



SLOVENSKI STANDARD
SIST EN 14972-1:2021/oprA1:2024
01-julij-2024

Vgrajeni gasilni sistemi - Sistemi s pršečo vodo - 1. del: Načrtovanje, vgradnja, pregled in vzdrževanje

Fixed firefighting systems - Water mist systems - Part 1: Design, installation, inspection and maintenance

Ortsfeste Brandbekämpfungsanlagen - Wassernebelsysteme - Teil 1: Planung, Einbau, Inspektion und Wartung

Installations fixes de lutte contre l'incendie - Systèmes à brouillard d'eau - Partie 1 : Conception, installation, inspection et maintenance

Ta slovenski standard je istoveten z: EN 14972-1:2020/prA1

[SIST EN 14972-1:2021/oprA1:2024](http://standards.iteh.ai/catalog/standards/sist/61613373-5521-4247-999a-1c31b168c000/sist-en-14972-1-2021-oprA1-2024)

ICS:

13.220.10 Gašenje požara Fire-fighting

SIST EN 14972-1:2021/oprA1:2024 en,fr,de

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[SIST EN 14972-1:2021/oprA1:2024](https://standards.iteh.ai/catalog/standards/sist/0f615575-332f-42f7-999a-fc51f31b8c06/sist-en-14972-1-2021-opra1-2024)

<https://standards.iteh.ai/catalog/standards/sist/0f615575-332f-42f7-999a-fc51f31b8c06/sist-en-14972-1-2021-opra1-2024>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
EN 14972-1:2020
prA1

May 2024

ICS 13.220.20

English Version

Fixed firefighting systems - Water mist systems - Part 1: Design, installation, inspection and maintenance

Installations fixes de lutte contre l'incendie - Systèmes
à brouillard d'eau - Partie 1 : Conception, installation,
inspection et maintenance

Ortsfeste Brandbekämpfungsanlagen - Feinsprüh-
Löschanlagen - Teil 1: Planung, Einbau, Inspektion und
Wartung

This draft amendment is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 191.

This draft amendment A1, if approved, will modify the European Standard EN 14972-1:2020. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

This draft amendment was established by CEN 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.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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 Modification to Clause 3, “Terms and definitions” | 4 |
| 2 Modifications to Clause 4, “Design” | 4 |
| 3 Addition of new Annex C, “Limits of applicability for water mist systems tested in accordance to EN 14972-2” | 8 |
| 4 Addition of new Annex D, “Limits of applicability for water mist systems tested in accordance to EN 14972-3” | 11 |
| 5 Addition of new Annex E, “Limits of applicability for water mist systems tested in accordance to EN 14972-4” | 13 |
| 6 Addition of new Annex F, “Limits of applicability for water mist systems tested in accordance to EN 14972-5” | 15 |
| 7 Addition of new Annex G, “Limits of applicability for water mist systems tested in accordance to EN 14972-6” | 16 |
| 8 Addition of new Annex H, “Limits of applicability for water mist systems tested in accordance to EN 14972-7” | 17 |
| 9 Addition of new Annex I, “Limits of applicability for water mist systems tested in accordance to EN 14972-8” | 18 |
| 10 Addition of new Annex J, “Limits of applicability for water mist systems tested in accordance to EN 14972-9” | 20 |
| 11 Addition of new Annex K, “Limits of applicability for water mist systems tested in accordance to EN 14972-10” | 22 |
| 12 Addition of new Annex L, “Limits of applicability for water mist systems tested in accordance to EN 14972-11” | 23 |
| 13 Addition of new Annex M, “Limits of applicability for water mist systems tested in accordance to EN 14972-12” | 24 |
| 14 Addition of new Annex N, “Limits of applicability for water mist systems tested in accordance to EN 14972-13” | 25 |
| 15 Addition of new Annex O, “Limits of applicability for water mist systems tested in accordance to EN 14972-14” | 26 |
| 16 Addition of new Annex P, “Limits of applicability for water mist systems tested in accordance to EN 14972-15” | 27 |
| 17 Addition of new Annex Q, “Limits of applicability for water mist systems tested in accordance to EN 14972-16” | 28 |
| 18 Addition of new Annex R, “Limits of applicability for water mist systems tested in accordance to EN 14972-17” | 29 |
| 19 Addition of new Annex S, “General tolerances” | 30 |

European foreword

This document (EN 14972-1:2020/prA1:2024) has been prepared by Technical Committee CEN/TC 191 “Fixed firefighting systems”, the secretariat of which is held by BSI.

This document is currently submitted to the CEN Enquiry.

