

## **Plahvatuskindlad seadmed**

Explosion resistant equipment

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 14460:2006 sisaldab Euroopa standardi EN 14460:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 29.06.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 14460:2006 consists of the English text of the European standard EN 14460:2006.</p> <p>This document is endorsed on 29.06.2006 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b> This standard specifies requirements for explosion-pressure-resistant and explosion pressure shock-resistant equipment. This standard is applicable to process vessels and systems. It is not applicable to individual items of equipment such as motors and gearboxes that may be designed to withstand an internal explosion, which is the subject of EN 13463-3.</p>	<p><b>Scope:</b> This standard specifies requirements for explosion-pressure-resistant and explosion pressure shock-resistant equipment. This standard is applicable to process vessels and systems. It is not applicable to individual items of equipment such as motors and gearboxes that may be designed to withstand an internal explosion, which is the subject of EN 13463-3.</p>
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**Võtmesõnad:** accident prevention, atmosphere, constructions, design, documentations

ICS 13.230

English Version

## Explosion resistant equipment

Appareil résistant à l'explosion

Explosionsfeste Geräte

This European Standard was approved by CEN on 23 March 2006.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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



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## Foreword

This document (EN 14460:2006) 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 November 2006, and conflicting national standards shall be withdrawn at the latest by November 2006.

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 of 23 March 1994.

For relationship with EU Directive 94/9/EC, 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

## Introduction

The principles of integrated explosion safety includes the following measures the manufacturer has to take:

- a) prevention of formation of explosive atmospheres;
- b) prevention of the ignition of the explosive atmospheres; and
- c) if an explosion nevertheless occurs, to halt it immediately and/or to limit the range of explosion flames and explosion pressures to a sufficient level of safety.

It is essential that methods according to c) be used if the ignition hazard assessment of the equipment shows that the prevention of ignition sources, e.g. by using of types of ignition protection as defined in EN 13463 series, doesn't fulfil the requirements of the intended category which is necessary for the intended use of the equipment. This standard specifies requirements for equipment that shall be explosion resistant. Explosion resistance is the term applied to the construction of an enclosure so that it can withstand an expected explosion pressure without rupture. Giving equipment this property it limits the range of explosion flames and explosion pressures to a sufficient level of safety.

The equipment property "explosion resistance" can be used for equipment, protective systems and components.

## 1 Scope

This standard specifies requirements for explosion-pressure-resistant and explosion pressure shock-resistant equipment. This standard is applicable to process vessels and systems. It is not applicable to individual items of equipment such as motors and gearboxes that may be designed to withstand an internal explosion, which is the subject of EN 13463-3.

This standard is valid for atmospheres having pressures ranging from 800 hPa to 1100 hPa and temperatures ranging from - 20 °C to + 60 °C. This standard may also be helpful for the design, construction, testing and marking of equipment intended for use in atmospheres outside the validity range stated above, as far as this subject is not covered by specific standards.

This standard applies to equipment and combinations of equipment where deflagrations may occur and is not applicable to equipment and combination of equipment where detonation may occur. This standard should not be used for offshore applications.

It is essential that this standard be used for equipment made of metallic materials only.

## 2 Normative references

The following referenced documents are indispensable for the application 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 10002-1, *Metallic materials - Tensile testing - Part 1: Method of test at ambient temperature*

EN 10204, *Metallic products – Types of inspection documents*

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

EN 13445-1, *Unfired pressure vessels – Part 1: General*

EN 13445-2, *Unfired pressure vessels – Part 2: Materials*

EN 13445-3, *Unfired pressure vessels – Part 3: Design*

EN 13445-4, *Unfired pressure vessels – Part 4: Fabrication*

EN 13980, *Potentially explosive atmospheres - Application of quality systems*

ISO 8421-1:1987, *Fire protection – Vocabulary - Part 1: General terms and phenomena of fire*