

**PAIKSED TULEKUSTUTUSSÜSTEEMID. AUTOMAATSED
ELAMU SPRINKLERSÜSTEEMID. PROJEKTEERIMINE,
PAIGALDAMINE JA HOOLDUS**

**Fixed firefighting systems - Automatic residential
sprinkler systems - Design, installation and maintenance**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 16925:2018 sisaldab Euroopa standardi EN 16925:2018 ja selle paranduse AC:2020 ingliskeelset teksti.	This Estonian standard EVS-EN 16925:2018 consists of the English text of the European standard EN 16925:2018 and its corrigendum AC:2020.
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ICS 13.220.20

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English Version

Fixed firefighting systems - Automatic residential sprinkler systems - Design, installation and maintenance

Installations fixes de lutte contre l'incendie - Systèmes
d'extinction automatiques du type sprinkleur
résidentiel - Conception, installation et maintenance

Ortsfeste Brandbekämpfungsanlagen - Automatische
Sprinkleranlagen für Wohnbereiche - Planung,
Installation und Instandhaltung

This European Standard was approved by CEN on 24 September 2018.

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COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN 16925:2018) has been prepared by Technical Committee CEN/TC 191 “Fixed firefighting systems”, the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by June 2019, and conflicting national standards shall be withdrawn at the latest by September 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

Annexes A to E are normative. Annexes F to J are informative.

This standard is part of a series of standards which includes the following:

- EN 12259 (all parts), *Fixed firefighting systems – Components for sprinkler and water spray systems*;
- EN 12845, *Fixed firefighting systems – Automatic sprinkler systems*;
- prEN 14972 (all parts), *Fixed firefighting systems – Water mist systems*;
- EN 12094 (all parts), *Fixed firefighting systems – Components for gas extinguishing systems*;
- EN 15004 (all parts), *Fixed firefighting systems – Gas extinguishing systems*;
- EN 12416 (all parts), *Fixed firefighting systems – Powder systems*;
- ISO 6184 (all parts), *Fixed firefighting systems – Explosion protection systems*;
- EN 13565 (all parts), *Fixed firefighting systems – Foam systems*;
- EN 671 (all parts), *Fixed firefighting systems – Hose systems*;
- EN 12101 (all parts), *Smoke and heat control systems*.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

Sprinkler systems have demonstrated their value in protecting life and property in industrial and commercial applications for over 100 years. The recognition that the largest number of deaths from fire occur in the home has led to the introduction of sprinkler systems specifically designed for residential occupancies.

A correctly designed and installed residential sprinkler system can detect and control a fire at an early stage of development and activate a fire alarm. Operation of the system rapidly reduces the rate of production of heat and smoke, allowing more time for occupants to escape to safety or be rescued.

Sprinklers operate at predetermined temperatures to discharge water over the area below. Only the sprinklers near the fire, which are individually heated above their operating temperature, will operate. The flow of water initiates a fire alarm signal to draw attention to the operation of the system. The operating temperature is generally selected to suit ambient temperature conditions.

It is essential that residential sprinkler systems are properly maintained and regularly tested to ensure correct operation in case of fire.

It should not be assumed that the provision of a residential sprinkler system eliminates the need for other means of detecting and fighting fires and it is important to consider the fire precautions in the occupancy as a whole. Structural fire resistance, escape routes, smoke alarms, fire alarm systems, provision of portable extinguishers, training and information all need consideration.

It is assumed that the building design and construction will be in accordance with local building codes and national requirements. If the residential sprinkler system is to be used to compensate for other fire protection measures, such as walls or doors, building authorities may require the installation of a system with additional measures to enhance performance and/or reliability.

Only a competent person should undertake the design, installation, inspection, testing and maintenance of residential sprinkler systems. This standard does not necessarily cover all local or national legislative requirements, which may take precedence over this standard.

1 Scope

This document specifies requirements and gives recommendations for the design, installation, water supplies and backflow prevention, commissioning, maintenance and testing of fixed residential fire sprinkler systems in buildings for residential occupancies.

This document is intended for use by those concerned with purchasing, designing, installing, testing, inspecting, approving, operating and maintaining automatic residential sprinkler systems, in order that such equipment will function as intended throughout its life.

This document identifies construction details of buildings which are the minimum necessary for satisfactory performance of residential sprinkler systems complying with this standard.

This document applies to any addition, extension, repair or other modification to the residential sprinkler system.

This document does not cover situations such as arson where fires of a malicious intent may be started in multiple locations simultaneously.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 54 (all parts), *Fire detection and fire alarm systems*

EN 1057, *Copper and copper alloys — Seamless, round copper tubes for water and gas in sanitary and heating applications*

EN 10205, *Cold reduced tinmill products — Blackplate*

EN 10216-1, *Seamless steel tubes for pressure purposes — Technical delivery conditions — Part 1: Non-alloy steel tubes with specified room temperature properties*

EN 10217-1, *Welded steel tubes for pressure purposes — Technical delivery conditions — Part 1: Non-alloy steel tubes with specified room temperature properties*

EN 10255, *Non-Alloy steel tubes suitable for welding and threading — Technical delivery conditions*

EN 12259-1, *Fixed firefighting systems — Components for sprinkler and water spray systems — Part 1: Sprinklers*

EN 12259-5, *Fixed firefighting systems — Components for sprinkler and water spray systems — Part 5: Water flow detectors*

prEN 12259-14, *Fixed firefighting systems — Components for sprinkler and water spray systems — Part 14: Sprinklers for residential applications*

EN 12845, *Fixed firefighting systems — Automatic sprinkler systems — Design, installation and maintenance*

EN 1717, *Protection against pollution of potable water in water installations and general requirements of devices to prevent pollution by backflow*

EN 60529, *Degrees of protection provided by enclosures (IP Code) (IEC 60529)*

EN 60730-1, *Automatic electrical controls for household and similar use — Part 1: General requirements (IEC 60730-1)*

EN 60898-1, *Electrical accessories — Circuit breakers for overcurrent protection for household and similar installations — Part 1: Circuit-breakers for a.c. operation (IEC 60898-1)*

EN 806-2:2005, *Specification for installations inside buildings conveying water for human consumption — Part 2: Design*

EN 806-5, *Specifications for installations inside buildings conveying water for human consumption — Part 5: Operation and maintenance*

IEC 60331-1, *Tests for electric cables under fire conditions — Circuit integrity — Part 1: Test method for fire with shock at a temperature of at least 830°C for cables of rated voltage up to and including 0,6/1 kV and with an overall diameter exceeding 20 mm*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12845 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

A alarm

system flow alarm that indicates a possible fire

3.2

alarm receiving unit

control panel capable of initiating an alarm

3.3

area of operation

maximum area over which it is assumed, for design purposes, that sprinklers will operate in a fire

3.4

authority

organization or individual responsible for approving sprinkler systems, equipment and procedures

EXAMPLE Examples include the fire and building control authorities, the fire insurers, the local water authority and other appropriate public authorities.

3.5

sprinkler (automatic)

nozzle with a thermally sensitive sealing device which opens to discharge water for fire-fighting

3.6

B alarm

indication of a technical fault or an abnormal condition

3.7

bed and breakfast

accommodation with up to four lettable rooms and up to three storeys, where the owner lives on the premises and no meal other than breakfast is provided