# PLAHVATUSOHTLIKUD KESKKONNAD. OSA 10-2: PIIRKONDADE LIIGITUS. PLAHVATUSOHTLIKUD TOLMKESKKONNAD

Explosive atmospheres - Part 10-2: Classification of areas - Explosive dust atmospheres
(IEC 60079-10-2:2015)

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

| | |
|---|---|
| See Eesti standard EVS-EN 60079-10-2:2015 sisaldab Euroopa standardi EN 60079-10-2:2015 ingliskeelset teksti. | This Estonian standard EVS-EN 60079-10-2:2015 consists of the English text of the European standard EN 60079-10-2:2015. |
| Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas. | This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation. |
| Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 06.03.2015. | Date of Availability of the European standard is 06.03.2015. |
| Standard on kättesaadav Eesti Standardikeskusest. | The standard is available from the Estonian Centre for Standardisation. |



Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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English Version

# Explosive atmospheres - Part 10-2: Classification of areas - Explosive dust atmospheres (IEC 60079-10-2:2015)

Atmosphéres explosives - Partie 10-2: Classement des emplacements - Atmosphères explosives poussiéreuses (IEC 60079-10-2:2015)

Explosionsgefährdete Bereiche - Teil 10-2: Einteilung der Bereiche - Staubexplosionsgefährdete Bereiche (IEC 60079-10-2:2015)



European Committee for Electrotechnical Standardization
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Europäisches Komitee für Elektrotechnische Normung

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## Foreword

The text of document 31J/244/FDIS, future edition 2 of IEC 60079-10-2, prepared by SC 31J "Classification of hazardous areas and installation requirements" of IEC/TC 31 "Equipment for explosive atmospheres" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60079-10-2:2015.

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) | 2015-11-20 |
| • latest date by which the national standards conflicting with the document have to be withdrawn | (dow) | 2018-02-20 |

This document supersedes EN 60079-10-2:2009.

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

## Endorsement notice

The text of the International Standard IEC 60079-10-2:2015 was approved by CENELEC as a European Standard without any modification.

| | | |
|---|---|---|
| IEC 60079-2 | NOTE | Harmonized as EN 60079-2. |
| IEC 60079-11 | NOTE | Harmonized as EN 60079-11. |
| IEC 60079-14 | NOTE | Harmonized as EN 60079-14. |
| IEC 60079-28 | NOTE | Harmonized as EN 60079-28. |
| IEC 60079-18 | NOTE | Harmonized as EN 60079-18. |
| IEC 60079-31 | NOTE | Harmonized as EN 60079-31. |
| IEC 60079-32-2 | NOTE | Harmonized as EN 60079-32-2. |

# 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.

| Publication | Year | Title | EN/HD | Year |
|---|---|---|---|---|
| IEC 60079-0 (mod) | - | Explosive atmospheres -- Part 0: Equipment - General requirements | EN 60079-0 | - |
| | | | +A11 | 2013 |
| IEC 60079-10-1 | - | Explosive atmospheres -- Part 10-1: Classification of areas - Explosive gas atmospheres | EN 60079-10-1 | - |
| ISO/IEC 80079-20-2 | - | Explosive atmospheres - Part 20-2: Material characteristics - Combustible dusts test methods | - | - |

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# INTRODUCTION

Dusts, as defined in this standard, are hazardous because when they are dispersed in air by any means they may form potentially explosive atmospheres. Furthermore, layers of dust may ignite and act as ignition sources for an explosive atmosphere.

This part of IEC 60079 gives guidance on the identification and classification of areas where such hazards from dust can arise. It sets out the essential criteria against which the ignition hazards can be assessed and gives guidance on the design and control parameters which can be used in order to reduce such a hazard. General and special criteria are given for the process of identification and classification of hazardous areas.

This standard contains an informative Annex A giving examples for classifying areas.

# EXPLOSIVE ATMOSPHERES –

# Part 10-2: Classification of areas – Explosive dust atmospheres



## 1 Scope

This part of IEC 60079 is concerned with the identification and classification of areas where explosive dust atmospheres and combustible dust layers are present, in order to permit the proper assessment of ignition sources in such areas.

In this standard, explosive dust atmospheres and combustible dust layers are treated separately. In Clause 4, area classification for explosive dusts clouds is described, with dust layers acting as one of the possible sources of release. In Clause 7 other general considerations for dust layers are described.

The examples in this standard are based on a system of effective housekeeping being implemented in the plant to prevent dust layers from accumulating. Where effective housekeeping is not present, the area classification includes the possible formation of explosive dust clouds from dust layers.

The principles of this standard can also be followed when combustible fibres or flyings might cause a hazard.

This standard is intended to be applied where there can be a risk due to the presence of explosive dust atmospheres or combustible dust layers under normal atmospheric conditions (see Note 1).

NOTE 1 Atmospheric conditions include variations in pressure and temperature above and below reference levels of 101,3 kPa (1 013 mbar) and 20 °C (293 K), provided that the variations have a negligible effect on the explosive properties of the combustible materials.

It does not apply to

– underground mining areas,
– dusts of explosives that do not require atmospheric oxygen for combustion such as pyrophoric substances, propellants, pyrotechnics, munitions, peroxides, oxidizers, water-reactive elements or compounds, or other similar materials.
– catastrophic failures which are beyond the concept of abnormality dealt with in this standard,
– any risk arising from an emission of toxic gas from the dust.

This standard does not apply to where a hazard might arise due to the presence of flammable gas or vapour, but the principles may be used in the assessment of a hybrid mixture (see also IEC 60079-10-1).

NOTE 2 Additional guidance on hybrid mixtures is provided in Annex C.

This standard does not take into account the effects of consequential damage following a fire or an explosion.