



SLOVENSKI STANDARD

oSIST prEN 1127-1:2025

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Eksplzivne atmosfere - Protieksplzijska zaščita - 1. del: Osnovni pojmi, metodologija in zasnova

Explosive atmospheres - Explosion prevention and protection - Part 1: Basic concepts, methodology and design

Explosionsfähige Atmosphären - Explosionsschutz - Teil 1: Grundlegende Konzepte, Methodik und konstruktive Auslegung

Atmosphères explosives - Prévention de l'explosion et protection contre l'explosion - Partie 1 : Notions fondamentales, méthodologie et conception constructive

Ta slovenski standard je istoveten z: prEN 1127-1

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**Explosive atmospheres - Explosion prevention and
protection - Part 1: Basic concepts, methodology and
design**

Atmosphères explosives - Prévention de l'explosion et
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fondamentales, méthodologie et conception
constructive

Explosionsfähige Atmosphären - Explosionsschutz -
Teil 1: Grundlegende Konzepte, Methodik und
konstruktive Auslegung

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 305.

If this draft becomes a European Standard, CEN 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.

This draft European Standard was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword	4
Introduction	5
1 Scope.....	7
2 Normative references.....	11
3 Terms and definitions	12
4 Risk assessment	15
4.1 General.....	15
4.2 Identification of explosion hazards.....	17
4.2.1 General.....	17
4.2.2 Flammability properties	17
4.2.3 Explosion behaviour	18
4.2.4 Likelihood of occurrence of a hazardous explosive atmosphere	18
4.3 Identification of ignition hazards.....	20
4.3.1 General.....	20
4.3.2 Ignition properties	21
4.3.3 Likelihood of occurrence of effective ignition sources	21
4.4 Estimation of the possible effects of an explosion	22
5 Hazards arising from possible ignition sources	23
5.1 Hot surfaces	23
5.2 Flames and hot gases (including hot particles)	23
5.3 Mechanically generated impact, friction and abrasion.....	24
5.4 Electrical equipment and components	24
5.5 Stray electric currents, cathodic corrosion protection.....	25
5.6 Static electricity	25
5.7 Lightning.....	25
5.8 Radio frequency (RF) electromagnetic waves from 10^4 Hz to 3×10^{11} Hz	26
5.9 Electromagnetic waves from 3×10^{11} Hz to 3×10^{15} Hz.....	26
5.10 Ionizing radiation	26
5.11 Ultrasonic waves	27
5.12 Adiabatic compression and shock waves.....	27
5.13 Exothermic reactions	27
5.13.1 Exothermic reactions including self-ignition of dusts.....	27
5.13.2 Thermal runaway of cells and battery (Lithium).....	28
6 Risk reduction.....	29
6.1 Fundamental principles	29
6.2 Reduction and mitigation of the presence of hazardous explosive atmospheres (avoidance)	29
6.2.1 Process parameters	29
6.2.2 Design and construction of equipment, protective systems and components.....	32
6.3 Hazardous areas classification	34
6.4 Requirements for the design and construction of equipment, protective systems and components for avoidance of effective ignition sources	35
6.4.1 General.....	35

6.4.2	Hot surfaces	37
6.4.3	Flames and hot gases	38
6.4.4	Mechanically generated impact, friction and grinding	38
6.4.5	Electrical equipment	39
6.4.6	Stray electric currents and cathodic corrosion protection	40
6.4.7	Static electricity	41
6.4.8	Lightning	41
6.4.9	Radio frequency (RF) electromagnetic waves from 10^4 Hz to 3×10^{11} Hz	42
6.4.10	Electromagnetic waves from 3×10^{11} Hz to 3×10^{15} Hz	43
6.4.11	Ionizing radiation	43
6.4.12	Ultrasonic waves	44
6.4.13	Adiabatic compression and shock waves	45
6.4.14	Exothermic reactions, including self-ignition of dusts	46
6.5	Requirements for the design and construction of equipment, protective systems and components to reduce the explosion effects	46
6.6	Provisions for emergency measures	47
6.7	Principles of measuring and control systems for explosion prevention and protection	47
7	Information for use	48
7.1	General	48
7.2	Information for commissioning, maintenance and repair to prevent explosion	50
7.3	Qualifications and training	50
Annex A (informative)	Information for the use of tools in potentially explosive atmospheres	51
Annex B (informative)	Tightness of equipment	52
B.1	General	52
B.2	Normal tightness	52
B.3	Enhanced tightness	53
Annex C (normative)	Verification procedure for the threshold limit of ultrasound in liquids	54
Annex D (informative)	Significant technical changes between this document and the previous edition of this document	56
Annex ZA (informative)	Relationship between this European Standard and the essential requirements of EU Directive 2014/34/EU aimed to be covered	59
Annex ZB (informative)	Relationship between this European Standard and the essential requirements of EU Regulation 2023/1230 aimed to be covered	62
Bibliography	65

prEN 1127-1:2025 (E)**European foreword**

This document (prEN 1127-1:2025) 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 document is currently submitted to the Enquiry.

This document will supersede EN 1127-1:2019.

Annex D provides details of significant technical changes between this document and the previous edition EN 1127-1:2019.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA and ZB, which are integral parts of this document.

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Introduction

CEN and CENELEC are producing a set of standards to assist designers, manufacturers and other interested bodies to interpret the essential safety requirements in order to achieve conformity with European Legislation. Within this series of standards CEN has undertaken to draw up a standard to give guidance in the field of explosion prevention and protection, as hazards from explosions are intended to be considered in accordance with EN ISO 12100:2010.

In accordance with EN ISO 12100:2010, it is a type B standard dealing with the particular safety aspects of the explosion hazards (due explosive atmosphere) of equipment and protective system, as for the ISO Guide 78:2012, *Safety of machinery — Rules for drafting and presentation of safety standards*.

This document describes the basic concepts and methodology of explosion prevention and protection.

CEN/TC 305 has a mandate in this area to produce B-type, and C-type standards, which will allow verification of conformity with the essential safety requirements.

Explosions can occur from:

- a) materials processed or used by the equipment, protective systems and components;
- b) materials released by the equipment, protective systems and components;
- c) materials in the vicinity of the equipment, protective systems and components;
- d) materials of construction of the equipment, protective systems and components.

Since safety depends not only on equipment, protective systems and components but also on the material being handled and its use, this document includes aspects related to the intended use and foreseeable misuse, i.e. the manufacturer should consider in which way and for which purpose the equipment, protective systems and components will be used and take this into account during its design and construction. This is the only way hazards inherent in equipment, protective systems and components can be reduced.

NOTE This standard can also serve as a guide for users of equipment, protective systems and components when assessing the risk of explosion in the workplace (Directive 1999/92/EC) and selecting the appropriate equipment, protective systems and components.

Such workplace and areas or processes can include (but are not limited to)

- filling stations or petrol stations, dispensers (gasoline, diesel, CNG, LPG, Hydrogen and the like)
- oil refineries and processing plants
- chemical and pharmaceutical processing plants
- renewable energy sources with low carbon fuels industries such those using as hydrogen, ammonia (NH₃) or methanol (CH₃OH),
- painting industries, paper and textiles, surface coating industries
- medical device using ethers,
- gas pipelines and distribution grid, gas infrastructure, gas metering, gas blending
- heat exchanger and flammable refrigerants, mechanical refrigerating systems used for cooling and heating (as HVAC)