Tolmuplahvatuse rõhu leevendamise kaitsesüsteemid

Dust explosion venting protective systems

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 14491:2012 sisaldab Euroopa standardi EN 14491:2012 ingliskeelset teksti.	This Estonian standard EVS-EN 14491:2012 consists of the English text of the European standard EN 14491:2012.
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 08.08.2012.	Date of Availability of the European standard is 08.08.2012.
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.

ICS 13.230

Võtmesõnad: definition, definitions, dust, dust explosions, exhaust gases, explosion protection, fire, mathematical calculations, parameters, pressure releases, pressure wave, safety, safety engineering, specification (approval), specifications, testing, waste air, ventiduct,

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 14491

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English Version

Dust explosion venting protective systems

Systèmes de protection par évent contre les explosions de poussières

Schutzsysteme zur Druckentlastung von Staubexplosionen

This European Standard was approved by CEN on 30 June 2012.

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.

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Foreword

This document (EN 14491:2012) 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 February 2013, and conflicting national standards shall be withdrawn at the latest by February 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 14491:2006.

Annex F provides details of significant technical changes between this European Standard and the previous edition.

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(s), see informative Annex ZA, which is an integral part of this document.

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, 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.

1 Scope

This European Standard specifies the basic requirements of design for the selection of a dust explosion venting protective system. This European Standard is one of a series including EN 14797, *Explosion venting devices* and EN 14460, *Explosion resistant equipment*. The three standards together represent the concept of dust explosion venting. To avoid transfer of explosions to other communicating equipment, one should also consider applying EN 15089 *Explosion Isolation Systems*.

This European Standard covers:

— vent sizing to protect an enclosure against the internal pressure effects of a dust explosion;

— flame and pressure effects outside the enclosure;

— recoil forces;

— influence of vent ducts;

— hybrid mixtures.

This European Standard is not intended to provide design and application rules against effects generated by detonation reactions or runaway exothermic reactions. This European Standard does not cover fire risks arising from materials either processed, used or released by the equipment or from materials that make up equipment and buildings. This European Standard does not cover the design, construction, testing and certification of explosion venting devices that are used to achieve explosion venting[1)].

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 13237:2003, *Potentially explosive atmospheres — Terms and definitions for equipment and protective systems intended for use in potentially explosive atmospheres*

EN 14460:2006, *Explosion resistant equipment*

EN 14797:2006, *Explosion venting devices*

EN 15089, *Explosion isolation systems*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13237:2003, EN 14460:2006 and the following apply.

3.1
building
enclosed, roofed space that contains a working environment that may include process plant, offices and personnel, either separately or together, but is not, in itself, an item of process plant

1) This is covered in EN 14797.