National Standards Authority of Ireland

IRISH STANDARD

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FLAME ARRESTERS - PERFORMANCE REQUIREMENTS, TEST METHODS AND LIMITS FOR USE

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Flame arresters - Performance requirements, test methods and limits for use

Arrête-flamme - Exigences de performance, méthodes d'essai et limites d'utilisation

Flammendurchschlagsicherungen - Leistungsanforderungen, Prüfverfahren und Einsatzgrenzen

This European Standard was approved by CEN on 24 November 2000.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPAISCHES KOMITEE FUR NORMUNG

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Contents

Foreword

This European Standard 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of an identical text or by endorsement, at the latest by July 2001, and conflicting national standards shall be withdrawn at the latest by July 2001.

This European Standard 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 standard.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

This European Standard is type C as stated in ENV 1070.

1 Scope

This standard specifies the requirements for flame arresters which prevent flame transmission when flammable gas/air- or vapour/air-mixtures are present. It establishes uniform principles for the classification, basic construction and marking of flame arresters and specifies test methods to verify the safety requirements and determine safe limits of use.

This standard does not cover the following:

- External safety-related measurement and control equipment which may be required to keep the operational conditions within the established safe limits.

- Flame arresters used for explosive mixtures of vapours and gases, which tend to self-decompose (e.g acetylene) or which are chemically unstable.

- Flame arresters used for carbon disulphide due to its special properties.

- Flame arresters used for gas or vapour mixtures containing more than the atmospheric oxygen concentration.

- Flame arrester test procedures for internal combustion, compression ignition engines. Refer to EN 1834-1 and EN 1834-2.

The safety factors incorporated into the tests specified in this standard mean that the uncertainty of measurement inherent in good quality, regularly calibrated measurement equipment is not considered to have any significant detrimental effect on the results and need not be taken into account when making the measurements necessary to verify compliance of the flame arrester with the requirements of this standard.

2 Normative references

This standard incorporates by dated or undated reference, provisions from other publications. These normative references are included at the appropriate places in the text and the publications are listed. For dated references, subsequent amendments to or revisions of any of these publications apply to this standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 1267
: Valves - Test of flow resistance using water as test fluid

prEN 1759-3:1994
: Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, class designated - Part 3: Copper alloy and composite flanges

prEN 1759-4:1997
: Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, class designated - Part 4: Aluminium alloy flanges

EN 1834-1
: Reciprocating internal combustion engines - Safety requirements for design and construction of engines for use in potentially explosive atmospheres - Part 1: Group II engines for use in flammable gas and vapour atmospheres

EN 1834-2
: Reciprocating internal combustion engines - Safety requirements for design and construction of engines for use in potentially explosive atmospheres - Part 2: Group I engines for use in underground workings susceptible to firedamp and/or combustible dust

ENV 1070
: Safety of machinery - Terminology

EN 1127-1:1997
: Explosive atmospheres - Explosion prevention and protection - Part 1: Basic concepts and methodology

EN 1092-1
: Flanges and their joints - Circular flanges for pipes, valves and fittings - Part 1: Steel flanges, PN designated

EN 50014
: Electrical apparatus for potentially explosive atmospheres - General requirements

EN 50018
: Electrical apparatus for explosive atmospheres - Flameproof enclosures "d"

ISO 7005-1
: Metallic flanges - Part 1: Steel flanges

ISO 7-1
: Pipe threads where pressure-tight joints are made on the threads - Part 1: Dimensions, tolerances and designation

ISO 7-2
: Pipe threads where pressure-tight joints are made on the threads - Part 2: Verification by means of limit gauges