evacuation of persons and accessibility for firefighting.

IEC 61034 is published in two parts, which together specify a method of test for measurement of smoke density of cables burning under defined conditions. Users of this test are reminded that the configurations of cable in the test (i.e. as test pieces or bundles of test pieces) may not represent actual installation conditions.

This Part 1 gives details of the test apparatus and verification procedure to be used for the measurement of smoke density of the products of combustion of cables burnt under defined conditions. It includes details of a test enclosure of 27m<sup>3</sup> volume, a photometric system for light measurement, the fire source, smoke mixing method and a qualification procedure. Annex A gives guidance on various aspects of the test apparatus which may be useful when first constructing the test enclosure.

Part 2 gives the test procedure, together with an informative annex giving recommended requirements for compliance where no specified requirement is given in the particular cable standard or specification.

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