

STN	Potrubia diaľkového (teplovodného) vykurovania Priemyselne vyrábané ohybné rúrové systémy s nižším teplotným profilom Časť 1: Klasifikácia, všeobecné požiadavky a skúšobné metódy	STN EN 17878-1 38 3376
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District heating pipes - Factory made flexible pipe systems with a lower temperature profile - Part 1: Classification, general requirements and test methods

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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English Version

District heating pipes - Factory made flexible pipe systems with a lower temperature profile - Part 1: Classification, general requirements and test methods

Tuyaux de chauffage urbain - Système de tuyaux flexibles préisolés - Partie 1 : Classification, exigences générales et méthodes d'essai

Fernwärmerohre - Flexible Rohrsysteme mit einem niedrigeren Temperaturprofil - Teil 1: Klassifikation, allgemeine Anforderungen und Prüfungen

This European Standard was approved by CEN on 14 August 2023.

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

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EN 17878-1:2024 (E)

Contents		Page
European foreword		4
Introduction		5
1	Scope	6
2	Normative references	6
3	Terms, definitions and symbols	7
3.1	Terms and definitions	7
3.2	Symbols, indices and abbreviations	7
4	Classification	10
5	Design requirements	10
5.1	Thermal insulation properties	10
5.2	Bending test	10
5.2.1	Flexibility	10
5.2.2	Ovality	11
5.2.3	Cracks	11
5.3	Resistance to external load	11
5.3.1	Ring stiffness	11
5.3.2	Impact resistance	11
5.4	Thermal insulation	11
5.4.1	Compressive creep	11
5.4.2	Water absorption at elevated temperatures	11
5.4.3	Density of thermal insulation	12
5.5	Casing	12
5.5.1	UV stability	12
5.5.2	Thermal stability of the material	12
5.5.3	Stress crack resistance of the material	12
5.5.4	Use of rework material	12
5.6	Surveillance systems	12
6	Test methods	12
6.1	General	12
6.2	Bending test	13
6.2.1	Flexibility	13
6.2.2	Ovality test	14
6.2.3	Cracks in the thermal insulation	14
6.3	Compressive creep	15
6.3.1	General	15
6.3.2	Principles of testing	15
6.3.3	Test apparatus	15
6.3.4	Test specimens	16
6.3.5	Test procedure	17
6.3.6	Test force and expression of results	17
7	Marking	18
7.1	General marking aspects	18
7.2	Minimum marking information	19
8	Manufacturer's information	19

Annex A (normative) Thermal conductivity of factory made pipes – Test procedure	20
A.1 General	20
A.2 Requirements.....	20
A.3 Apparatus	20
A.4 Test specimen	21
A.5 Procedure.....	21
A.6 Calculations – Thermal conductivity	24
Annex B (informative) Determination of design values for the radial thermal resistance	26
Annex C (informative) Guidelines for inspection and testing.....	27
Bibliography	29

EN 17878-1:2024 (E)

European foreword

This document (EN 17878-1:2024) has been prepared by Technical Committee CEN/TC 107 “District heating and cooling 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 September 2024, and conflicting national standards shall be withdrawn at the latest by September 2024.

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 is read in conjunction with EN 17878-2:2024 and EN 17878-3:2024.

This document is part of the EN 17878 series of standards *District heating pipes — Factory made flexible pipe systems with a lower temperature profile*:

- *Part 1: Classification, general requirements and test methods;*
- *Part 2: Requirements and test methods for bonded systems with plastic service pipes;*
- *Part 3: Requirements and test methods for non bonded systems with plastic service pipes.*

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, Türkiye and the United Kingdom.

Introduction

District heating technology has developed rapidly since its origin and especially in recent times. Today, there are different generations of district heating networks. The technologies of these generations are driven by the different heat sources and operating temperatures used.

CEN/TC 107 provides a set of European standard series for rigid and flexible piping systems in district heating to suit all generations and requirements of district heating networks in the market.

The standard documents ensure quality for pre-fabricated piping systems in district heating.

This standard series covers flexible, pre-fabricated piping systems for operation conditions as described in the scope of this document.

EN 17878-1:2024 (E)

1 Scope

This document specifies classification, general requirements and test methods for flexible, factory made, buried district heating pipe systems.

This document is intended to be used only in conjunction with EN 17878-2 or EN 17878-3, as applicable.

This document is applicable to a maximum operating temperature of 80 °C and a maximum operating design pressure up to 1,0 MPa.

The pipe systems are designed for a service life of at least 50 years. For pipe systems with plastic service pipes, the respective temperature profiles are specified in EN 17878-2:2024 and EN 17878-3:2024.

For the transport of other liquids, for example potable water, additional requirements can be applicable.

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 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 12085, *Thermal insulating products for building applications — Determination of linear dimensions of test specimens*

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 14419, *District heating pipes — Bonded single and twin pipe systems for buried hot water networks — Surveillance systems*

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

EN 17878-2:2024, *District heating pipes — Factory made flexible pipe systems with a lower temperature profile — Part 2: Requirements and test methods for bonded systems with plastic service pipes*

EN 17878-3:2024, *District heating pipes — Factory made flexible pipe systems with a lower temperature profile — Part 3: Requirements and test methods for non bonded systems with plastic service pipes*

EN 60811-406:2012, *Electric and optical fibre cables — Test methods for non-metallic materials — Part 406: Miscellaneous tests — Resistance to stress cracking of polyethylene and polypropylene compounds*

EN ISO 845, *Cellular plastics and rubbers — Determination of apparent density (ISO 845)*

EN ISO 3127, *Thermoplastics pipes — Determination of resistance to external blows — Round-the-clock method (ISO 3127)*

EN ISO 9967, *Thermoplastics pipes — Determination of creep ratio (ISO 9967)*

EN ISO 9969, *Thermoplastics pipes — Determination of ring stiffness (ISO 9969)*

EN ISO 11357-6, *Plastics — Differential scanning calorimetry (DSC) — Part 6: Determination of oxidation induction time (isothermal OIT) and oxidation induction temperature (dynamic OIT) (ISO 11357-6)*

EN ISO 16871, *Plastics piping and ducting systems — Plastics pipes and fittings — Method for exposure to direct (natural) weathering (ISO 16871)*

ISO 6964, *Polyolefin pipes and fittings — Determination of carbon black content by calcination and pyrolysis — Test method*

ISO 16770, *Plastics — Determination of environmental stress cracking (ESC) of polyethylene — Full-notch creep test (FNCT)*

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