PAIKSED TULEKUSTUTUSSÜSTEEMID. HAPNIKU VÄHENDAMISE SÜSTEEMID. PROJEKTEERIMINE, PAIGALDAMINE, PLANEERIMINE JA HOOLDUS

Fixed firefighting systems - Oxygen reduction systems - Design, installation, planning and maintenance

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 16750:2017+A1:2020 sisaldab Euroopa standardi EN 16750:2017+A1:2020 ingliskeelset teksti.	This Estonian standard EVS-EN 16750:2017+A1:2020 consists of the English text of the European standard EN 16750:2017+A1:2020.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 19.08.2020.	Date of Availability of the European standard is 19.08.2020.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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EUROPEAN STANDARD

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EUROPÄISCHE NORM

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English Version

Fixed firefighting systems - Oxygen reduction systems - Design, installation, planning and maintenance

Installations fixes de lutte contre l'incendie - Systèmes d'appauvrissement en oxygène - Conception, installation, planification et maintenance

Ortsfeste Löschanlagen - Sauerstoffreduktionsanlagen - Auslegung, Einbau, Planung und Instandhaltung

This European Standard was approved by CEN on 9 July 2017 and includes Amendment 1 approved by CEN on 12 July 2020.

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.

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

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Contents

Page

European foreword

This document (EN 16750:2017+A1:2020) has been prepared by Technical Committee CEN/TC 191 “Fixed firefighting systems”, the secretariat of which is held by BSI.

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 February 2021, and conflicting national standards shall be withdrawn at the latest by February 2021.

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 [A1] EN 16750:2017 [A1].

This document includes Amendment 1 approved by CEN on 12 July 2020.

The start and finish of text introduced or altered by amendment is indicated in the text by tags [A1] [A1].

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, Turkey and the United Kingdom.

Introduction

Oxygen reduction systems are designed to prevent fires from starting or spreading, by means of the introduction of oxygen reduced air. Oxygen reduction systems are not designed to extinguish fires. The design and installation shall be based on detailed knowledge of the protected area, its occupancy and the materials in question. It is important to suit the fire protection measures to the hazard as a whole.

It is important to emphasize that across the European Union there are several regulatory and legislative limitations for access and working in areas with lower oxygen concentration, so it is important to take these limitations into account. Use of this European Standard can vary based on the national legislation in each country of the European Union.

1 Scope

This European standard specifies oxygen reduction systems that are used as fire prevention systems by creating an atmosphere in an area which is having a lower permanent oxygen concentration as in ambient conditions. The level of oxygen reduction is defined by the individual risks of these areas (see Annex A). Oxygen reduction is achieved by technical systems which are providing a flux of air containing a reduced concentration of oxygen.

This European standard specifies minimum requirements and defines the specifications governing the design, installation and maintenance of fixed oxygen reduction systems with oxygen reduced air in buildings and industrial production plants. The standard also applies to the extension and modification of existing systems.

This European standard applies to oxygen reduction systems using nitrogen which are designed for continual oxygen reduction in enclosed spaces.

NOTE Nitrogen is today the most suitable gas to be used for oxygen reduction. For other gases this European standard can be used as basis.

This European standard does not apply to oxygen reduction systems that use water mist or combustion gases.

The European standard does not apply to:

— explosion suppression systems;

— explosion prevention systems;

— fire extinguishing systems using gaseous extinguishing agents;

— inertization of portable containers;

— systems in which oxygen levels are reduced for reasons other than fire prevention (e.g. steel processing in the presence of inert gas to avoid the formation of oxide film);

— inerting required during repair work on systems or equipment (e.g. welding) in order to eliminate the risk of fire or explosion.

In addition to the conditions for the actual oxygen reduction system and its individual components this European standard also covers certain structural specifications for the protected area.

The space protected by an oxygen reduction system is a controlled and continuously monitored indoor climate for extended occupation. This standard does not cover unventilated confined spaces that may contain hazardous gases.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 54 (all parts), *Fire detection and fire alarm systems*

EN 12094-1, *Fixed firefighting systems — Components for gas extinguishing systems — Part 1: Requirements and test methods for electrical automatic control and delay devices*

EN 50104, *Electrical apparatus for the detection and measurement of oxygen — Performance requirements and test methods*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
Alarms

3.1.1
external alarm
alarm to emergency services such as fire brigade or permanently attended location

3.1.2
local alarm
acoustic and possibly additional visual alarm in protected areas or their immediate surroundings

3.1.3
internal alarm
acoustic and visual displays at the detection panel, possibly with additional displays at other signalling equipment

3.1.4
alarm threshold
value of a process parameter which, when reached, triggers an alarm and, where necessary, initiates automatic protection measures

3.1.5
alarm signal
signal to warn people at risk and/or to summon help from the emergency services and/or to provide information about automatic response measures

3.2
design concentration
ingnition threshold including a safety margin

Note 1 to entry: See also Figure 1.

Note 2 to entry: The design concentration represents the maximum oxygen concentration which cannot be exceeded in any time.

3.3
emergency situation
deviation from normal operation

EXAMPLE For example a significant deviation from the threshold value (scale of risk).