



National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 12416-2+A1:2007

ICS 13.220.20

**FIXED FIREFIGHTING SYSTEMS - POWDER
SYSTEMS - PART 2: DESIGN,
CONSTRUCTION AND MAINTENANCE**

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Fixed firefighting systems - Powder systems - Part 2: Design, construction and maintenance

Installations fixes de lutte contre l'incendie - Systèmes
d'extinction à poudre - Partie 2: Conception, construction et
maintenance

Ortsfeste Brandbekämpfungsanlagen - Pulverlöschanlagen
- Teil 2: Planung, Einbau und Wartung

This European Standard was approved by CEN on 2 May 2001 and includes Amendment 1 approved by CEN on 16 May 2007.

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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 Management Centre has the same status as the official versions.

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Foreword

This document (EN 12416-2:2001+A1:2007) has been prepared by Technical Committee CEN/TC 191 "Fixed firefighting systems", the secretariat of which is held by BSI.

This document shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2007 and conflicting national standards shall be withdrawn at the latest by December 2007.

This document includes Amendment 1 approved by CEN on 2007-05-16.

This document supersedes EN 12416-2:2001.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

This European Standard has the general title "Fixed firefighting systems - Powder systems" and consists of the following two parts:

- Part 1: Requirements and test methods for components
- Part 2: Design, construction and maintenance

A1 *deleted text* A1

Annexes A to C are informative annexes.

This European standard is included in a series of European Standards planned to cover also:

- a) gas extinguishing systems (EN 12094);
- b) sprinkler systems (EN 12259 and EN 12845);
- c) smoke control systems (EN 12101);
- d) explosion protection systems (EN 26184);
- e) foam systems (EN 13565);
- A1 f) hose systems (EN 671);
- g) water spray systems (EN 14816). A1

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, 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

It has been assumed in the preparation of this Standard that the execution of its provisions is entrusted to appropriately qualified and experienced people.

Risks which can be protected using powder extinguishing systems include the following:

- a) Flammable or combustible liquids and combustible gases; and
- b) Combustible solids having burning characteristics similar to naphthalene and pitch, which melt when involved in a fire; and
- c) Combustibles such as wood, paper, or cloth arranged in such a way that powder extinguishant could reach all burning surfaces in the event of a fire.

Powder extinguishing systems shall not be used to provide protection for the following:

- d) Chemicals containing their own oxygen supply such as cellulose nitrate;

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e) Combustibles arranged in such a way that there is a risk of deep seated or burrowing fires which the extinguishant would not be able to reach;

ABC powder should not be used on machinery such as carding equipment in textile operations or delicate electrical equipment because, upon exposure to temperatures in excess of 120 °C or relative humidity in excess of 50 %, deposits will be formed which can be corrosive, conductive and difficult to remove.

NOTE 1 Powder, when discharged, will drift from the immediate discharge area and settle on surrounding surfaces. Prompt cleaning will minimize possible staining or corrosion of certain materials which may take place in the presence of moisture.

NOTE 2 The extinguishing of uncontrolled discharge of flammable liquids or combustible gases may result in a subsequent explosion.

A1) Powder systems can consist of the following components (see Figure 1):

- powder container unit including pressure regulator;
- expellant gas unit with mechanical and/or electrical delay system;
- actuation and control system (manual or automatic release);
- distribution header with selector valves assembly;
- nozzles for total flooding or local application. **A1**

1 Scope

A1) This document specifies requirements and gives recommendations for the design, construction and maintenance of fixed fire extinguishing systems which discharge powder from a container, or centrally grouped containers, through nozzles by means of expellant gas in accordance with EN 12416-1 and the relevant part of EN 54 where required. **A1**

This European standard covers systems which are suitable for general use in buildings and other construction works as well as outdoor hazards.

A1) This standard does not cover systems with permanently pressurized containers and pre-engineered systems up to 150 kg of the extinguishing media quantity, powder hose lines and monitor systems, nor areas with a risk of explosion, earthquake zones or extreme environmental conditions e.g. marine, offshore, mining or aircraft. **A1**

This European standard does not apply to systems where there is a risk of class "D" fires according to EN 2.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European 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 54 (all relevant parts), *Fire detection and fire alarm systems*

A1) CEN/TS 54-14 **A1**, *Fire detection and fire alarm systems - Part 14: Guidelines for planning, design, installation, commissioning, use and maintenance*

EN 615, *Fire protection - Fire extinguishing media - Specifications for powders (other than class D powders)*

EN 1092, *Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, PN designated*

A1) EN 12094-9 **A1**, *Fixed firefighting systems - Components for gas extinguishing systems - Part 9: Requirements and test methods for special fire detectors*

EN 12416-1:2001, *Fixed firefighting systems - Powder systems - Part 1: Requirements and test methods for components*

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