SLOVENSKI STANDARD
SIST EN 13237:2013

01-marec-2013

Nadomešča:
SIST EN 13237:2003

Potencialno eksplozivne atmosfere - Izrazi in definicije za opremo in zaščitne sisteme, namenjene za uporabo v potencialno eksplozivnih atmosferah

Potentially explosive atmospheres - Terms and definitions for equipment and protective systems intended for use in potentially explosive atmospheres

Explosionsgefährdete Bereiche - Begriffe für Geräte und Schutzsysteme zur Verwendung in explosionsgefährdeten Bereichen

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Atmosphères explosibles - Termes et définitions pour les appareils et systèmes de protection destinés à être utilisés en atmosphères explosibles

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Ta slovenski standard je istoveten z: **EN 13237:2012**

ICS:

01.040.13	Varstvo okolja in zdravja. Varnost (Slovarji)	Environment and health protection. Safety (Vocabularies)
13.230	Varstvo pred eksplozijo	Explosion protection

SIST EN 13237:2013 **en**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13237

October 2012

ICS 01.040.13; 01.040.29; 13.230; 29.260.20

Supersedes EN 13237:2003

English Version

Potentially explosive atmospheres - Terms and definitions for equipment and protective systems intended for use in potentially explosive atmospheres

Atmosphères explosibles - Termes et définitions pour les appareils et systèmes de protection destinés à être utilisés en atmosphères explosibles

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (EN 13237:2012) has been prepared by Technical Committee CEN/TC 305 "Potentially explosive atmospheres - Explosion prevention and protection", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2013, and conflicting national standards shall be withdrawn at the latest by April 2013.

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

This document supersedes EN 13237:2003.

The significant changes between this European Standard and EN 13237:2003 are given in Annex B.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 94/9/EC.

For relationship with EU Directive 94/9/EC, see informative Annex ZA, which is an integral part of this document.

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Introduction

This European Standard has been produced to assist designers, manufacturers and other interested parties to use harmonised terms and definitions (vocabulary) for equipment and protective systems intended for use in potentially explosive atmospheres. It describes the vocabulary to be used to give all standards in this area an overall uniformity of terminology. Throughout this European Standard, the only hazard considered is the explosion of an explosive atmosphere.

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1 Scope

This European Standard specifies terms and definitions (vocabulary) to be used in suitable standards dealing with equipment and protective systems intended for use in potentially explosive atmospheres.

NOTE Directive 94/9/EC concerning equipment and protective systems intended for use in potentially explosive atmospheres can be applicable to the type of machine or equipment covered by this European Standard. The present standard is not intended to provide means of complying with the essential health and safety requirements of Directive 94/9/EC.

2 Normative references

Not applicable.

3 Terms and definitions

3.1
ambient atmosphere
normal atmosphere surrounding the equipment and protective system

3.2
ambient temperature
temperature of the air or other medium where the equipment and protective system are to be used

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3.3
combustible dust
dust able to undergo an exothermic reaction with air when ignited

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Note 1 to entry: The terms "flammable" and "combustible" are used synonymously.

[SOURCE: EN 14034-1:2004+A1:2011, 3.3]

3.4
conductive dust
dust with an electrical resistivity equal to or less than 10^3 Ωm

3.5
continuous grade of release
release which is continuous or is expected to occur frequently or for long periods

[SOURCE: EN 60079-10-1:2009, 3.11]

3.6
deflagration
explosion propagating at subsonic velocity

[SOURCE: ISO 8421-1:1987]

3.7
degree of protection
extent of protection provided by an enclosure against access to hazardous parts, against ingress of solid foreign objects and/or ingress of water and verified by standardised test methods

[SOURCE: EN 60529:1991 + A1:2000, 3.3]

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Note 1 to entry: The enclosure which provides the degree of protection IP is not necessarily identical with the types of protection as defined in EN 60079-0.

3.8
detonation
explosion propagating at supersonic velocity and characterised by a shock wave

[SOURCE: ISO 8421-1:1987]

3.9
dust
small solid particles in the atmosphere which settle out under their own weight, but which may remain suspended in air for some time

[SOURCE: EN 14034-1:2004+A1:2011, 3.1, modified]

Note 1 to entry: Generally combustible dusts with a median value below 500 µm may form explosive dust/air-mixtures.

