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**Explosive atmospheres -**
**Part 30-2: Electrical resistance trace heating - Guidance on application for design, installation and maintenance**

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# Explosive atmospheres - Part 30-2: Electrical resistance trace heating - Guidance on application for design, installation and maintenance

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IEC/IEEE 60079-30-2 has been prepared by IEC technical committee 31: Equipment for explosive atmospheres, in cooperation with the Petroleum & Chemical Industry Committee of the IEEE Industrial Applications Society under the IEC/IEEE Dual Logo Agreement.

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Users of this document are advised that interpretation sheets clarifying the interpretation of this document can be published. Interpretation sheets are available from the IEC webstore and can be found in the “history” tab of the page for each document.

This second edition of IEC/IEEE 60079-30-2 cancels and replaces the first edition of IEC/IEEE 60079-30-2 published in 2015.

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

a) a general review and updating of the first edition;

b) the addition of Annex I - Other applications of trace heating in explosive atmospheres.

The significance of changes between IEC/IEEE 60079-30-2, Edition 1.0 (2015) and IEC/IEEE 60079-30-2, Edition 2.0 (this document) is as listed below:

| | | Type | | |
|---|---|---|---|---|
| **Changes** | **Clause** | **Minor and editorial changes** | **Extension** | **Major technical changes** |
| The addition of Annex I - Frost heave prevention | Annex I | | X | |

NOTE The technical changes referred to include the significance of technical changes in the revised IEC Standard, but they do not form an exhaustive list of all modifications from the previous version.

**Explanations:**

**A) Definitions**

**Minor and editorial changes**

clarification

decrease of technical requirements

minor technical change

editorial corrections

These are changes which modify requirements in an editorial or a minor technical way. They include changes of the wording to clarify technical requirements without any technical change, or a reduction in level of existing requirement.

**Extension** addition of technical options

These are changes which add new or modify existing technical requirements, in a way that new options are given, but without increasing requirements for equipment that was fully compliant with the previous document. Therefore, these will not have to be addressed for products in conformity with the preceding edition.

**Major technical changes** addition of technical requirements

increase of technical requirements

These are changes to technical requirements (addition, increase of the level or removal) made in a way that a product in conformity with the preceding edition will not always be able to fulfil the requirements given in the later edition. These changes have to be addressed for products in conformity with the preceding edition. For these changes additional information is provided in clause B) below.

NOTE These changes represent current technological knowledge. However, these changes should not normally have an influence on equipment already placed on the market.

**B) Information about the background of 'Major technical changes'**

None.

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

| Draft | Report on voting |
|---|---|
| 31/1868/FDIS | 31/1894/RVD |

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

The language used for the development of this International Standard is English.

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This document is to be used in conjunction with IEC/IEEE 60079-30-1, *Explosive atmospheres - Part 30-1: Electrical resistance trace heating - General and testing requirements.*

A list of all parts of IEC 60079 series, under the general title *Explosive atmospheres,* can be found on the IEC website.

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– reconfirmed,
– withdrawn, or
– revised.

## 1 Scope

This part of IEC 60079 provides guidance for the application of electrical resistance trace heating systems in areas where explosive atmospheres ~~may~~ can be present, with the exclusion of those classified as requiring Equipment Protection Level (EPL) Ga~~/~~ or Da (traditional relationship to Zone 0 and Zone 20 respectively). This document also provides guidance for explosive atmospheres incorporating the Division method of area classification that ~~may~~ can be applied by some users of this document.

NOTE Information on the Division method is given in NFPA 70® [1] and CSA C22.1 [2].

This document provides recommendations for the design, installation, maintenance and repair of trace heating systems including associated control and monitoring equipment. It does not cover devices that operate by induction heating, skin effect heating or direct pipeline heating, nor those intended for stress relieving.

## 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 60050-426, *International Electrotechnical Vocabulary (IEV) - Part 426: ~~Equipment for~~ Explosive atmospheres*

IEC 60079-0, *Explosive atmospheres - Part 0: Equipment - General requirements*

IEC 60079-14, *Explosive atmospheres - Part 14: Electrical installations design, selection and erection*

IEC 60079-15, *Explosive atmospheres - Part 15: Equipment protection by type of protection "n"*

IEC 60079-17, *Explosive atmospheres - Part 17: Electrical installations inspection and maintenance*

IEC/IEEE 60079-30-1:2025, *Explosive atmospheres - Part 30-1: Electrical resistance trace heating - General and testing requirements*

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# Explosive atmospheres - Part 30-2: Electrical resistance trace heating - Guidance on application for design, installation and maintenance

## FOREWORD

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IEC/IEEE 60079-30-2 has been prepared by IEC technical committee 31: Equipment for explosive atmospheres, in cooperation with the Petroleum & Chemical Industry Committee of the IEEE Industrial Applications Society under the IEC/IEEE Dual Logo Agreement.

