

Measurement of smoke density of cables burning under defined conditions —

Part 1: Test apparatus

ICS 13.220.40; 29.020; 29.060.20

National foreword

This British Standard is the UK implementation of EN 61034-1:2005+A1:2014. It is identical to IEC 61034-1:2005, incorporating amendment 1:2013. It supersedes BS EN 61034-1:2005 which will be withdrawn on 15 November 2016.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment 1 is indicated by A1 A1.

The UK participation in its preparation was entrusted by Technical Committee GEL/20, Electric cables, to Subcommittee GEL/20/18, Electric Cables - Fire Testing.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

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**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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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.

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CENELEC

European Committee for Electrotechnical Standardization
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Europäisches Komitee für Elektrotechnische Normung

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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.

Endorsement notice

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

Foreword to amendment A1

The text of document 20/1428/FDIS, future IEC 61034-1:2005/A1, prepared by IEC/TC 20 "Electric cables" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61034-1:2005/A1:2014.

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standards conflicting with the
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This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

Endorsement notice

The text of the International Standard IEC 61034-1:2005/A1:2013 was approved by CENELEC as a European Standard without any modification.

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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 27m³ 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.