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STN	**Skúšanie požiarneho nebezpečenstva Časť 1-12: Návod na posudzovanie požiarneho nebezpečenstva elektrotechnických výrobkov Požiarne inžinierstvo**	**STN EN IEC 60695-1-12** 34 5630

Fire hazard testing - Part 1-12: Guidance for assessing the fire hazard of electrotechnical products - Fire safety engineering

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/20

Obsahuje: EN IEC 60695-1-12:2020, IEC 60695-1-12:2015

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 60695-1-12

May 2020

ICS 13.220.40; 29.020

English Version

Fire hazard testing - Part 1-12: Guidance for assessing the fire hazard of electrotechnical products - Fire safety engineering (IEC 60695-1-12:2015)

Essais relatifs aux risques du feu - Partie 1-12: Lignes directrices pour l'évaluation des risques du feu des produits électrotechniques - Ingénierie de la sécurité incendie (IEC 60695-1-12:2015)

Prüfungen zur Beurteilung der Brandgefahr - Teil 1-12: Anleitung zur Beurteilung der Brandgefahr von elektrotechnischen Erzeugnissen - Brandschutzingenieurwesen (IEC 60695-1-12:2015)

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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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

European foreword

This document (EN IEC 60695-1-12:2020) consists of the text of IEC 60695-1-12:2015 prepared by IEC/TC 89 "Fire hazard testing".

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) 2021-05-11
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-05-11

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 60695-1-12:2015 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:

ISO 9239-1 NOTE Harmonized as EN ISO 9239-1

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 60695-1-10	-	Fire hazard testing -- Part 1-10: Guidance for assessing the fire hazard of electrotechnical products - General guidelines	-	-
IEC 60695-1-11	-	Fire hazard testing - Part 1-11: Guidance for assessing the fire hazard of electrotechnical products - Fire hazard assessment	EN 60695-1-11	-
IEC 60695-4	-	Fire hazard testing - Part 4: Terminology concerning fire tests for electrotechnical products	EN 60695-4	-
IEC Guide 104	-	The preparation of safety publications and the use of basic safety publications and group safety publications	-	-
ISO/IEC Guide 51	-	Safety aspects - Guidelines for their inclusion in standards	-	-
ISO 13943	2008	Fire safety - Vocabulary	-	-
ISO/TR 13387-2	-	Fire safety engineering – Part 2: Design fire scenarios and design fires	-	-
ISO/TR 13387-8	-	Fire safety engineering - Part 8: Life safety - Occupant behaviour, location and condition	-	-
ISO/TS 16733	-	Fire safety engineering - Selection of design fire scenarios and design fires	-	-
ISO/TR 16738	-	Fire-safety engineering - Technical information on methods for evaluating behaviour and movement of people	-	-
ISO/TR 17252	2008	Fire tests - Applicability of reaction to fire tests to fire modelling and fire safety engineering	-	-
ISO 23932	2009	Fire safety engineering - General principles	-	-

IEC 60695-1-12

Edition 1.0 2015-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

BASIC SAFETY PUBLICATION
PUBLICATION FONDAMENTALE DE SÉCURITÉ

Fire hazard testing –
Part 1-12: Guidance for assessing the fire hazard of electrotechnical products – Fire safety engineering

Essais relatifs aux risques du feu –
Partie 1-12: Lignes directrices pour l'évaluation des risques du feu des produits électrotechniques – Ingénierie de la sécurité incendie

IEC 60695-1-12:2015-01(en-fr)

IEC 60695-1-12

Edition 1.0 2015-01

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FIRE HAZARD TESTING –

Part 1-12: Guidance for assessing the fire hazard of electrotechnical products – Fire safety engineering

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 60695-1-12 Ed 1.0 has been prepared by IEC technical committee 89: Fire hazard testing.

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
89/1237A/FDIS	89/1242/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.

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

IEC 60695-1 consists of the following parts:

Part 1-10: Guidance for assessing the fire hazard of electrotechnical products – General guidelines

Part 1-11: Guidance for assessing the fire hazard of electrotechnical products – Fire hazard assessment

Part 1-12: Guidance for assessing the fire hazard of electrotechnical products – Fire safety engineering

Part 1-30: Guidance for assessing the fire hazard of electrotechnical products – Preselection testing process – General guidelines

Part 1-40: Guidance for assessing the fire hazard of electrotechnical products – Insulating liquids.

This standard is to be used in conjunction with IEC 60695-1-10 and IEC 60695-1-11.