This document is published as an IEC/IEEE Dual Logo standard.

Users of this document are advised that interpretation sheets clarifying the interpretation of this document can be published. Interpretation sheets are available from the IEC webstore and can be found in the “history” tab of the page for each document.

This second edition of IEC/IEEE 60079-30-2 cancels and replaces the first edition of IEC/IEEE 60079-30-2 published in 2015.

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

a) a general review and updating of the first edition;

b) the addition of Annex I - Other applications of trace heating in explosive atmospheres.

The significance of changes between IEC/IEEE 60079-30-2, Edition 1.0 (2015) and IEC/IEEE 60079-30-2, Edition 2.0 (this document) is as listed below:

| | | Type | | |
|---|---|---|---|---|
| **Changes** | **Clause** | **Minor and editorial changes** | **Extension** | **Major technical changes** |
| The addition of Annex I - Frost heave prevention | Annex I | | X | |

NOTE The technical changes referred to include the significance of technical changes in the revised IEC Standard, but they do not form an exhaustive list of all modifications from the previous version.

**Explanations:**

**A) Definitions**

**Minor and editorial changes**

clarification

decrease of technical requirements

minor technical change

editorial corrections

These are changes which modify requirements in an editorial or a minor technical way. They include changes of the wording to clarify technical requirements without any technical change, or a reduction in level of existing requirement.

**Extension** addition of technical options

These are changes which add new or modify existing technical requirements, in a way that new options are given, but without increasing requirements for equipment that was fully compliant with the previous document. Therefore, these will not have to be addressed for products in conformity with the preceding edition.

**Major technical changes** addition of technical requirements

increase of technical requirements

These are changes to technical requirements (addition, increase of the level or removal) made in a way that a product in conformity with the preceding edition will not always be able to fulfil the requirements given in the later edition. These changes have to be addressed for products in conformity with the preceding edition. For these changes additional information is provided in clause B) below.

NOTE These changes represent current technological knowledge. However, these changes should not normally have an influence on equipment already placed on the market.

**B) Information about the background of 'Major technical changes'**

None.

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

| Draft | Report on voting |
|---|---|
| 31/1868/FDIS | 31/1894/RVD |

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with the rules given in the ISO/IEC Directives, Part 2, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications/.

This document is to be used in conjunction with IEC/IEEE 60079-30-1, *Explosive atmospheres - Part 30-1: Electrical resistance trace heating - General and testing requirements.*

A list of all parts of IEC 60079 series, under the general title *Explosive atmospheres,* can be found on the IEC website.

The IEC Technical Committee and IEEE Technical Committee have decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

– reconfirmed,
– withdrawn, or
– revised.

## 1 Scope

This part of IEC 60079 provides guidance for the application of electrical resistance trace heating systems in areas where explosive atmospheres can be present, with the exclusion of those classified as requiring Equipment Protection Level (EPL) Ga or Da (traditional relationship to Zone 0 and Zone 20 respectively). This document also provides guidance for explosive atmospheres incorporating the Division method of area classification that can be applied by some users of this document.

NOTE Information on the Division method is given in NFPA 70® [1] and CSA C22.1 [2].

This document provides recommendations for the design, installation, maintenance and repair of trace heating systems including associated control and monitoring equipment. It does not cover devices that operate by induction heating, skin effect heating or direct pipeline heating, nor those intended for stress relieving.

## 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 60050-426, *International Electrotechnical Vocabulary (IEV) - Part 426: Explosive atmospheres*

IEC 60079-0, *Explosive atmospheres - Part 0: Equipment - General requirements*

IEC 60079-14, *Explosive atmospheres - Part 14: Electrical installations design, selection and erection*

IEC 60079-15, *Explosive atmospheres - Part 15: Equipment protection by type of protection "n"*

IEC 60079-17, *Explosive atmospheres - Part 17: Electrical installations inspection and maintenance*

IEC/IEEE 60079-30-1:2025, *Explosive atmospheres - Part 30-1: Electrical resistance trace heating - General and testing requirements*