

---

**Ugotavljanje nastajanja plinov pri gorenju kabelskih materialov - 3. del: Merjenje majhne koncentracije halogenov z ionsko kromatografijo (IEC 60754-3:2018)**

Test on gases evolved during combustion of materials from cables - Part 3:  
Measurement of low level of halogen content by ion chromatography (IEC 60754-3:2018)

Prüfung der bei der Verbrennung der Werkstoffe von Kabeln und isolierten Leitungen entstehenden Gase - Teil 3: Messung eines niedrigen Halogengehalts durch Ionenchromatographie (IEC 60754-3:2018)

(standards.iteh.ai)

Essai sur les gaz émis lors de la combustion des matériaux prélevés sur câbles - Partie 3: Mesure d'une faible teneur en halogène par chromatographie ionique (IEC 60754-3:2018)

**Ta slovenski standard je istoveten z: EN IEC 60754-3:2019**

---

**ICS:**

13.220.40	Sposobnost vžiga in obnašanje materialov in proizvodov pri gorenju	Ignitability and burning behaviour of materials and products
29.060.20	Kabli	Cables

**SIST EN IEC 60754-3:2019**

**en**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN IEC 60754-3:2019

<https://standards.iteh.ai/catalog/standards/sist/bba49abc-b1d9-410d-b53c-02c6a94d4bba/sist-en-iec-60754-3-2019>

EUROPEAN STANDARD

**EN IEC 60754-3**

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2019

ICS 13.220.40; 29.060.20

English Version

Test on gases evolved during combustion of materials from  
cables - Part 3: Measurement of low level of halogen content by  
ion chromatography  
(IEC 60754-3:2018)

Essai sur les gaz émis lors de la combustion des matériaux  
prélevés sur câbles - Partie 3: Mesure d'une faible teneur  
en halogène par chromatographie ionique  
(IEC 60754-3:2018)

Prüfung der bei der Verbrennung der Werkstoffe von  
Kabeln und isolierten Leitungen entstehenden Gase -  
Teil 3: Messung eines niedrigen Halogengehalts durch  
Ionenchromatographie  
(IEC 60754-3:2018)

This European Standard was approved by CENELEC on 2019-07-19. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, 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 60754-3:2019 (E)****European foreword**

This document (EN IEC 60754-3:2019) consists of the text of IEC 60754-3:2018 prepared by IEC/TC 20 "Electric cables".

The following dates are fixed:

- latest date by which this document has to be (dop) 2020-07-19 implemented at national level by publication of an identical national standard or by endorsement
- latest date by which the national standards (dow) 2022-07-19 conflicting with this document have to be withdrawn

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 60754-3:2018 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 60684-2	NOTE Harmonized as EN 60684-2 <a href="https://standards.iteh.ai/catalog/standards/sist/bba49abc-b1d9-410d-b53c-02c6a94d4bba/sist-en-iec-60754-3-2019">SIST EN IEC 60754-3:2019</a>
IEC 60695-5-1	NOTE Harmonized as EN 60695-5-1 <a href="https://standards.iteh.ai/catalog/standards/sist/bba49abc-b1d9-410d-b53c-02c6a94d4bba/sist-en-iec-60754-3-2019">https://standards.iteh.ai/catalog/standards/sist/bba49abc-b1d9-410d-b53c-02c6a94d4bba/sist-en-iec-60754-3-2019</a>
IEC 60754-1	NOTE Harmonized as EN 60754-1
IEC 60754-2	NOTE Harmonized as EN 60754-2
IEC 62321-3-2	NOTE Harmonized as EN 62321-3-2

## 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 When 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](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 1042	-	Laboratory glassware - One-mark volumetric flasks	EN ISO 1042	-
ISO 3696	-	Water for analytical laboratory use - Specification and test methods	EN ISO 3696	-
ISO 10304-1	-	Water quality -- Determination of dissolved anions by liquid chromatography of ions -- Part 1: Determination of bromide, chloride, fluoride, nitrate, nitrite, phosphate and sulfate	EN ISO 10304-1	-

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

[SIST EN IEC 60754-3:2019](https://standards.iteh.ai/catalog/standards/sist/bba49abc-b1d9-410d-b53c-02c6a94d4bba/sist-en-iec-60754-3-2019)

