
**Ugotavljanje nastajanja plinov pri gorenju kabelskih materialov - 2. del:
Ugotavljanje kislosti (z merjenjem pH) in prevodnosti - Dopolnilo A1 (IEC 60754-
2:2011/A1:2019)**

Test on gases evolved during combustion of materials from cables - Part 2:
Determination of acidity (by pH measurement) and conductivity (IEC 60754-
2:2011/A1:2019)

Prüfung der bei der Verbrennung der Werkstoffe von Kabeln und isolierten Leitungen
entstehenden Gase - Teil 2: Bestimmung der Azidität (durch Messung des pH-Wertes)
und Leitfähigkeit (IEC 60754-2:2011/A1:2019)

Essai sur les gaz émis lors de la combustion des matériaux prélevés sur câbles - Partie
2: Détermination de la conductivité et de l'acidité (par mesure du pH) (IEC 60754-
2:2011/A1:2019)

Ta slovenski standard je istoveten z: EN 60754-2:2014/A1:2020

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 60754-2:2014/A1:2020**en**

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60754-2:2014/A1

March 2020

ICS 13.220.40; 29.020; 29.060.20

English Version

**Test on gases evolved during combustion of materials from
cables - Part 2: Determination of acidity (by pH measurement)
and conductivity
(IEC 60754-2:2011/A1:2019)**

Essai sur les gaz émis lors de la combustion des matériaux
prélevés sur câbles - Partie 2: Détermination de la
conductivité et de l'acidité (par mesure du pH)
(IEC 60754-2:2011/A1:2019)

Prüfung der bei der Verbrennung von Kabelwerkstoffen
freigesetzten Gase - Teil 2: Bestimmung des Säuregehalts
(durch pH-Wertmessung) und der Leitfähigkeit
(IEC 60754-2:2011/A1:2019)

This amendment A1 modifies the European Standard EN 60754-2:2014; it was approved by CENELEC on 2019-12-30. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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

EN 60754-2:2014/A1:2020 (E)**European foreword**

The text of document 20/1883/FDIS, future IEC 60754-2/A1, prepared by IEC/TC 20 "Electric cables" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60754-2:2014/A1:2020.

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) 2020-09-30
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-12-30

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The text of the International Standard IEC 60754-2:2011/A1:2019 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 60754-1	NOTE	Harmonized as EN 60754-1
IEC 60754-3	NOTE	Harmonized as EN IEC 60754-3



IEC 60754-2

Edition 2.0 2019-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE

GROUP SAFETY PUBLICATION
PUBLICATION GROUPEE DE SÉCURITÉ

AMENDMENT 1

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iTeh STANDARD PREVIEW
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**Test on gases evolved during combustion of materials from cables –
Part 2: Determination of acidity (by pH measurement) and conductivity**

SIST EN 60754-2:2014/A1:2020
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Essai sur les gaz émis lors de la combustion des matériaux prélevés sur câbles –

Partie 2: Détermination de la conductivité et de l'acidité (par mesure du pH)

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 13.220.40; 29.020; 29.060.20

ISBN 978-2-8322-7580-1

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FOREWORD

This amendment has been prepared by IEC technical committee 20: Electric cables.

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

FDIS	Report on voting
20/1883/FDIS	20/1890/RVD

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

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC website 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.

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[SIST EN 60754-2:2014/A1:2020](https://standards.iteh.ai/catalog/standards/sist/d69c1c98-3190-4900-80bbe9b032bbe3ee/sist-en-60754-2-2014-a1-2020)

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INTRODUCTION

Add, at the end of the first paragraph, the following new dashed item:

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

Replace the last sentence with the following new text:

This part of IEC 60754 is linked with both IEC 60754-1 and IEC 60754-3. The test procedure for obtaining the absorption solution in this part of IEC 60754 is the same as for IEC 60754-3 but the test procedure differs considerably from IEC 60754-1.

1 Scope

Add at the end of the first paragraph the following sentence:

The heating (combustion) procedure of this part of IEC 60754 is the same as in IEC 60754-3.

5.4 Combustion boats

In the last paragraph, replace the sentence “The combustion boat shall then be weighed to an accuracy of 0,1 mg until two identical consecutive weights are obtained.” with the following new text:

The combustion boat shall then be weighed with an analytical balance until two identical consecutive measurements in mg, rounded to one decimal figure, are obtained. The accuracy is described in 5.7.

5.6 Air supply system

Replace the second and third paragraphs, including the NOTE, with the following:

The flow rate of air, ρ , shall be $20 \text{ m/h} \times (\pi/4) \times D^2 \times 10^{-3}$ with a tolerance of $\pm 10 \%$, where D is the internal diameter of the quartz tube.

EXAMPLE

If $D = 30 \text{ mm}$, $20 \text{ m/h} \times (\pi/4) \times D^2 \times 10^{-3} = 14,1 \text{ l/h}$, and the flow rate can be in the range 12,7 l/h to 15,5 l/h.