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

Fire safety engineering

Fire safety engineering concerns the application of engineering methods based on scientific principles to the development or assessment of designs in the built environment through the analysis of specific fire scenarios or through the quantification of risk for a group of fire scenarios. This is in order to achieve fire safety engineering objectives, which typically are:

a) to protect life safety,

b) to protect property,

c) to maintain the continuity of operations,

d) to protect the natural environment, and

e) to preserve heritage.

The analysis is based on calculations that use input data obtained principally from quantitative fire tests.

Fire safety engineering (FSE) is a discipline increasingly being used in support of performance-based national fire safety regulations in many countries and regional jurisdictions throughout the world. The eight parts of ISO/TR 13387 (see Clause 2 and [1] to [6]) and ISO 23932 outline the fundamental methodologies and uses of FSE. Further detailed aspects of FSE are covered in ISO 16730 [7], ISO/TS 16732 [8], ISO/TS 16733, ISO 16734 [9], ISO 16735 [10], ISO 16736 [11], ISO 16737 [12] and ISO/TR 16738.

In addition to purely performance-based regulations, many countries are also using FSE to supplement prescriptive regulations by applying FSE principles to specific design aspects, where reduced costs, alternative practices, improved performance and improved safety are the objectives.

The International Maritime Organization (IMO) is using FSE and the ISO standards mentioned above to develop fire safety designs for ships. These are considered to be an improvement on designs based on prescriptive fire safety requirements.

Qualitative and quantitative fire tests

Many standardised fire test methods give information on the performance of a material or end product as measured in the test, which may or may not be related to a real fire scenario or real installation practices. These qualitative fire test methods result in a “pass” or “fail” and/or a product or material ranking. They play an important role in prescriptive regulations, and the results of a qualitative test can be used indirectly in fire hazard assessment of electrotechnical products, but they are not suitable for directly supporting performance-based design.

Most standardized test methods developed by the IEC for electrotechnical products are of the qualitative type. It is agreed within ISO and the IEC that this type of fire test will continue to be maintained and, where necessary, developed. It is recognised that, even if the use of these standards is in prescriptive codes, product data from many of these standards may be potentially adaptable for fire safety engineering purposes.

In contrast, quantitative fire tests are increasingly being used and developed, and these do provide data that can be input to fire safety engineering calculations.

Various quantitative fire tests have been developed by ISO, some of which can be used to assess the performance of electrotechnical products (see 9.4).

FIRE HAZARD TESTING –

Part 1-12: Guidance for assessing the fire hazard of electrotechnical products – Fire safety engineering

1 Scope

This part of IEC 60695 is intended as a general guideline for IEC Product Committees and provides:

- an explanation of the principles and uses of fire safety engineering;
- guidance on the use of fire safety engineering in the design of electrotechnical products;
- fire safety engineering terminology, and concepts;
- an indication of properties, data and tests needed for input into fire safety engineering assessments;
- informative references.

This international standard is not intended to be a detailed technical design guide, but is intended to provide guidance for product committees on fire safety engineering methods and performance based test information needs for use in performance based designs and fire hazard assessments of electrotechnical materials, assemblies, products and systems. More detailed information on fire safety engineering is contained in the ISO/TR 13387 series of documents (see Clause 2 and [1] to [6]) and in ISO 23932.

NOTE Further detailed aspects of FSE are covered in ISO 16730 [7], ISO/TS 16732 [8], ISO/TS 16733, ISO 16734 [9], ISO 16735 [10], ISO 16736 [11], ISO 16737 [12] and ISO/TR 16738.

This basic safety publication is intended for use 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, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60695-1-10, *Fire hazard testing – Part 1-10: Guidance for assessing the fire hazard of electrotechnical products – General guidelines*

IEC 60695-1-11, *Fire hazard testing – Part 1-11: Guidance for assessing the fire hazard of electrotechnical products – Fire hazard assessment*

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

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

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

ISO 13943:2008, *Fire safety – Vocabulary*

ISO/TR 13387-2: *Fire safety engineering – Part 2: Design fire scenarios and design fires*

ISO/TR 13387-8, *Fire safety engineering – Part 8: Life safety: Occupant behaviour, location and condition*

ISO/TS 16733, *Fire safety engineering – Selection of design fire scenarios and design fires*

ISO/TR 16738, *Fire safety engineering – Technical information on methods for evaluating behaviour and movement of people*

ISO/TR 17252:2008, *Fire tests – Applicability of reaction to fire tests to fire modelling and fire safety engineering*

ISO 23932:2009, *Fire safety engineering – General principles*