<https://standards.iteh.ai/catalog/standards/sist/bba49abc-b1d9-410d-b53c-02c6a94d4bba/sist-en-iec-60754-3-2019>

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN IEC 60754-3:2019](#)

<https://standards.iteh.ai/catalog/standards/sist/bba49abc-b1d9-410d-b53c-02c6a94d4bba/sist-en-iec-60754-3-2019>



IEC 60754-3

Edition 1.0 2018-03

# INTERNATIONAL STANDARD

---

**Test on gases evolved during combustion of materials from cables –  
Part 3: Measurement of low level of halogen content by ion chromatography**

**STANDARD PREVIEW**  
(standards.iteh.ai)

SIST EN IEC 60754-3:2019  
<https://standards.iteh.ai/catalog/standards/sist/bba49abc-b1d9-410d-b53c-02c6a94d4bba/sist-en-iec-60754-3-2019>

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

---

ICS 13.220.40; 29.060.20

ISBN 978-2-8322-5484-4

**Warning! Make sure that you obtained this publication from an authorized distributor.**

## CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references .....	7
3 Terms and definitions .....	7
4 Test method principle .....	8
5 Test apparatus .....	8
5.1 General.....	8
5.2 Tube furnace .....	8
5.3 Quartz glass tube.....	9
5.4 Combustion boat.....	9
5.5 Bubbling devices for gases .....	9
5.6 Air supply system.....	10
5.7 Analytical balance.....	10
5.8 Laboratory glassware.....	10
5.9 Ion chromatographic system .....	11
6 Test specimen .....	11
6.1 General.....	11
6.2 Conditioning of specimen.....	11
6.3 Mass of specimen .....	11
7 Test procedure .....	11
7.1 General.....	11
7.2 Blank test.....	12
7.3 Test apparatus and arrangement .....	12
7.4 Heating procedure .....	12
7.5 Washing procedure .....	12
7.6 Measurement of the halogens .....	12
8 Evaluation of the test results .....	13
9 Performance requirement .....	13
10 Test report.....	13
Annex A (informative) Recommended use and performance requirements .....	20
A.1 Recommended use .....	20
A.1.1 General .....	20
A.1.2 Recommended use of IEC 60754-1, IEC 60754-2 and IEC 60754-3 .....	21
A.2 Recommended performance requirements to assess materials described as "halogen free" .....	21
Bibliography.....	22
Figure 1 – Device for inserting combustion boat and test specimen .....	14
Figure 2 – Example of a gas washing bottle .....	15
Figure 3 – Test apparatus: method 1 – Use of synthetic or compressed air from a bottle .....	16
Figure 4 – Test apparatus: method 2 – Use of laboratory compressed air supply .....	17
Figure 5 – Test apparatus: method 3 – Use of ambient air sucked by means of a suction pump .....	18
Figure 6 – Example of ion chromatographic system .....	19



Table A.1 – Scope and recommended use of IEC 60754-1, IEC 60754-2 and IEC 60754-3 .....	21
Table A.2 – Recommended performance requirements to assess materials described as "halogen free" .....	21

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN IEC 60754-3:2019](https://standards.iteh.ai/catalog/standards/sist/bba49abc-b1d9-410d-b53c-02c6a94d4bba/sist-en-iec-60754-3-2019)

<https://standards.iteh.ai/catalog/standards/sist/bba49abc-b1d9-410d-b53c-02c6a94d4bba/sist-en-iec-60754-3-2019>

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

TEST ON GASES EVOLVED DURING  
COMBUSTION OF MATERIALS FROM CABLES –

**Part 3: Measurement of low level of halogen  
content by ion chromatography**

## 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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60754-3 has been prepared by IEC technical committee 20: Electric cables.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
20/1784/FDIS	20/1791/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 the parts in the IEC 60754 series, published under the general title *Test on gases evolved during combustion of materials from cables*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

## **iTeh STANDARD PREVIEW (standards.iteh.ai)**

[SIST EN IEC 60754-3:2019](https://standards.iteh.ai/catalog/standards/sist/bba49abc-b1d9-410d-b53c-02c6a94d4bba/sist-en-iec-60754-3-2019)

<https://standards.iteh.ai/catalog/standards/sist/bba49abc-b1d9-410d-b53c-02c6a94d4bba/sist-en-iec-60754-3-2019>