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[SIST EN 14972-1:2021/oprA1:2024](https://standards.iteh.ai/catalog/standards/sist/0f615575-332f-42f7-999a-fc51f31b8c06/sist-en-14972-1-2021-oprA1-2024)

<https://standards.iteh.ai/catalog/standards/sist/0f615575-332f-42f7-999a-fc51f31b8c06/sist-en-14972-1-2021-oprA1-2024>

EN 14972-1:2020/prA1:2024 (E)**1 Modification to Clause 3, “Terms and definitions”**

Replace the term 3.1.6 with the following:

"

3.1.6**automatic water mist nozzle**

component with one or more orifices, which is designed to produce and discharge water mist automatically, where the nozzles operate independently of other nozzles by means of a detection/activation device built into the nozzle

".

2 Modifications to Clause 4, “Design”

Add the following paragraph at the end of 4.1.1:

“If no other tolerance is specified, the general tolerances in Annex S shall be applied.”.

Replace the paragraph in 4.1.3.1 with the following:

“The safe use of a water mist system is limited to applications it has been tested for. Water mist systems shall be tested in accordance with the fire test protocols of the EN 14972 series.

Annex A gives guidelines on how to develop new fire test protocols to be added under the EN 14972 series.

The applicability of the fire test protocols are described in Annexes C through R. For the given application, the relevant annex shall be applied.”

In 4.2.2, item c), add “and storage” to read:

“c) description of hazards and storage”.

SIST EN 14972-1:2021/oprA1:2024

<https://standards.iteh.ai/catalog/standards/sist/0f615575-332f-42f7-999a-fc51f31b8c06/sist-en-14972-1-2021-opra1-2024>

In 4.9.4.3, replace Table 1 with the following:

“

Table 1 — Design criteria

| Occupancy ^c | Minimum design area ^a | Minimum nozzle quantity ^a | Fire test protocol ^d |
|--|--|---|--|
| Sales areas, storage areas adjacent to sales areas, archives, libraries, technical areas/mechanical floors or similar. | 216 m ² | — | EN 14972-2 |
| 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, churches, museums, hotel rooms, rooms in hospitals, nursing homes, senior citizens residences, flats, training classrooms, recreation areas. As well as further comparable risks. | 72 m ² | 6 | EN 14972-3 |
| Apartments, churches, concealed spaces (greater 800 mm in height), gymnasiums, hospitals and hospital laboratories, hotel rooms, libraries, museums, offices, meeting rooms, restaurant seating areas, kitchens, schools and university class rooms, unused attics, institutions. | 140 m ² | 9 | EN 14972-4 |
| Non-stacking garages, fully enclosed garages and underground garages for horizontal, solid, flat ceilings with heights of 2 m and above. | 144 m ² (wet system) 180 m ² (dry system) | — | EN 14972-5 |
| Horizontal false ceilings and false floors between 300 mm and 800 mm. | 72 m ² | 6 | EN 14972-6 |
| Apartments, churches, concealed spaces, gymnasiums, hospitals, hotel rooms, libraries, museums, offices, restaurant seating areas, schools and university class rooms and unused attics. | 72 m ² | 6 | EN 14972-7 |

EN 14972-1:2020/prA1:2024 (E)

| Occupancy ^c | Minimum design area ^a | Minimum nozzle quantity ^a | Fire test protocol ^d |
|--|---|---|---------------------------------|
| Dwelling house, flat, maisonette, transportable home, house of multiple occupation, bed and breakfast accommodation, boarding houses and blocks of flats of 18 m or less in height and with a maximum total floor area of 2 400 m ² . | For rooms greater than 64 m ² : 64 m ² | All nozzles in the largest compartment up to maximum 4. | EN 14972-17 |
| Blocks of flats greater than 18 m up to 45 m in height, sheltered and extra care housing, residential care premises, residential rehabilitation accommodation, dormitories and hostels up to 45 m in height ^b . | For rooms greater than 64 m ² : 64 m ² | 4 | EN 14972-17 |
| <p>^a Values applicable for wet pipe water mist systems unless indicated.</p> <p>^b Some countries may have national annex with guidance on the maximum height and any additional requirements for apartment buildings higher than 18 m.</p> <p>^c The overlap in occupancies described in the table is due to more than one fire test protocol in EN 14972 series, covering the same occupancy. Refer to Annexes C through R, and the DIOM manual, for the minimum design criteria for the respective fire test protocol for the water mist system.</p> <p>^d The occupancies are intended to be covered by the fire test protocols (see the European foreword). Where available are listed in column and otherwise are in preparation.</p> | | | |

In 4.13.5, replace Table 3 with the following:

