

Explosive atmospheres - Part 32-1: Electrostatics  
hazards - Tests

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

|                                                                                                                     |                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
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English Version

**Explosive atmospheres - Part 32-2: Electrostatics hazards -  
Tests  
(IEC 60079-32-2:2015)**

Atmosphères explosives - Partie 32-2: Dangers  
électrostatiques - Essais  
(IEC 60079-32-2:2015)

Explosionsgefährdete Bereiche - Teil 32-2: Elektrostatische  
Gefährdungen - Prüfverfahren  
(IEC 60079-32-2:2015)

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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## Foreword

The text of document 31/1164/FDIS, future edition 1 of IEC 60079-32-2, prepared by IEC/TC 31 "Equipment for explosive atmospheres" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60079-32-2:2015.

The following dates are fixed:

- latest date by which the document has to be (dop) 2016-01-01  
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standard or by endorsement
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standards conflicting with the  
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|                |      |                              |
|----------------|------|------------------------------|
| IEC 60079-1    | NOTE | Harmonized as EN 60079-1.    |
| IEC 60079-7    | NOTE | Harmonized as EN 60079-7.    |
| IEC 60079-10-1 | NOTE | Harmonized as EN 60079-10-1. |
| IEC 60079-10-2 | NOTE | Harmonized as EN 60079-10-2. |
| IEC 60167      | NOTE | Harmonized as HD 568 S1.     |
| IEC 61340-4-1  | NOTE | Harmonized as EN 61340-4-1.  |
| IEC 61340-4-3  | NOTE | Harmonized as EN 61340-4-3.  |
| IEC 61340-4-5  | NOTE | Harmonized as EN 61340-4-5.  |
| ISO 284        | NOTE | Harmonized as EN ISO 284.    |
| ISO 8031       | NOTE | Harmonized as EN ISO 8031.   |
| ISO 8330       | NOTE | Harmonized as EN ISO 8330.   |

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

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> |
|--------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------|
| IEC 60079-0        | -           | Explosive atmospheres -- Part 0: Equipment - General requirements                                                                                                          | EN 60079-0        | -           |
| -                  | -           |                                                                                                                                                                            | +A11              | -           |
| IEC 60093          | -           | Methods of test for volume resistivity and surface resistivity of solid electrical insulating materials                                                                    | HD 429 S1         | -           |
| IEC 60243-1        | -           | Electric strength of insulating materials - Test methods -- Part 1: Tests at power frequencies                                                                             | EN 60243-1        | -           |
| IEC 60243-2        | -           | Electric strength of insulating materials - Test methods -- Part 2: Additional requirements for tests using direct voltage                                                 | EN 60243-2        | -           |
| IEC 60247          | -           | Insulating liquids - Measurement of relative permittivity, dielectric dissipation factor (tan $\delta$ ) and d.c. resistivity                                              | EN 60247          | -           |
| IEC 61340-2-1      | -           | Electrostatics -- Part 2-1: Measurement methods - Ability of materials and products to dissipate static electric charge                                                    | EN 61340-2-1      | -           |
| IEC 61340-2-3      | -           | Electrostatics -- Part 2-3: Methods of test for determining the resistance and resistivity of solid planar materials used to avoid electrostatic charge accumulation       | EN 61340-2-3      | -           |
| IEC 61340-4-4      | -           | Electrostatics - Part 4-4: Standard test methods for specific applications - Electrostatic classification of flexible intermediate bulk containers (FIBC)                  | EN 61340-4-4      | -           |
| ISO 14309          | -           | Rubber, vulcanized or thermoplastic - Determination of volume and/or surface resistivity                                                                                   | -                 | -           |
| IEC/TS 60079-32-1  | -           | Explosive atmospheres - Part 32-1: Electrostatic hazards, guidance                                                                                                         | CLC/TR 60079-32-1 | -           |
| IEC/TS 61241-2-2   | -           | Electrical apparatus for use in the presence of combustible dust -- Part 2: Test methods -- Section 2: Method for determining the electrical resistivity of dust in layers | EN 61241-2-2      | -           |
| ASTM E582          | -           | Standard test method for minimum ignition energy and quenching distance in gaseous mixtures                                                                                | -                 | -           |
| EN 1081            | -           | Resilient floor coverings - Determination of the electrical resistance                                                                                                     | -                 | -           |
| EN 1149-3          | -           | Protective clothing - Electrostatic properties - Part 3: Test methods for measurement of charge decay                                                                      | -                 | -           |

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## EXPLOSIVE ATMOSPHERES –

### Part 32-2: Electrostatics hazards – Tests

#### 1 Scope

This part of IEC 60079 describes test methods concerning the equipment, product and process properties necessary to avoid ignition and electrostatic shock hazards arising from static electricity. It is intended for use in a risk assessment of electrostatic hazards or for the preparation of product family or dedicated product standards for electrical or non-electrical machines or equipment.

The purpose of this part of IEC 60079 is to provide standard test methods used for the control of static electricity, such as surface resistance, earth leakage resistance, powder resistivity, liquid conductivity, capacitance and evaluation of the incendivity of provoked discharges. It is especially intended for use with existing standards of the IEC 60079 series.

NOTE IEC TS 60079-32-1, *Explosive atmospheres – Part 32-1: Electrostatic hazards, guidance*, was published in 2013. This international standard is not intended to supersede standards that cover specific products and industrial situations.

This part of IEC 60079 presents the latest state of knowledge which may, however, slightly differ from requirements in other standards, especially concerning test climates. When a requirement of this standard conflicts with a requirement specified in IEC 60079-0, to avoid the possibility of re-testing previously approved equipment, the requirement in IEC 60079-0 applies only for equipment within the scope of IEC 60079-0. In all other cases, the statements in this part of IEC 60079 apply.

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

IEC TS 60079-32-1, *Explosive atmospheres – Part 32-1: Electrostatic hazards, guidance*

IEC 60093, *Methods of test for volume resistivity and surface resistivity of solid electrical insulating materials*

IEC 60243-1, *Electric strength of insulating materials – Test methods – Part 1: Tests at power frequencies*

IEC 60243-2, *Electric strength of insulating materials – Test methods – Part 2: Additional requirements for tests using direct voltage*

IEC 60247, *Insulating liquids – Measurement of relative permittivity, dielectric dissipation factor ( $\tan \delta$ ) and d.c. resistivity*

IEC TS 61241-2-2, *Electrical apparatus for use in the presence of combustible dust – Part 2: Test methods – Section 2: Method for determining the electrical resistivity of dust in layers*