ICS 73.100.20 SLOVENSKÁ TECHNICKÁ NORMA Január 2025

STN	**Prevencia a ochrana pred účinkami výbuchu v podzemných baniach Zariadenia a ochranné systémy na odvod banského plynu**	**STN EN 14983** 38 9723

Explosion prevention and protection in underground mines - Equipment and protective systems for firedamp drainage

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/24

Obsahuje: EN 14983:2024

Oznámením tejto normy sa od 31.10.2026 ruší
STN EN 14983 (38 9723) z januára 2008

139652

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 14983

October 2024

ICS 73.100.20 Supersedes EN 14983:2007

English Version

Explosion prevention and protection in underground mines - Equipment and protective systems for firedamp drainage

Prévention de l'explosion et protection contre l'explosion dans les mines souterraines - Appareils et systèmes de protection destinés au captage du grisou

Explosionsschutz in untertägigen Bergwerken - Geräte und Schutzsysteme zur Absaugung von Grubengas

This European Standard was approved by CEN on 5 August 2024.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN 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 CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.

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

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

Ref. No. EN 14983:2024 E

Contents

Page

European foreword

This document (EN 14983:2024) 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 2025, and conflicting national standards shall be withdrawn at the latest by October 2026.

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

This document supersedes EN 14983:2007.

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, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Introduction

Firedamp drainage is a technical process for selected gas removal, the purpose of which is to reduce the risks presented by inflammable gas and air mixtures. Firedamp drainage is therefore a measure for preventive explosion protection.

In the mining industry, firedamp is drained from the underground workings of gassy mines, from boreholes and abandoned mine workings to ensure that mine workers are not exposed to the risks associated with the occurrence of an explosive atmosphere at their place of work. In this case, the explosion risk results from unacceptable accumulations of firedamp occurring in the waste areas and cavities left in the in the rock strata after the coal has been extracted from the coal seam. In such cases, the need to drain these accumulations, and the complexity of the drainage system, depends on the amount of firedamp produced by the coal and the likelihood of it occurring in explosive quantities in the mine roadways and coal face. Examples of situations that might cause firedamp to move in dangerous concentrations from the waste area or cavities into the mine roadways: a breakdown of the mine ventilation system or a sudden reduction in the underground atmospheric pressure. National legislation in EU coal mining member countries requires workers to be withdrawn to a safe place if firedamp levels attain a specific nationally defined value in the general body of mine air. Firedamp drainage is therefore often used in gassy mines in an attempt to ensure that the concentration of firedamp in the general body of mine air is kept well below this critical level, even during abnormal situations such as those described above.

Once the accumulations of firedamp have been drained from the affected areas, it is usually discharged to the mine surface, but in some cases it is discharged into the mine return ventilation system. In systems where the firedamp is brought to the mine surface, it is discharged to the atmosphere through an earthed metallic discharge stack or pressurized and delivered to a utilization system, such as a gas-fired boiler.

In abandoned mines, firedamp drainage is used

— to prevent gas pressure building up and gas issuing at the surface in an uncontrolled manner, and

— to protect workers at an adjacent nearby mine, or

— to allow it to be utilized, for example by burning it in a gas-fired boiler to produce heat or to generate electricity.

1 Scope

This document specifies the requirements for equipment and protective systems for firedamp drainage at mines. It also contains requirements for the construction and monitoring of this equipment and protective systems (see EN 1127-2:2014).

This document does not apply to firedamp utilization systems beyond the utilization shut-off device.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

EN 1127-2:2014, *Explosive atmospheres - Explosion prevention and protection - Part 2: Basic concepts and methodology for mining*

EN 13237:2024, *Potentially explosive atmospheres - Terms and definitions for equipment and protective systems intended for use in potentially explosive atmospheres*

EN 61508-1:2010, *Functional safety of electrical/electronic/programmable electronic safety-related systems - Part 1: General requirements*

EN 61508-2:2010, *Functional safety of electrical/electronic/programmable electronic safety-related systems - Part 2: Requirements for electrical/electronic/programmable electronic safety-related systems*

EN 61508-3:2010, *Functional safety of electrical/electronic/programmable electronic safety-related systems - Part 3: Software requirements*

EN 61508-4:2010, *Functional safety of electrical/electronic/programmable electronic safety-related systems - Part 4: Definitions and abbreviations*

EN 61508-5:2010, *Functional safety of electrical/electronic/programmable electronic safety-related systems - Part 5: Examples of methods for the determination of safety integrity levels*

EN 61508-6:2010, *Functional safety of electrical/electronic/programmable electronic safety-related systems - Part 6: Guidelines on the application of IEC 61508-2 and IEC 61508-3*

EN 61508-7:2010, *Functional safety of electrical/electronic/programmable electronic safety-related systems - Part 7: Overview of techniques and measures*

EN ISO/IEC 80079-38:2016,[1] *Explosive atmospheres - Part 38: Equipment and components in explosive atmospheres in underground mines (ISO/IEC 80079-38:2016)*

ISO/IEC 80079-49:2024,[2] *Explosive atmospheres -Part 49: Flame arresters-Performance requirements, test methods and limits for use*

[1] Document impacted by A1:2018.
[2] FprEN ISO/IEC 80079-49:2023 is still at draft stage at the time of this publication.