

District heating pipes - Bonded single and twin pipe systems for buried hot water networks - Surveillance systems

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

**District heating pipes - Bonded single and twin pipe
systems for buried hot water networks - Surveillance
systems**

Tuyaux de chauffage urbain - Systèmes bloqués de
monotubes et bitubes pour les réseaux d'eau chaude
enterrés - Systèmes de surveillance

Fernwärmerohre - Werkmäßig gedämmte
Verbundmantelrohrsysteme für erdverlegte
Fernwärmenetze - Überwachungssysteme

This European Standard was approved by CEN on 12 August 2019.

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

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European foreword

This document (EN 14419:2019) has been prepared by Technical Committee CEN/TC 107 “Prefabricated district heating and district cooling pipe systems”, the secretariat of which is held by DS.

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of an identical text or by endorsement, at the latest by April 2020, and conflicting national standards shall be withdrawn at the latest by April 2020.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

This document supersedes EN 14419:2009.

In comparison with the previous edition, the main changes in this new edition of EN 14419 are:

- editorial changes to the new structure of standards prepared by the Technical Committee CEN/TC107;
- Annexes A, B, F and I are informative. Annexes C, D, E, G and H are normative;
- terms and definitions from Clause 3 have been moved to EN 17248.

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.

Introduction

This document is a supplement to:

- EN 253, *District heating pipes — Bonded single pipe systems for directly buried hot water networks — Factory made pipe assembly of steel service pipe, polyurethane thermal insulation and a casing of polyethylene*
- EN 448, *District heating pipes — Bonded pipe systems for directly buried hot water networks — Factory made fitting assemblies of steel service pipes, polyurethane thermal insulation and a casing of polyethylene*
- EN 488, *District heating pipes — Bonded single pipe systems for directly buried hot water networks — Factory made steel valve assembly for steel service pipes, polyurethane thermal insulation and a casing of polyethylene*
- EN 489-1, *District heating pipes — Bonded single and twin pipe systems for directly buried hot water networks — Part 1: Joint casing assemblies and thermal insulation for hot water networks in accordance with EN 13941 1*
- EN 13941-1, *District heating pipes — Design and installation of thermal insulated bonded single and twin pipe systems for directly buried hot water networks — Part 1: Design*
- EN 13941-2, *District heating pipes — Design and installation of thermal insulated bonded single and twin pipe systems for directly buried hot water networks — Part 2: Installation*
- EN 15632-1:2009+A1:2014, *District heating pipes - Pre-insulated flexible pipe systems - Part 1: Classification, general requirements and test methods*
- EN 15632-4, *District heating pipes — Pre-insulated flexible pipe systems — Part 4: Bonded system with metal service pipes; requirements and test methods*
- EN 15698-1, *District heating pipes — Bonded twin pipe systems for directly buried hot water networks — Part 1: Factory made twin pipe assembly of steel service pipe, polyurethane thermal insulation and one casing of polyethylene*
- EN 15698-2, *District heating pipes — Bonded twin pipe systems for directly buried hot water networks — Part 2: Factory made fitting and valve assembly of steel service pipes, polyurethane thermal insulation and outer casing of polyethylene*
- EN 17248, *District heating and district cooling pipe systems — Terms and definitions*

1 Scope

This document specifies requirements and test methods for surveillance systems for directly buried hot water networks in accordance with EN 13941-1 and EN 13941-2.

This document specifies requirements for the manufacture of measuring elements, for the manufacture of factory made bonded pipe, fitting and valve assemblies with measuring elements as well as for the assembly of the measuring elements in the field.

All requirements and recommendations described in this document are based on the experience gained with existing surveillance systems and their principle function.

The specific requirements given are only valid for electrical wire based surveillance systems forming an integral part of the pipes, valves, fittings and joints.

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 61557-2, *Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. — Equipment for testing, measuring or monitoring of protective measures — Part 2: Insulation resistance*

EN 17248, *District heating and district cooling pipe systems — Terms and definitions*

3 Terms and definitions

For the purposes of this document, the terms and definitions are given in EN 17248.

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>

4 Basic functional requirements

4.1 Dependency of manufacturer of pipe elements

The function of a surveillance system with similar measuring elements shall be independent of any manufacturer of pipe elements and of any Manufacturer of joints for pipe systems.

4.2 Performance

The surveillance system shall be able to perform:

- detection of moisture;
- detection of deviations;
- detection of multiple deviations;
- detection of disorders;
- location of moisture;
- location of disorders.