NSAI
Standards

Irish Standard
I.S. EN IEC 60695-6-2:2018

Fire hazard testing - Part 6-2: Smoke obscuration - Summary and relevance of test methods

I.S. EN IEC 60695-6-2:2018

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN IEC 60695-6-2:2018 is the adopted Irish version of the European Document EN IEC 60695-6-2:2018, Fire hazard testing - Part 6-2: Smoke obscuration - Summary and relevance of test methods

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In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 60695-6-2

September 2018

ICS 13.220.99; 29.020

Supersedes EN 60695-6-2:2011

English Version

Fire hazard testing - Part 6-2: Smoke obscuration - Summary and relevance of test methods (IEC 60695-6-2:2018)

Essais relatifs aux risques du feu - Partie 6-2: Opacité des fumées - Résumé et pertinence des méthodes d'essais (IEC 60695-6-2:2018)

Prüfungen zur Beurteilung der Brandgefahr - Teil 6-2: Sichtminderung durch Rauch - Zusammenfassung und Anwendbarkeit von Prüfverfahren (IEC 60695-6-2:2018)

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CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN IEC 60695-6-2:2018

European foreword

The text of document 89/1399/FDIS, future edition 2 of IEC 60695-6-2, prepared by IEC/TC 89 "Fire hazard testing" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60695-6-2:2018.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2019-04-10
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2021-07-10

This document supersedes EN 60695-6-2:2011.

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Endorsement notice

The text of the International Standard IEC 60695-6-2:2018 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60695-1-10	NOTE	Harmonized as EN 60695-1-10.
IEC 60695-1-11	NOTE	Harmonized as EN 60695-1-11.
ISO 5659-2	NOTE	Harmonized as EN ISO 5659-2.
IEC 61034-1	NOTE	Harmonized as EN 61034-1.
IEC 61034-2	NOTE	Harmonized as EN 61034-2.
IEC 60332-3-10	NOTE	Harmonized as EN 60332-3-10.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60695-6-1	-	Fire hazard testing - Part 6-1: Smoke obscuration - General guidance	EN 60695-6-1	-
ISO/IEC Guide 51	-	Safety aspects - Guidelines for their inclusion in standards	-	-
IEC Guide 104	-	The preparation of safety publications and the use of basic safety publications and group safety publications	-	-
ISO 5660-1	2015	Reaction-to-fire tests - Heat release, smoke production and mass loss rate - Part-1: Heat release rate (cone calorimeter method) and smoke production rate (dynamic measurement)	-	-
ISO 13943	2008	Fire safety - Vocabulary	EN ISO 13943	2010
ISO 19706	2011	Guidelines for assessing the fire threat to people	-	-

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IEC 60695-6-2

Edition 2.0 2018-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE

BASIC SAFETY PUBLICATION

PUBLICATION FONDAMENTALE DE SÉCURITÉ

Fire hazard testing –
Part 6-2: Smoke obscuration – Summary and relevance of test methods

Essais relatifs aux risques du feu –
Partie 6-2: Opacité des fumées – Résumé et pertinence des méthodes d'essais

IEC 60695-6-2:2018-06(en-fr)

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IEC 60695-6-2

Edition 2.0 2018-06

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FIRE HAZARD TESTING –

Part 6-2: Smoke obscuration – Summary and relevance of test methods

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 60695-6-2 has been prepared by IEC technical committee 89: Fire hazard testing.

This standard cancels and replaces IEC 60695-6-2 published in 2011. This second edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) updated introduction;
b) updated normative references;
c) new text in 4.1;
d) deletion of references to IEC 60695-6-30 and -31 (withdrawn)
e) updates with respect to ISO 5659-2;

f) deletion of references to BS 6853 and CEI 20-37-3 (superseded);

g) deletion of references to ISO/TR 5924 (withdrawn);

h) updated text with respect to EN 50399;

i) updated text with respect to ISO 5660-1;

j) addition of new Subclause 7.5

k) deletion of Annex B;

l) deletion of Annex E;

m) additional bibliographic references.

This standard is to be used in conjunction with IEC 60695-6-1.

It has the status of a basic safety publication in accordance with IEC Guide 104 and ISO/IEC Guide 51.

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

FDIS	Report on voting
89/1399/FDIS	89/1405/RVD

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

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 60695 series, under the general title *Fire hazard testing*, can be found on the IEC website.

Part 6 consists of the following parts:

Part 6-1: Smoke obscuration – General guidance

Part 6-2: Smoke obscuration – Summary and relevance of test methods

The committee has decided that the contents of this publication will remain unchanged until the stability 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.

INTRODUCTION

In the design of an electrotechnical product the risk of fire and the potential hazards associated with fire need to be considered. In this respect the objective of component, circuit and equipment design, as well as the choice of materials, is to reduce the risk of fire to a tolerable level even in the event of reasonably foreseeable (mis)use, malfunction or failure. IEC 60695-1-10 [1][1], IEC 60695-1-11 [2], and IEC 60695-1-12 [3] provide guidance on how this is to be accomplished.

Fires involving electrotechnical products can also be initiated from external non-electrical sources. Considerations of this nature are dealt with in an overall fire hazard assessment.

The aim of the IEC 60695 series is to save lives and property by reducing the number of fires or reducing the consequences of the fire. This can be accomplished by:

- trying to prevent ignition caused by an electrically energised component part and, in the event of ignition, to confine any resulting fire within the bounds of the enclosure of the electrotechnical product.
- trying to minimise flame spread beyond the product's enclosure and to minimise the harmful effects of fire effluents including heat, smoke, and toxic or corrosive combustion products.

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.

This part of IEC 60695 describes smoke test methods in common use to assess the smoke release from electrotechnical products, or from materials used in electrotechnical products. It gives guidance to product committees wishing to incorporate test methods for smoke obscuration in product standards.

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1 Numbers in square brackets refer to the bibliography.

FIRE HAZARD TESTING –

Part 6-2: Smoke obscuration – Summary and relevance of test methods

1 Scope

This part of IEC 60695 provides a summary of commonly used test methods for the assessment of smoke obscuration. It presents a brief summary of static and dynamic test methods in common use, either as international standards or national or industry standards. It includes special observations on their relevance to electrotechnical products and their materials and to fire scenarios, and gives recommendations on their use.

This basic safety publication shall be used by technical committees in the preparation of standards in accordance with the principles laid down in IEC Guide 104 and ISO/IEC Guide 51.

One of the responsibilities of a technical committee is, wherever applicable, to make use of basic safety publications in the preparation of its publications. The requirements, test methods or test conditions of this basic safety publication will not apply unless specifically referred to or included in the relevant publications.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60695-6-1, *Fire hazard testing – Part 6-1: Smoke obscuration – General guidance*

ISO/IEC Guide 51, *Safety aspects – Guidelines for their inclusion in standards*

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

ISO 5660-1:2015, *Reaction-to-fire tests – Heat release, smoke production and mass loss rate – Part 1: Heat release rate (cone calorimeter method) and smoke production rate (dynamic measurement)*

ISO 13943:2008, *Fire safety – Vocabulary*

ISO 19706:2011, *Guidelines for assessing the fire threat to people*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 13943:2008, some of which are reproduced below for users' convenience, and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses: