



# SLOVENSKI STANDARD

## SIST EN 60079-31:2010

01-marec-2010

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**Eksplzivne atmosfere - 31. del: Zaščita opreme pred vžigom gorljivega prahu z ohišjem "t" (IEC 60079-31:2008 + corrigendum Mar. 2009)**

Explosive atmospheres -- Part 31: Equipment dust ignition protection by enclosure t

Explosionsfähige Atmosphäre -- Teil 31: Geräte - Staubexplosionsschutz durch Gehäuse t

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Atmosphères explosives -- Partie 31: Protection du matériel contre l'inflammation des poussières par enveloppe t

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**Ta slovenski standard je istoveten z: EN 60079-31:2009**

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**ICS:**

29.260.20	Električni aparati za eksplozivna ozračja	Electrical apparatus for explosive atmospheres
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**en,fr**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 60079-31**

December 2009

ICS 29.260.20

Supersedes EN 61241-1:2004 + corr. Dec. 2006

English version

**Explosive atmospheres -  
Part 31: Equipment dust ignition protection by enclosure "t"  
(IEC 60079-31:2008 + corrigendum 2009)**

Atmosphères explosives -  
Partie 31: Protection du matériel  
contre l'inflammation des poussières  
par enveloppe "t"  
(CEI 60079-31:2008 + corrigendum 2009)

Explosionsfähige Atmosphäre -  
Teil 31: Geräte-Staubexplosionsschutz  
durch Gehäuse "t"  
(IEC 60079-31:2008 + Corrigendum 2009)

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This European Standard was approved by CENELEC on 2009-10-01. 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

**CENELEC**

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

**Central Secretariat: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 31/765/FDIS, future edition 1 of IEC 60079-31, prepared by IEC TC 31, Equipment for explosive atmospheres, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60079-31 on 2009-10-01.

This European Standard supersedes EN 61241-1:2004 + corrigendum December 2006.

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) 2010-07-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2012-10-01

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive 94/9/EC. See Annex ZZ.

CENELEC/TC 31 as the responsible committee has concluded that this edition of EN 60079-31 does not contain substantial changes regarding the ESRs.

The State of the Art is included in Annex ZY "*Significant changes between this European Standard and EN 61241-1:2004*".

Annexes ZA, ZY and ZZ have been added by CENELEC.

SIST EN 60079-31:2010  
<https://standards.iteh.ai/standards/4c64-4974-82f3-a1307237e2bd/sist-en-60079-31-2010>  
**Endorsement notice**

The text of the International Standard IEC 60079-31:2008 + corrigendum March 2009 was approved by CENELEC as a European Standard without any modification.

## 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 When 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 60034-1	- <sup>1)</sup>	Rotating electrical machines - Part 1: Rating and performance	EN 60034-1	2004 <sup>2)</sup>
IEC 60079-0	- <sup>1)</sup>	Explosive atmospheres - Part 0: Equipment - General requirements	EN 60079-0	2009 <sup>2)</sup>
IEC 60079-7	- <sup>1)</sup>	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"	EN 60079-7	2007 <sup>2)</sup>
IEC 60127	Series	Miniature fuses	EN 60127	Series
IEC 60691	- <sup>1)</sup>	Thermal-links - Requirements and application guide	EN 60691	2003 <sup>2)</sup>
ISO 965-1	- <sup>1)</sup>	ISO general-purpose metric screw threads - Tolerances - Part 1: Principles and basic data	-	-
ISO 965-3	- <sup>1)</sup>	ISO general-purpose metric screw threads - Tolerances - Part 3: Deviations for constructional threads	-	-

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

<sup>2)</sup> Valid edition at date of issue.

**Annex ZY**  
(informative)

**Significant changes between this European Standard and EN 61241-1:2004**

The significant changes with respect to EN 61241-1:2004 are as listed below.

	Type		
	Minor and editorial changes	Extension	Substantial change regarding ESR's <sup>a</sup>
title changed to Equipment dust ignition protection by enclosure "t"	X		
combination and rationalisation of practice A and B into a single practice, and some constructional requirements that may have applied to only one practice now apply to all enclosures		X	
introduction of three levels of protection, "ta", "tb" and "tc"		X	
defined test voltage ranges and overload conditions for thermal tests		X	
introduction of a pressure test prior to the IP test		X	
restrictions on power and voltage levels for level of protection "ta"		X	
introduction of a variant of the IP6X test for level of protection "ta"		X	
compulsory dust layer thermal test for protection level "ta" by surrounding the enclosure with dust to a depth of at least 500 mm on all available surfaces		X	
<sup>a</sup> ESR = Essential Health and Safety Requirements (Annex II of Directive 94/9/EC)			

**General conclusion on the change of the State of the Art by this standard**

CENELEC/TC 31 as the responsible committee has concluded that this edition of EN 60079-31 does not contain substantial changes regarding the ESRs.

## **Annex ZZ** (informative)

### **Coverage of Essential Requirements of EC Directives**

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers only the following essential requirements out of those given in Annex II of the EC Directive 94/9/EC:

- ER 1.0.1, ER 1.0.2 (partly), ER 1.0.4 (partly), ER 1.0.5 (partly)
- ER 1.2.4 (partly)
- ER 1.2.8 (partly)
- ER 1.3.1 (partly)
- ER 2.1.2
- ER 2.2.2
- ER 2.3.2

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directive concerned.

WARNING: Other requirements and other EC Directives may be applicable to the products falling within the scope of this standard.

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IEC 60079-31

Edition 1.0 2008-11

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Explosive atmospheres –**  
**Part 31: Equipment dust ignition protection by enclosure “t”**

**Atmosphères explosives –**  
**Partie 31: Protection du matériel contre l’inflammation des poussières par**  
**enveloppe «t»**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**EXPLOSIVE ATMOSPHERES –****Part 31: Equipment dust ignition protection by enclosure "t"**

## 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 60079-31 has been prepared by IEC technical committee 31: Equipment for explosive atmospheres.

This first edition of IEC 60079-31 has been developed from the first edition of IEC 61241-1 (2004) which it now cancels and supersedes.

The significant changes with respect to the previous edition are listed below:

- Title changed to Equipment dust ignition protection by enclosure "t"
- Combination and rationalisation of practice A and B into a single practice, and some constructional requirements that may have applied to only one practice now apply to all enclosures
- Introduction of three levels of protection, "ta", "tb" and "tc"
- Defined test voltage ranges and overload conditions for thermal tests.
- Introduction of a pressure test prior to the IP test
- Restrictions on power and voltage levels for level of protection "ta"