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Irish Standard
I.S. EN 14491:2012

Dust explosion venting protective systems

I.S. EN 14491:2012

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English Version

Dust explosion venting protective systems

Systèmes de protection par événement 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.

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Contents

	Page
Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Venting of enclosures	6
5 Sizing of vent areas	7
5.1 General.....	7
5.2 Venting of isolated enclosures.....	8
5.3 Special dust cloud conditions.....	9
5.3.1 General.....	9
5.3.2 Pneumatic conveying of product with axial introduction into vessels and silos.....	9
5.3.3 Pneumatic conveying of the product with tangential introduction into vessels and silos.....	10
5.3.4 Free fall filling.....	11
5.4 Protection of interconnected enclosures.....	11
5.5 Protection of pipes	12
5.6 Influences of vent ducts.....	13
5.7 Design of vent ducts	14
5.8 Hybrid mixtures.....	15
6 Supplementary design considerations	16
6.1 General.....	16
6.2 Explosion effects external to the vent.....	16
6.2.1 General.....	16
6.2.2 Flame effects.....	16
6.2.3 Pressure effects.....	17
6.2.4 Effects of flameless explosion venting devices.....	18
6.2.5 Recoil forces	18
6.2.6 Vacuum breakers.....	19
7 Marking	20
8 Information for use	20
Annex A (informative) Explosion venting of dust filters	21
Annex B (informative) Explosion venting of cyclones	23
Annex C (informative) Estimating the <i>LID</i> ratio when calculating vent areas for elongated enclosures	24
Annex D (informative) Protection of buildings.....	31
D.1 General.....	31
D.2 Calculating the vent area	31
D.3 Calculation of internal surface area.....	32
Annex E (informative) Deflectors.....	33
Annex F (informative) Significant changes between this European Standard and EN 14491:2006	35
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 94/9/EC	38
Bibliography.....	39

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 venting¹⁾.

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.

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