SVENSK STANDARD SS-EN 60695-6-1

Fastställd	Utgåva	Sida	Ansvarig kommitté
2005-09-26	2	1 (1+31)	SEK TK 89

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Provning av brandegenskaper – Del 6-1: Förmörkelse förorsakad av rök – Vägledning

Fire hazard testing – Part 6-1: Smoke obscuration – General guidance

Som svensk standard gäller europastandarden EN 60695-6-1:2005. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60695-6-1:2005.

Nationellt förord

Europastandarden EN 60695-6-1:2005[*)]

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC

– **IEC 60695-6-1, Second edition, 2005 - Fire hazard testing - Part 6-1: Smoke obscuration - General guidance**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 60695-6-1, utgåva 1, 2002, gäller ej fr o m 2008-05-01.

[*)] EN 60695-6-1:2005 ikraftsattes 2005-09-26 som SS-EN 60695-6-1 genom offentliggörande, d v s utan utgivning av något svenskt dokument.

ICS 13.220.99; 29.020

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Postadress: SEK, Box 1284, 164 29 KISTA
Telefon: 08 - 444 14 00. *Telefax*: 08 - 444 14 30
E-post: sek@elstandard.se. *Internet*: www.elstandard.se

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Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

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Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

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Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

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Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

SEK Svensk Elstandard
Box 1284
164 29 Kista
Tel 08-444 14 00
www.elstandard.se

EUROPEAN STANDARD **EN 60695-6-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM June 2005

ICS 13.220.99; 29.020 Supersedes EN 60695-6-1:2001

English version

Fire hazard testing
Part 6-1: Smoke obscuration – General guidance
(IEC 60695-6-1:2005)

Essais relatifs aux risques du feu
Partie 6-1: Opacité des fumées –
Lignes directrices générales
(CEI 60695-6-1:2005)

Prüfungen zur Beurteilung
der Brandgefahr
Teil 6-1: Sichtminderung durch Rauch -
Allgemeiner Leitfaden
(IEC 60695-6-1:2005)

This European Standard was approved by CENELEC on 2005-05-01. 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

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Ref. No. EN 60695-6-1:2005 E

SEK Svensk Elstandard

Foreword

The text of document 89/692/FDIS, future edition 2 of IEC 60695-6-1, prepared by IEC TC 89, Fire hazard testing, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60695-6-1 on 2005-05-01.

This European Standard supersedes EN 60695-6-1:2001.

The main changes with respect to EN 60695-6-1:2001 are:

– modified title;

– updated normative references;

– expanded terms and definitions;

– numerous editorial changes of a technical nature throughout the publication;

– a flowchart has been added for the evaluation and consideration of smoke test methods.

This European Standard is to be used in conjunction with IEC/TS 60695-6-2.

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)	2006-02-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2008-05-01

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 60695-6-1:2005 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.

Publication	Year	Title	EN/HD	Year
IEC 60695-1-1	- [1)]	Fire hazard testing Part 1-1: Guidance for assessing the fire hazard of electrotechnical products - General guidelines	EN 60695-1-1	2000 [2)]
IEC 60695-4	1993	Part 4: Terminology concerning fire tests	EN 60695-4	1995
A1	1995		-	-
A2	2001		-	-
IEC 60695-6-2	2001	Part 6-2: Smoke obscuration - Summary and relevance of test methods	-	-
IEC 60695-6-30	- [1)]	Part 6: Guidance and test methods on the assessment of obscuration hazard of vision caused by smoke opacity from electrotechnical products involved in fires - Section 30: Small-scale static method - Determination of smoke opacity - Description of the apparatus	-	-
IEC 60695-6-31	- [1)]	Part 6-31: Smoke obscuration - Small-scale static test - Materials	-	-
IEC Guide 104	1997	The preparation of safety publications and the use of basic safety publications and group safety publications	-	-
ISO/TR 9122-1	1989	Toxicity testing of fire effluents Part 1: General	-	-
ISO 5659-2	1994	Plastics - Smoke generation Part 2: Determination of capital density by a single-chamber test	EN ISO 5659-2	1998
ISO 13943	2000	Fire safety - Vocabulary	EN ISO 13943	2000
ISO/IEC Guide 51	1999	Safety aspects - Guidelines for their inclusion in standards	-	-

[1)] Undated reference.

[2)] Valid edition at date of issue.

CONTENTS

INTRODUCTION

The risk of fire needs to be considered in any electrical circuit, and the objective of component, circuit and equipment design, as well as the choice of material, is to reduce the likelihood of fire, even in the event of foreseeable abnormal use, malfunction or failure.

Electrotechnical products, primarily victims of a fire, may nevertheless contribute to the fire. One of the contributing hazards is the release of smoke, which may cause loss of vision and/or disorientation which could impede escape from the building or fire fighting.

Smoke particles reduce the visibility due to light absorption and scattering. Consequently, people may experience difficulties in finding exit signs, doors and windows. Visibility is often determined as the distance at which an object is no longer visible. It depends on many factors, but close relationships have been established between visibility and the measurements of the extinction coefficient of smoke – see Annex A.

The production of smoke and its optical properties can be measured as well as other fire properties, such as heat release, flame spread, and the production of toxic gas and corrosive effluent. This part of IEC 60695-6 serves as a guidance document and focuses on obscuration of light by smoke.

FIRE HAZARD TESTING –

Part 6-1: Smoke obscuration – General guidance

1 Scope

This part of IEC 60695 gives guidance on:

a) optical measurement of smoke obscuration;

b) general aspects of optical smoke test methods;

c) consideration of test methods;

d) expression of smoke test data;

e) relevance of optical smoke data to hazard assessment.

One of the responsibilities of a technical committee is, wherever applicable, to make use of basic safety publications in the preparation of its publications.

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 60695-1-1, *Fire hazard testing – Part 1-1: Guidance for assessing the fire hazard of electrotechnical products – General guidelines*

IEC 60695-4:2001[1], *Fire hazard testing – Part 4: Terminology concerning fire tests*

IEC 60695-6-2:2001, *Fire hazard testing – Part 6-2: Smoke obscuration – Summary and relevance of test methods*

IEC 60695-6-30, *Fire hazard testing – Part 6: Guidance and test methods on the assessment of obscuration hazard of vision caused by smoke opacity from electrotechnical products involved in fires – Section 30: Small-scale static method – Determination of smoke opacity – Description of the apparatus*

IEC 60695-6-31, *Fire hazard testing – Part 6-31: Smoke obscuration – Small-scale static test – Materials*

IEC Guide 104:1997, *The preparation of safety publications and the use of basic safety publications and group safety publications*

ISO/TR 9122-1:1989, *Toxicity testing of fire effluents – Part 1: General*

[1] Consolidated edition 2.2 (2001) that includes IEC 60695-4 (1993), its amendment 1 (1995) and its amendment 2 (2001).

ISO 5659-2:1994, *Plastics – Smoke generation – Part 2: Determination of optical density by a single-chamber test*

ISO/IEC 13943:2000, *Fire safety – Vocabulary*

ISO/IEC Guide 51:1999. *Safety aspects – Guidelines for inclusion in standards*