3.10
electrical equipment
items applied as a whole or in part for the utilisation of electrical energy

Note 1 to entry: These include, among others, items for the generation, transmission, distribution, storage, measurement, regulation, conversion and consumption of electrical energy and items for telecommunications.

[SOURCE: EN 60079-0:2009, 3.14]

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3.11
electrostatic leakage resistance
electrical resistance measured between an object and earth

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[SOURCE: EN 14983:2007, 3.1]

3.12
enclosure (of equipment or protective system)
all the walls including doors, covers, cable entries, rods, spindles and shafts which contribute to the type of protection and/or their degree of protection (IP)

3.13
equipment
machines, apparatus, fixed or mobile devices, control components and instrumentation thereof and detection or prevention systems which, separately or jointly are intended for the generation, transfer, storage, measurement, control and conversion of energy and/or the processing of material and which are capable of causing an explosion through their own potential ignition source

Note 1 to entry: If equipment supplied to the user contains any interconnecting parts e.g. fastenings, pipes, etc. these form part of the equipment.

Note 2 to entry: Simple apparatus with no moving parts, containers and pipes on their own are not considered as equipment under the scope of this European Standard.

[SOURCE: EN 13463-1:2009, 3.1]

3.13.1
equipment Group I category M 1
equipment designed and, where necessary, equipped with additional special means of protection to be capable of functioning in conformity with the operational parameters established by the manufacturer and ensuring a very high level of protection

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Note 1 to entry: Equipment of this category is intended for use in underground parts of mines as well as those parts of surface installations of such mines endangered by firedamp and/or combustible dust.

Note 2 to entry: Equipment of this category is required to remain functional even in the event of rare incidents relating to equipment, with an explosive atmosphere present, and is characterised by means of protection such that:

— either, in the event of failure of one means of protection, at least an independent second means provides the requisite level of protection,

— or the requisite level of protection is assured in the event of two faults occurring independently of each other.

[SOURCE: EN 13463-1:2009, 3.2.1]

3.13.2
equipment Group I category M 2
equipment designed to be capable of functioning in conformity with the operational parameters established by the manufacturer and ensuring a high level of protection

Note 1 to entry: Equipment of this category is intended for use in underground parts of mines as well as those parts of surface installations of such mines likely to be endangered by firedamp and/or combustible dust.

Note 2 to entry: This equipment is intended to be de-energised in the presence of an explosive atmosphere.

Note 3 to entry: The means of protection relating to equipment in this category assure the requisite level of protection during normal operation, expected malfunctions, and also in the case of more severe operating conditions, in particular, those arising from rough handling and changing environmental conditions.

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[SOURCE: EN 13463-1:2009, 3.2.2, modified]

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3.13.3
equipment Group II category 1
equipment designed to be capable of functioning in conformity with the operational parameters established by the manufacturer and ensuring a very high level of protection

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Note 1 to entry: Equipment in this category is intended for use in areas in which explosive atmospheres caused by mixtures of air and gases, vapours or mists or by air/dust mixtures are present continuously, for long periods or frequently.

Note 2 to entry: Equipment of this category ensures the requisite level of protection, even in the event of rare malfunctions relating to equipment, and is characterised by means of protection such that:

— either, in the event of failure of one means of protection, at least an independent second means provides the requisite level of protection,

— or the requisite level of protection is assured in the event of two faults occurring independently of each other.

[SOURCE: EN 13463-1:2009, 3.2.3]

3.13.4
equipment Group II category 2
equipment designed to be capable of functioning in conformity with the operational parameters established by the manufacturer and ensuring a high level of protection

Note 1 to entry: Equipment in this category is intended for use in areas in which explosive atmospheres caused by mixtures of air and gases, vapours or mists or by air/dust mixtures are likely to occur.

Note 2 to entry: The means of protection relating to equipment in this category ensures the requisite level of protection, even in the event of frequently occurring disturbances or equipment faults which are normally taken into account.

