LEEGITÕKESTID. TOIMIVUSNÕUDED, KATSEMEETODID JA KASUTUSPIIRANGUD

Flame arresters - Performance requirements, test methods and limits for use (ISO 16852:2016)

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 16852:2016 sisaldab Euroopa standardi EN ISO 16852:2016 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 16852:2016 consists of the English text of the European standard EN ISO 16852:2016.
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 23.11.2016.	Date of Availability of the European standard is 23.11.2016.
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

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 16852

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English Version

Flame arresters - Performance requirements, test methods and limits for use (ISO 16852:2016)

Arrête-flammes - Exigences de performance, méthodes d'essai et limites d'utilisation (ISO 16852:2016)

Flammendurchschlagsicherungen - Leistungsanforderungen, Prüfverfahren und Einsatzgrenzen (ISO 16852:2016)

This European Standard was approved by CEN on 19 September 2016.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN ISO 16852:2016) has been prepared by Technical Committee ISO/TC 21 "Equipment for fire protection and fire fighting" in collaboration with 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 May 2017, and conflicting national standards shall be withdrawn at the latest by May 2017.

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 ISO 16852:2010.

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(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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

Endorsement notice

The text of ISO 16852:2016 has been approved by CEN as EN ISO 16852:2016 without any modification.

Annex ZA
(informative)

Relationship between this European Standard and the Essential Requirements of EU Directive 2014/34/EU concerning equipment and protective systems intended for use in potentially explosive atmospheres

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive 2014/34/EU concerning equipment and protective systems intended for use in potentially explosive atmospheres

Once this standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard and Directive 2014/34/EU concerning equipment and protective systems intended for use in potentially explosive atmospheres

Essential Requirements (ERs) of Directive 2014/34/EU	Clause(s)/subclause(s) of this EN	Qualifying remarks/Notes
1.0.1 Principles of integrated explosion safety	Clause 5; 6.2	
1.0.2 Design and manufacture considerations	6.2; 7.1	
1.0.3 Special checking and maintenance conditions	Annex C	
1.0.4 Surrounding area conditions	6.2	
1.0.5 Marking	12.2	
1.0.6 Instructions	7.4; 8.4; 9.3; 10.3; 12.1	
1.1.1 Operational stresses on material	6.2; 7.1; Annex C	
1.1.2 Reaction of material	6.2; Annex C	
1.1.3 Wear of material	6.2; 7.1	
1.2.1 Design and construction for safe operation	5.1; 6.2; 6.3; 6.4; 6.5; 7.1;	
1.2.3 Enclosed structures and prevention of leaks	6.6	
1.2.5 Additional mans of protection	12.1	
1.2.8 Overloading of equipment	7.3.4; 10.1; 11.1	
1.2.9 Flameproof enclosure systems	6.3; 6.4; 7.3.2.3	

1.3.1 Hazards arising from different ignition sources	6.2	
1.3.2 Hazards arising from static electricity	Annex B; Annex C	
1.4.1 External effects	6.2	
1.4.2 Mechanical, thermal and chemical stresses	6.2	
1.6.4 Hazards arising from connections	6.4	
3.0.1 Dimensioning	6; 7; 8; 9; 10; 11	
3.0.2 Design and position	6; 7; 8; 9; 10; 11	
3.1.2 Shock waves	6.5; 7.3.3	

WARNING — Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 21, *Equipment for fire protection and firefighting*.

This second edition cancels and replaces the first edition (ISO 16852:2008), which has been technically revised with the following changes:

— Clause 1: information concerning existing standard from IMO (International Maritime Organization) for maritime application added;

— 3.18: definition of dynamic flame arrester revised;

— Clause 4: abbreviation for the time t_{Ppeak} added;

— 6.5: production test procedure for flame arresters of welded construction and of cast components revised;

— 6.7: flow measurement (air) revised;

— 7.3.3.2 and 7.3.3.4: in the flame transmission test for stable and unstable detonation without restriction the deflagration tests with $L_u/D = 5$ deleted;

— 7.3.3.2: formula for the calculation of the average value p_{md} added;

— Figure 1 and Figure 3: figures for the test apparatus for deflagration tests of end-of-line flame arrester and of pre-volume flame arresters revised;

— Figure 6 and Figure 7: figures for the test apparatus for short time burning test and for endurance burning test revised;

— 7.3.4: short time burning test for inline flame arresters revised;

— 7.3.5: test pressure for the endurance burning test of inline flame arresters added;

— 7.4.5: limits for use of short time burn flame arresters added;

— 8.3: flame transmission test for liquid product detonation flame arresters revised;

— Clause 9: “Specific requirements for dynamic flame arresters (high velocity vent valves)” revised;

— Clause 11: “Test of flame arresters installed on or within gas conveying equipment” added;

— 12.1: “Instructions for use” revised;

— 12.2: “Marking” revised;

— Figure A.1: pipe lengths revised;

— Annex C: “Best practice” revised;

— Annex D: “Use of in-line stable detonation flame arresters” deleted;

— Bibliography: updated.

It also incorporates the Technical Corrigenda ISO 16852:2008/Cor 1:2008 and ISO 16852:2008/Cor 2:2009.