If $D = 46 \text{ mm}$, $20 \text{ m/h} \times (\pi/4) \times D^2 \times 10^{-3} = 33,2 \text{ l/h}$, and the flow rate can be in the range 29,9 l/h to 36,5 l/h.

NOTE The flow rate of air, ρ , is related to the velocity, v , according to the formula

$$\rho = v \times \frac{\pi D^2}{4} \times 10^{-3}$$

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where

D is the internal diameter of the tube (mm);

ρ is the flow rate of air (l/h);

v is the speed of air (m/h).

If $v = 20 \text{ m/h}$, this becomes, $\rho = 15,7 \text{ m/h} \times D^2 \times 10^{-3}$.

Replace under Method 2 the second sentence with the following:

The air shall be filtered and dried and shall be introduced on the inlet side of the quartz glass tube (see Figure 4).

5.7 Analytical balance

Replace the sentence with the following:

The balance shall have a resolution and an accuracy of $\pm 0,1 \text{ mg}$ or better.

5.8 Laboratory glassware

Replace “ISO 1042” with “ISO 1042 Class B”.

6.3 Mass of specimen

In the first paragraph, replace the first sentence with the following: Weigh the combustion boat (m_1) as defined in 5.4.

In the first paragraph, at the end of the second sentence, replace the text “which shall be weighed to an accuracy of 0,1 mg” with “which shall be weighed with an analytical balance so a measurement in mg, rounded to one decimal figure (m_2), is obtained.”

7.4 Washing procedure

Replace, at the end of the last sentence, “made up to 1 000 ml” with “made up to the 1 000 ml mark.”.

8.1 General method

Replace the second paragraph with the following new text:

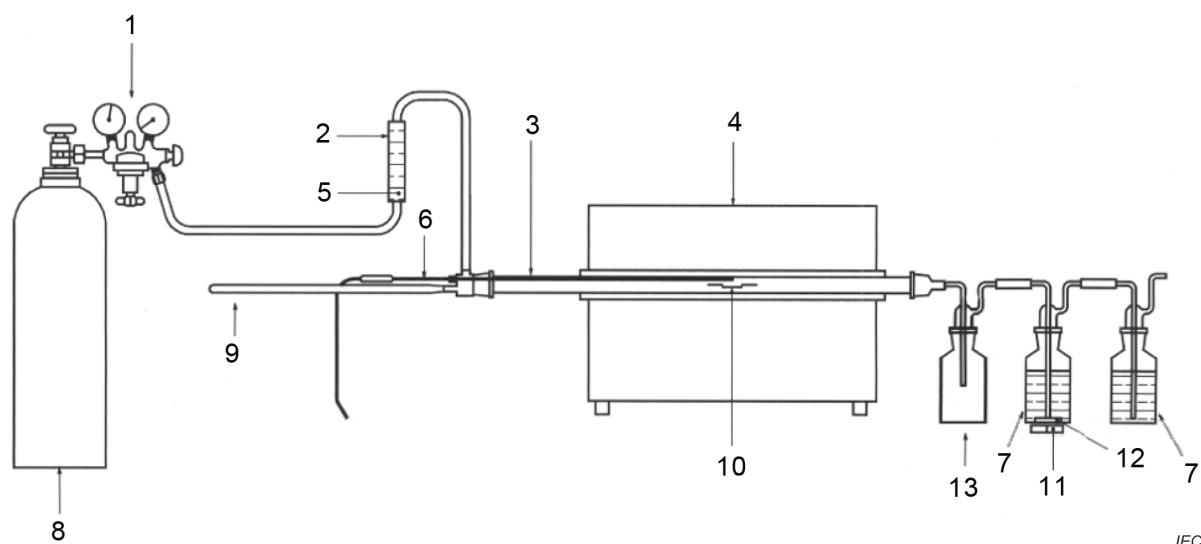
If, in the case of reporting against a performance requirement, the coefficient of variation is higher than 5 % and the difference between the requirement and the mean value is less than or equal to 2,5 times the standard deviation, a further three tests shall be carried out and the mean value, standard deviation and coefficient of variation shall be recalculated using the six values. If the difference between the requirement and the mean value is more than 2,5 times the standard deviation, no additional tests are necessary.

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If, in the case of not reporting against a performance requirement, the coefficient of variation is higher than 5 %, a further three tests shall be carried out and the mean value, standard deviation and coefficient of variation shall be recalculated using the six values.

10 Test report**Figure 3**

Replace Figure 3 with the following new Figure 3:

**Key**

- | | | | |
|---|-------------------------|----|--|
| 1 | Pressure reducing valve | 8 | Synthetic air |
| 2 | Flow meter | 9 | Device for inserting combustion boat containing test specimen |
| 3 | Quartz glass tube | 10 | Combustion boat containing test specimen |
| 4 | Furnace | 11 | Magnetic stirrer |
| 5 | Needle valve | 12 | Magnetic stirring bar |
| 6 | Thermocouple | 13 | Optional empty bottle to prevent suck-back of water into the quartz glass tube |
| 7 | Gas washing bottles | | |

Figure 3 – Test apparatus: method 1 – Use of synthetic or compressed air from a bottle