Table 3 — Minimum discharge operating time

| Fire extinguishing systems | Discharge operating time |
|------------------------------------|---|
| Wet benches | Twice the extinguishment time. Minimum operation time is 2 min. Time delay limited to 30 s, unless otherwise proven in the tests. |
| Commercial deep fat cooking fryers | Twice the total time it takes to extinguish the fire and to cool the oil below the auto-ignition temperature in accordance with the fire test protocol. Minimum operation time is 10 min. |
| Industrial oil cookers | Twice the total time it takes to extinguish the fire and to cool the oil below the flash point in accordance with the fire test protocol. Minimum operation time is 10 min. |
| Other fire extinguishing systems | Whichever is greater: <ul style="list-style-type: none"> — twice the longest extinguishment time in the relevant fire tests; — the time to shut down the process equipment; or — 10 min. |

In 4.13.5, replace Table 4 with the following:

"

Table 4 — Minimum time of operation

| Occupancy | Minimum Operation Time min | Fire test protocol ^a |
|--|---------------------------------------|--|
| Sales areas, storage areas adjacent to sales areas, archives, libraries, technical areas or similar. | 60 | EN 14972-2 |
| Cellular offices and open plan offices, areas with counters, restaurants and kitchens, public areas in buildings of low fire load, escape routes or other corridors, churches, museums, hotel rooms, rooms in hospitals, nursing homes, senior citizens residences, flats, training classrooms, recreation areas. As well as further comparable risks. | 60 | EN 14972-3 |
| Apartments, churches, concealed spaces (greater 800 mm in height), gymnasiums, hospitals and hospital laboratories, hotel rooms, libraries, museums, offices, meeting rooms, restaurant seating areas, kitchens, schools and university class rooms, unused attics, institutions. | 60 | EN 14972-4 |
| Non-stacking garages, fully enclosed garages and underground garages for horizontal, solid, flat ceilings with heights of 2 m and above. | 60 | EN 14972-5 |
| Horizontal false ceilings and false floors between 300 mm and 800 mm. | 60 | EN 14972-6 |
| Apartments, churches, concealed spaces, gymnasiums, hospitals, hotel rooms, libraries, museums, offices, restaurant seating areas, schools and university class rooms and unused attics. | 60 | EN 14972-7 |
| Atriums with low or medium fire load, where the fire load is maximum 1,5 m high. | 60 | EN 14972-10 |
| Cable tunnels with maximum 1 m/s longitudinal ventilation. | 30 | EN 14972-11 |
| Dwelling house, flat, maisonette, transportable home. | 10 | EN 14972-17 |
| House of multiple occupation, bed and breakfast accommodation, boarding houses and blocks of flats of 18 m or less in height and with a maximum total floor area of 2 400 m ² . | 30 | EN 14972-17 |

EN 14972-1:2020/prA1:2024 (E)

| Occupancy | Minimum Operation Time min | Fire test protocol ^a |
|--|---|--|
| Blocks of flats up to 18 m in height, sheltered and extra care housing, residential care premises, residential rehabilitation accommodation, dormitories and hostels. | 30 | EN 14972-17 |
| Blocks of flats greater than 18 m up to 45 m in height, sheltered and extra care housing, residential care premises, residential rehabilitation accommodation, dormitories and hostels from 18 m to 45 m in height ^b . | 60 | EN 14972-17 |
| <p>^a The occupancies are intended to be covered by the fire test protocols (see European Foreword). Where available are listed in column 1 and otherwise are in preparation.</p> <p>^b Some countries may have national annex with guidance on the maximum height and any additional requirements for apartment buildings higher than 18 m.</p> <p>^c The overlap in occupancies described in the table is due to more than one fire test protocol in EN 14972 series, covering the same occupancy. Refer to Annexes C through R, and the DIOM manual, for the minimum design criteria for the respective fire test protocol for the water mist system.</p> | | |

In 4.13.7.2, Figure 3, for key part 18, replace “pump flow test main” with “pump flow test meter”.

For key 19, replace “alterantive” with “alternative”.

3 Addition of new Annex C, “Limits of applicability for water mist systems tested in accordance to EN 14972-2”

SIST EN 14972-1:2021/oprA1:2024

Add the following new Annex C:

“

Annex C (normative)

Limits of applicability for water mist systems tested in accordance to EN 14972-2

C.1 General

Systems tested according to EN 14972-2 are limited to the maximum ceiling height tested with a minimum ceiling height of 2,6 m.

The minimum distance between the storage height and the ceiling shall be 0,5 m.

If the glass bulb temperature used in the fire test is less than 68 °C, the fire test protocol is only applicable to that glass bulb temperature.

C.2 Regarding the scope of the water mist system

A water mist system successfully tested according to the test protocol EN 14972-2 is applicable to the following areas:

- sales areas;
- storage areas adjacent to sales areas (excluding flammable liquids, gases and other highly flammable areas);
- archives;
- libraries;
- technical areas;
- or similar.

Typical examples of storage types are shown in Figure C.1. Limitations are given in Table C.1. The maximum total protected area for combined storage areas is 500 m².