



# SLOVENSKI STANDARD SIST EN 61241-10:2005

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Electrical apparatus for use in the presence of combustible dust - Part 10: Classification of areas where combustible dusts are or may be present

iteh STANDARD PREVIEW

(standards.iteh.ai)

Elektrische Betriebsmittel zur Verwendung in Bereichen mit brennbarem Staub - Teil 10: Einteilung von staubexplosionsgefährdeten Bereichen

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Matériels électriques pour utilisation en présence de poussières combustibles - Partie 10: Classification des emplacements où des poussières combustibles sont ou peuvent être présentes

**Ta slovenski standard je istoveten z: EN 61241-10:2004**

### ICS:

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**SIST EN 61241-10:2005**

**en,fr,de**

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EUROPEAN STANDARD

**EN 61241-10**

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2004

ICS 29.260.20

Supersedes EN 50281-3:2002

English version

**Electrical apparatus for use in the presence of combustible dust  
Part 10: Classification of areas  
where combustible dusts are or may be present  
(IEC 61241-10:2004)**

Matériels électriques pour utilisation  
en présence de poussières combustibles  
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This European Standard was approved by CENELEC on 2004-07-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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# CENELEC

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

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

## Foreword

The text of document 31H/172/FDIS, future edition 1 of IEC 61241-10, prepared by SC 31H, Apparatus for use in the presence of combustible dust, of IEC TC 31, Electrical apparatus for explosive atmospheres, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61241-10 on 2004-07-01.

This European Standard supersedes EN 50281-3:2002.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2005-04-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2007-07-01

Annex ZA has been added by CENELEC.

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

The text of the International Standard IEC 61241-10 was approved by CENELEC as a European Standard without any modification.

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## Annex ZA (normative)

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

The following referenced documents are indispensable for the application 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 Where an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61241-0	- <sup>1)</sup>	Electrical apparatus for use in the presence of combustible dust Part 0: General requirements	-	-
IEC 61241-14	- <sup>1)</sup>	Part 14: Selection and installation	-	-

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<sup>1)</sup> Undated reference.

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INTERNATIONALE  
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**CEI  
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**61241-10**

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First edition  
2004-06

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**Matériels électriques pour utilisation  
en présence de poussières combustibles –**

**Partie 10:  
Classification des emplacements  
où des poussières combustibles sont  
ou peuvent être présentes**

**Electrical apparatus for use in the  
presence of combustible dust –**

**Part 10:  
Classification of areas where combustible  
dusts are or may be present**

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International Electrotechnical Commission  
Международная Электротехническая Комиссия

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**ELECTRICAL APPARATUS FOR USE IN THE  
PRESENCE OF COMBUSTIBLE DUST –**
**Part 10: Classification of areas where combustible dusts  
are or may be present**

## 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.
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International Standard IEC 61241-10 has been prepared by subcommittee 31H: Apparatus for use in the presence of combustible dust, of IEC technical committee 31: Electrical apparatus for explosive atmospheres.

This first edition of IEC 61241-10 cancels and replaces IEC 61241-3, published in 1997, and constitutes a major technical revision.

The main changes with respect to IEC 61241-3 are listed below:

- a) definitions of zones have changed;
- b) layers are no longer restricted to zone 20. Consideration of layers as a source of a dust cloud has been introduced.

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

FDIS	Report on voting
31H/172/FDIS	31H/177/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

IEC 61241 consists of the following parts under the general title *Electrical apparatus for use in the presence of combustible dust*:

- Part 0: General requirements
- Part 1: Protection by enclosures "tD"
- Part 2: Type of protection "pD"
- Part 10: Classification of areas where combustible dusts are or may be present
- Part 11: Protection by intrinsic safety "iD" <sup>1</sup>
- Part 14: Selection and installation
- Part 17: Inspection and maintenance of electrical installations in hazardous areas (other than mines) <sup>2</sup>
- Part 18: Protection by encapsulation "mD"

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NOTE All references in this standard to the IEC 61241 series follows the proposed re-numbering of the dust standards agreed by SC31H and TC31. It may be necessary to alter these numbers if the relevant standards are not yet published.

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The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site 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.

<sup>1</sup> To be published.

<sup>2</sup> In preparation.

Reference table

Existing standard	New number assigned	Subject	Anticipated date of change
IEC 61241-1-1	IEC 61241-0	General requirements	2004
	IEC 61241-1	Protection by enclosure	2004
IEC 61241-1-2	IEC 61241-14	Selection and installation	2004
IEC 61241-2-1	IEC 61241-20-1	Test methods	2005
IEC 61241-2-2	IEC 61241-20-2	Test methods	2005
IEC 61241-2-3	IEC 61241-20-3	Test methods	2005
IEC 61241-3	IEC 61241-10	Classification	2004
IEC 61241-4	IEC 61241-2	Protection by pressurization	2005
	IEC 61241-11	Protection by intrinsic safety	2005
	IEC 61241-17	Inspection and maintenance	2005
	IEC 61241-18	Protection by encapsulation	2004
	IEC 61241-19	Repair and overhaul	2006

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## INTRODUCTION

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

Therefore, equipment placed in an environment where dust clouds can form should be dust ignition protected and have a surface temperature limitation below the temperature at which a dust cloud or layer will ignite.

This part of IEC 61241 gives guidance on the identification of areas where hazards from combustible dust can arise. The purpose is to permit selection of appropriate equipment for use in such areas. General and special criteria are given, with examples, for the procedure used to identify areas.

By exercising ingenuity in the layout of equipment, it is frequently possible to locate much of the equipment in less hazardous or in non-hazardous locations and thus to reduce the amount of special equipment required.

This standard contains an informative annex giving practical examples for classifying areas (Annex A).

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