

Fixed firefighting systems - Components for sprinkler
and water spray systems - Part 14: Sprinklers for
residential applications

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN 12259-14:2020+A2:2024 sisaldab Euroopa standardi EN 12259-14:2020+A2:2024 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 14.08.2024.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN 12259-14:2020+A2:2024 consists of the English text of the European standard EN 12259-14:2020+A2:2024.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 14.08.2024.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
--	---

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 13.220.20

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele. Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardimis- ja Akrediteerimiskeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardimis- ja Akrediteerimiskeskusega: Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation and Accreditation. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation and Accreditation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation and Accreditation: Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

EUROPEAN STANDARD

EN 12259-14:2020+A2

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2024

ICS 13.220.20

Supersedes EN 12259-14:2020+A1:2022

English Version

Fixed firefighting systems - Components for sprinkler and water spray systems - Part 14: Sprinklers for residential applications

Installations fixes de lutte contre l'incendie -
Composants des systèmes d'extinction du type
sprinkleur et à pulvérisation d'eau - Partie 14:
Sprinkleurs pour applications résidentielles

Ortsfeste Brandbekämpfungsanlagen - Bauteile für
Sprinkler- und Sprühwasseranlagen - Teil 14: Sprinkler
für die Anwendung im Wohnbereich

This European Standard was approved by CEN on 4 November 2019 and includes Amendment 1 approved by CEN on 13 March 2022 and Amendment 2 approved by CEN on 14 July 2024.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

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



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword.....	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Construction and performance	8
4.1 General	8
4.2 Dimensions and pressure rating	8
4.3 Nominal operating temperature	8
4.4 Operating temperatures	9
4.5 Water flow and distribution	9
4.6 Function	10
4.7 Fire Test	10
4.8 Strength of sprinkler body and deflector	11
4.9 Strength of release element	11
4.10 Leak resistance and hydrostatic strength	12
4.11 Heat exposure	12
4.12 Corrosion	13
4.13 Water hammer	13
4.14 Thermal response	14
4.15 Resistance to vibration	14
4.16 Resistance to impact	14
4.17 Resistance to low temperature	14
4.18 Resistance to heat	14
4.19 Test conditions	14
5 Marking	14
5.1 General	14
5.2 Identification number	14
5.3 Nominal operating temperature and year of manufacture	15
5.4 Manufacturing location	15
5.5 Heat sensitive element supplier	15
5.6 Protective covers	15
5.7 Sidewall sprinklers	15
5.8 Concealed sprinklers	15
5.9 Removable recessed housing	16
6 Instruction charts	16
6.1 General	16
6.2 Installation Instructions	16
Annex A (normative) Conditions for tests	18
Annex B (normative) Water flow test	19
Annex C (normative) Water distribution test	21
Annex D (normative) Fire test	27
Annex E (normative) Function test	37

Annex F (normative) Strength of sprinkler body and deflector	39
Annex G (normative) Strength of release elements test.....	41
Annex H (normative) Leak resistance tests	44
Annex I (normative) Heat exposure.....	45
Annex J (normative) Glass bulb sprinkler thermal shock test	46
Annex K (normative) Exposure and corrosion tests	47
Annex L (normative) Water hammer test.....	51
Annex M (normative) Thermal response test.....	52
Annex N (normative) Vibration test.....	57
Annex O (normative) Impact test.....	58
Annex P (normative) Resistance to low temperature test.....	59
Annex Q (normative) Resistance to high temperature test.....	60
Bibliography	61

European foreword

This document (EN 12259-14:2020+A2:2024) 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 February 2025, and conflicting national standards shall be withdrawn at the latest by February 2025.

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.

This document includes Amendment 1 approved by CEN on 13 March 2022 and Amendment 2 approved by CEN on 14 July 2024.

This document supersedes ^{A1} EN 12259-14:2020+A1:2022 ^{A1}.

The start and finish of text introduced or altered by amendment is indicated in the text by tags ^{A1} ^{A1} and ^{A2} ^{A2}.

^{A2} In comparison with EN 12259-14:2020, technical modifications have been made to clarify the types of sprinkler seal that are covered by this document in Amendment 1. In Amendment 2 the pressure values in C.1.1 and C.2.1 were corrected as well as the unit for the force increase in G.1. ^{A2}

It is included in a series of European Standards planned to cover:

- automatic sprinkler systems (EN 12259 and EN 12845);
- gas extinguishing systems (EN 12094);
- powder systems (EN 12416);
- foam systems (EN 13565);
- hydrant and hose reel systems (EN 671);
- smoke and heat control systems (EN 12101).

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

^{A1} This document specifies requirements for the construction and performance of residential sprinklers as well as test methods for their type approval, which are operated by a change of state of an element or bursting of a glass bulb under the influence of heat and incorporating the following types of water seals:

- conical metal spring with a PTFE gasket or coating;
- metal cap or disc with PTFE gasket or coating;
- copper gasket, with or without a PTFE coating.

Sprinklers in accordance with this document are only used in automatic sprinkler systems for domestic and residential applications as defined in EN 16925. ^{A1}

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.

^{A1} EN 12259-1:1999+A1:2001¹ ^{A1}, *Fixed firefighting systems — Components for sprinkler and water spray systems — Part 1: Sprinklers*

EN 13501-1, *Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests*

EN 16925, *Fixed firefighting systems - Automatic residential sprinkler systems - Design, installation and maintenance*

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

ISO 49, *Malleable cast iron fittings threaded to ISO 7-1*

ISO 65, *Carbon steel tubes suitable for screwing in accordance with ISO 7-1*

ISO 5658-2:2006, *Reaction to fire tests — Spread of flame — Part 2: Lateral spread on building and transport products in vertical configuration*

ISO 5660-1:2015, *Reaction-to-fire tests — Heat release, smoke production and mass loss rate — Part 1: Heat release rate (cone calorimeter method) and smoke production rate (dynamic measurement)*

UL 723, *Standard for test for surface burning characteristics of building materials*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

- IEC Electropedia: available at <https://www.electropedia.org/>

¹ ^{A1} As impacted by EN 12259-1:1999+A1:2001/A2:2004 and EN 12259-1:1999+A1:2001/A3:2006. ^{A1}