[SOURCE: EN 13463-1:2009, 3.2.3]

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3.13.5
equipment Group II category 3
equipment designed to be capable of functioning in conformity with the operational parameters established by the manufacturer and ensuring a normal level of protection

Note 1 to entry: Equipment in this category is intended for use in areas in which explosive atmospheres caused by mixtures of air and gases, vapours or mists or by air/dust mixtures are unlikely to occur or, if they do occur, are likely to do so only infrequently and for a short period only.

Note 2 to entry: Equipment of this category ensures the requisite level of protection during normal operation.

[SOURCE: EN 13463-1:2009, 3.2.5]

3.14
explosion
abrupt oxidation or decomposition reaction producing an increase in temperature, pressure, or in both simultaneously

[SOURCE: ISO 8421-1:1987]

3.15
explosion area
area inside the boundary curve formed by the explosion limits of a flammable substance in various mixtures with air and inert gas

Note 1 to entry: See Figure 1.

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Note 2 to entry: In many cases the limiting air concentration corresponds to the apex of the boundary curve.

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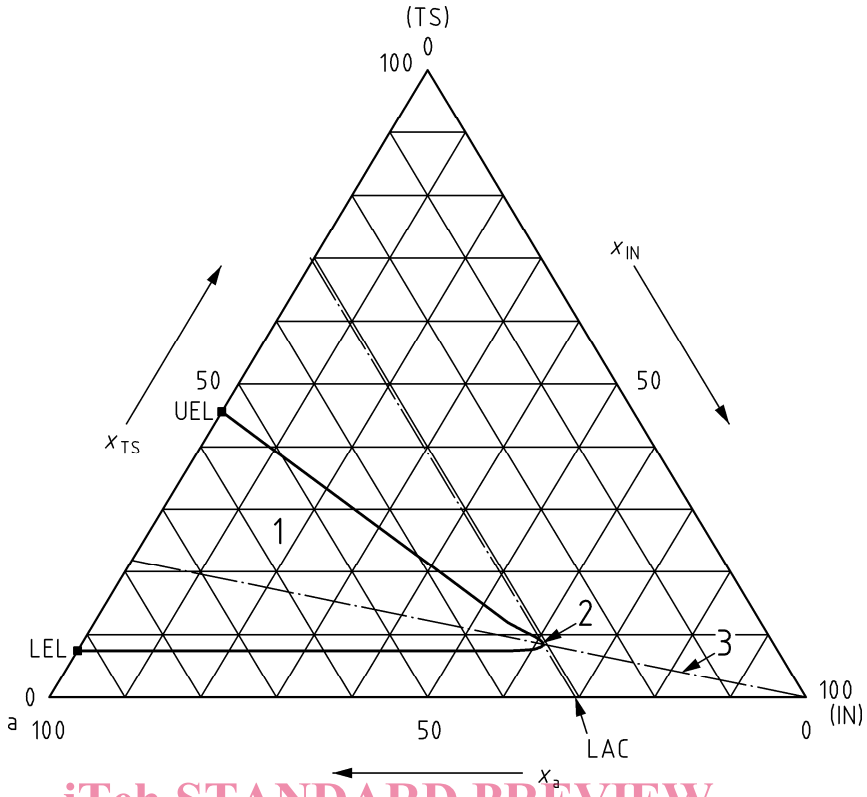

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Key

1 explosion area
2 apex
3 stoichiometric line
x molar fraction in %
IN inert gas
TS test substance
a air

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Figure 1 — Explosion area for a ternary system of test substance, air and inert gas

3.16
explosion diverter
passive device typically installed in a duct preventing flame jet ignition, pressure piling and reducing the probability of flame transmission into connected equipment

[SOURCE: EN 16020:2011, 3.2]

3.17
explosion isolation flap valve
flap valve able to stop explosions from propagating through pipelines in the opposing direction to the normal process flow through the valve

3.18
explosion isolation system

3.18.1
active explosion isolation system
protective system which is designed to stop explosions from travelling through pipelines or limit the associated destructive effects of the explosion and is activated by detectors and control and indicating equipment (CIE) which are inherent parts of the system