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ICS 13.230

NON-ELECTRICAL EQUIPMENT FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES - PART 2: PROTECTION BY FLOW RESTRICTING ENCLOSURE 'FR'

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English version

Non-electrical equipment for use in potentially explosive atmospheres - Part 2: Protection by flow restricting enclosure 'fr'

Appareils non électriques destinés à être utilisés en atmosphères explosibles - Partie 2: Protection par enveloppe à circulation limitée 'fr'

Nicht-elektrische Geräte für den Einsatz in explosionsgefährdeten Bereichen - Teil 2: Schutz durch schwadenhemmende Kapselung 'fr'

This European Standard was approved by CEN on 14 October 2004.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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Foreword

This document (EN 13463-2:2004) 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of an identical text or by endorsement, at the latest by May 2005, and conflicting national standards shall be withdrawn at the latest by May 2005.

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

This European Standard consists of the following parts:

EN 13463-1, *Non-electrical equipment for potentially explosive atmospheres - Part 1: Basic method and requirements.*

EN 13463-2, *Non-electrical equipment for use in potentially explosive atmospheres - Part 2: Protection by flow restricting enclosure "fr".*

prEN 13463-3, *Non-electrical equipment for potentially explosive atmospheres - Part 3: Protection by flameproof enclosure 'd'.*

EN 13463-5, *Non-electrical equipment intended for use in potentially explosive atmospheres - Part 5: Protection by constructional safety "c".*

prEN 13463-6, *Non-electrical equipment for potentially explosive atmospheres - Part 6: Protection by control of ignition source 'b'.*

EN 13463-8, *Non-electrical equipment for potentially explosive atmospheres - Part 8: Protection by liquid immersion 'k'.*

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, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

An explosive atmosphere surrounding an enclosure can penetrate it mainly due to the influence of three mechanisms:

— ventilation;

— equalisation of pressure differences between the inside and outside (breathing);

— diffusion.

If such an enclosure is effectively sealed, but not necessarily gas-tight, it can be assumed that ventilation and diffusion will not cause a significant short-time exchange of atmosphere. Under these conditions, an exchange of the external and internal atmospheres through the seals will only take place if there is a pressure difference across them. Such pressure differences may be caused by changes in temperature and will result in the enclosure "breathing" but will not cause a significant flow of explosive atmosphere into or through the enclosure.

Experience has shown that even simple enclosures can prevent a surrounding explosive atmosphere from reaching ignition sources inside them. Flow restricting enclosures are such simple enclosures, which will prevent, with adequate probability, the atmosphere inside the enclosures becoming explosive if the atmosphere outside the enclosure becomes explosive rarely and for short durations only. For this reason their use is restricted to the fulfilment of category 3 requirements.

This document is a type B standard as described in EN 1070.