

Fixed firefighting systems - Water mist systems - Part 3:
Test protocol for office, school classrooms and hotel for
automatic nozzle systems

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 14972-3:2021 sisaldab Euroopa standardi EN 14972-3:2021 ingliskeelset teksti.	This Estonian standard EVS-EN 14972-3:2021 consists of the English text of the European standard EN 14972-3:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 04.08.2021.	Date of Availability of the European standard is 04.08.2021.
Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

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

English Version

**Fixed firefighting systems - Water mist systems - Part 3:
Test protocol for office, school classrooms and hotel for
automatic nozzle systems**

Installations fixes de lutte contre l'incendie - Systèmes
à brouillard d'eau - Partie 3 : Protocole d'essai des
systèmes à buses automatiques pour bureaux, écoles et
hôtels

Ortsfeste Brandbekämpfungsanlagen - Feinsprüh-
Löschanlagen - Teil 3: Prüfprotokoll für Büros, Schulen
und Hotels für automatische Düsensysteme

This European Standard was approved by CEN on 12 March 2021.

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, Turkey 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.....	3
1 Scope.....	5
2 Normative references.....	5
3 Terms and definitions	5
4 General requirements	6
5 Fuel packages	7
5.1 General.....	7
5.2 Office fuel package.....	7
5.2.1 General.....	7
5.2.2 Padded chair.....	9
5.2.3 Wooden drawer	10
5.2.4 Items on the table.....	10
5.2.5 Walls	11
5.2.6 Ignition source	11
5.3 Hotel and accommodation fuel package.....	12
5.3.1 General.....	12
5.3.2 Metal frames	13
5.3.3 Mattresses.....	16
5.3.4 Ignition source	16
6 Test arrangement.....	17
6.1 Reference sprinkler requirements.....	17
6.1.1 General.....	17
6.1.2 Reference sprinkler tests.....	18
6.2 Water mist system requirements.....	18
6.3 Sprinkler grid for office fuel package	18
6.4 Sprinkler grid for hotel and accommodation fuel package	19
7 Test equipment requirements	20
8 Instrumentation requirements.....	21
8.1 General.....	21
8.2 Temperature.....	21
8.3 Pressure.....	21
8.4 Time	21
9 Test criteria.....	22
9.1 General.....	22
9.2 Fire tests	22
9.3 Evaluation of test results.....	23
9.3.1 Office fuel package.....	23
9.3.2 Hotel and accommodation fuel package.....	24
10 Test report.....	25

European foreword

This document (EN 14972-3:2021) 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 2022, and conflicting national standards shall be withdrawn at the latest by February 2022.

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.

EN 14972, *Fixed firefighting systems — Water mist systems*, consists of the following parts:

- *Part 1: Design, installation, inspection and maintenance*
- *Part 2: Test protocol for shopping areas for automatic nozzle systems*
- *Part 3: Test protocol for office, school class rooms and hotel for automatic nozzle systems*
- *Part 4: Test protocol for non-storage occupancies for automatic nozzle systems*
- *Part 5: Test protocol for car garages for automatic nozzle systems*
- *Part 6: Test protocol for false floors and false ceilings for automatic nozzle systems*
- *Part 7: Test protocol for commercial low hazard occupancies for automatic nozzle systems*
- *Part 8: Test protocol for machinery in enclosures exceeding 260 m³ for open nozzle systems*
- *Part 9: Test protocol for machinery in enclosures not exceeding 260 m³ for open nozzle systems*
- *Part 10: Test protocol for atrium protection with sidewall nozzles for open nozzle systems*
- *Part 11: Test protocol for cable tunnels for open nozzle systems*
- *Part 12: Test protocol for commercial deep fat cooking fryers for open nozzle systems*
- *Part 13: Test protocol for wet benches and other similar processing equipment for open nozzle systems*
- *Part 14: Test protocol for combustion turbines in enclosures exceeding 260 m³ for open nozzle systems*
- *Part 15: Test protocol for combustion turbines in enclosures not exceeding 260 m³ for open nozzle systems*
- *Part 16: Test protocol for industrial oil cookers for open nozzle systems*
- *Part 17: Test protocol for residential occupancies for automatic nozzle systems*

NOTE This list includes standards that are in preparation and other standards may be added. For current status of published standards refer to www.cen.eu.

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

This document specifies the evaluation of the fire performance of water mist systems for offices, school classrooms and hotels. This fire test protocol is applicable to ceiling mounted automatic nozzles to be used in unlimited volume. This document is applicable for horizontal, solid, flat ceilings with heights of 2 m and above, up to the maximum tested ceiling height.

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

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

EN 14972-1:2020, *Fixed firefighting systems — Water mist systems — Part 1: Design, installation, inspection and maintenance*

ISO 5660-1, *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)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 14972-1:2020 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 <https://www.iso.org/obp>

3.1

office and school spaces

areas considered to be covered by the office and school fuel package in accordance with 5.2, including:

- cellular offices and open plan offices;
- areas with counters;
- restaurants and kitchens;
- public areas in buildings with low fire load;
- escape routes or other corridors;
- training classrooms;
- churches;
- museums;
- as well as further comparable risks.