



NSAI
Standards

Irish Standard
I.S. EN 253:2009+A2:2015

District heating pipes - Preinsulated bonded pipe systems for directly buried hot water networks - Pipe assembly of steel service pipe, polyurethane thermal insulation and outer casing of polyethylene

I.S. EN 253:2009+A2:2015

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National Foreword

I.S. EN 253:2009+A2:2015 is the adopted Irish version of the European Document EN 253:2009+A2:2015, District heating pipes - Preinsulated bonded pipe systems for directly buried hot water networks - Pipe assembly of steel service pipe, polyurethane thermal insulation and outer casing of polyethylene

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EUROPEAN STANDARD

EN 253:2009+A2

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Supersedes EN 253:2009+A1:2013

English Version

**District heating pipes - Preinsulated bonded pipe systems
for directly buried hot water networks - Pipe assembly of
steel service pipe, polyurethane thermal insulation and
outer casing of polyethylene**

Tuyaux de chauffage urbain - Systèmes bloqués de
tuyaux préisolés pour les réseaux d'eau chaude
enterrés directement - Tube de service en acier,
isolation thermique en polyuréthane et tube de
protection en polyéthylène

Fernwärmerohre - Werkmäßig gedämmte
Verbundmantelrohrsysteme für direkt erdverlegte
Fernwärmenetze - Verbund-Rohrsystem, bestehend
aus Stahl-Mediumrohr, Polyurethan-Wärmedämmung
und Außenmantel aus Polyethylen

This European Standard was approved by CEN on 14 December 2012 and includes Amendment 2 approved by CEN on 17 July 2015.

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Contents

Page

European foreword.....	5
Introduction	6
1 Scope	7
2 Normative references.....	7
3 Terms and definitions	8
4 Requirements	10
4.1 General.....	10
4.2 Steel service pipe.....	11
4.2.1 Specification.....	11
4.2.2 Diameter.....	11
4.2.3 Wall thickness	12
4.2.4 Surface condition	13
4.3 Casing.....	14
4.3.1 Material properties	14
4.3.2 Casing properties	14
4.4 Polyurethane rigid foam insulation (PUR)	16
4.4.1 Composition	16
4.4.2 Cell structure	16
4.4.3 Compressive strength.....	16
4.4.4 Foam density.....	16
4.4.5 Water absorption at elevated temperature.....	16
4.5 Pipe assembly.....	17
4.5.1 General.....	17
4.5.2 Pipe ends	17
4.5.3 Diameter and wall thickness of the casing.....	17
4.5.4 Centre line deviation.....	18
4.5.5 Expected thermal life and long term temperature resistance.....	18
4.5.6 Thermal conductivity in unaged condition.....	18
4.5.7 Thermal conductivity at artificially aged condition	19
4.5.8 Impact resistance	19
4.5.9 Long term creep resistance and modulus	19
4.5.10 Surface conditions at delivery.....	19
4.5.11 Measuring wires for surveillance systems.....	19
5 Test methods	19
5.1 General conditions and test specimens	19
5.1.1 General conditions.....	19
5.1.2 Test specimens.....	19
5.2 Casing.....	20
5.2.1 Appearance and surface finish.....	20
5.2.2 Elongation at break	20
5.2.3 Carbon black dispersion, homogeneity.....	21
5.2.4 Stress crack resistance test	21
5.3 Polyurethane rigid foam insulation (PUR)	22
5.3.1 Composition	22
5.3.2 Cell structure	22

5.3.3	Compressive strength	22
5.3.4	5.3.4 Foam density	23
5.3.5	5.3.5 Water absorption	23
5.4	Pipe assembly	23
5.4.1	Axial shear strength.....	23
5.4.2	Tangential shear strength	25
5.4.3	Shear strength of the pipe assembly after ageing.....	27
5.4.4	Thermal conductivity in unaged condition	27
5.4.5	Thermal conductivity at artificially aged condition	27
5.4.6	Impact resistance.....	27
5.4.7	Long term creep resistance and modulus at 140 °C.....	27
6	Marking	30
6.1	General	30
6.2	Steel service pipe	30
6.3	Casing.....	30
6.4	Pipe assembly	31
Annex A	(informative) Relation between actual continuous operating conditions and accelerated ageing test conditions.....	32
Annex B	(informative) Calculation of the minimum expected thermal life with operation at various temperatures with respect to PUR foam performance.....	34
Annex C	(normative) $\overline{A_T}$ Calculated Continuous Operating Temperature (CCOT) $\overline{A_T}$	35
C.1	General	35
C.2	Principle.....	35
C.3	Symbols	35
C.4	Ageing and shear strength determinations	36
C.5	Calculations	36
C.5.1	Determination of the thermal life at different ageing temperatures	36
C.5.2	Adoption to the Arrhenius relation.....	36
C.5.3	Calculated continuous operating temperature, CCOT.....	37
Annex D	(informative) Guidelines for inspection and testing.....	38
D.1	General	38
D.2	Manufacturer's type test.....	38
D.3	Manufacturer's quality control.....	38
D.4	External inspection	38
D.5	Manufacturer's responsibility	38
Annex E	(informative) Radial creep behaviour of the polyurethane foam (PUR).....	42
Annex F	(normative) Thermal conductivity of pre-insulated pipes - Test procedure.....	43
F.1	Scope	43
F.2	Requirements (EN ISO 8497:1996, Clause 5)	43
F.2.1	Test specimen (EN ISO 8497:1996, 5.1).....	43
F.2.2	Operating temperature (EN ISO 8497:1996, 5.2).....	43
F.2.3	Types of apparatus (EN ISO 8497:1996, 5.5)	43

EN 253:2009+A2:2015 (E)

F.3	Apparatus (EN ISO 8497:1996, Clause 7)	43
F.3.1	Guarded end apparatus	43
F.3.2	Calibrated end apparatus	43
F.3.3	Dimensions (EN ISO 8497:1996, 7.2)	44
F.3.4	Heater pipe surface temperature	44
F.4	Test specimens (EN ISO 8497:1996, Clause 8).....	44
F.4.1	Conditioning (EN ISO 8497:1996, 8.4)	44
F.4.2	Dimension measurement (EN ISO 8497:1996, 8.5)	44
F.4.3	Surface temperature measurement	44
F.4.4	Location of temperature sensors (EN ISO 8497:1996, 8.6).....	44
F.5	Procedure (EN ISO 8497:1996, Clause 9)	44
F.5.1	Test length (EN ISO 8497:1996, 9.1.1)	44
F.5.2	Diameter (EN ISO 8497:1996, 8.5)	44
F.5.3	Thickness of casing	44
F.5.4	Ambient requirements (EN ISO 8497:1996, 9.2)	45
F.5.5	Test pipe temperature (EN ISO 8497:1996, 9.3).....	45
F.5.6	Power supply (EN ISO 8497:1996, 7.9).....	45
F.5.7	Ⓐ₂ Axial heat loss Ⓐ ₂	45
F.5.8	Test period and stability (EN ISO 8497:1996, 9.5.3).....	45
F.6	Calculations (EN ISO 8497:1996, Clause 11).....	45
F.6.1	Thermal conductivity (EN ISO 8497:1996, 3.5).....	45
F.7	Symbols and units (EN ISO 8497:1996 Clause 4).....	46
Annex G (informative) National A-deviations		48
G.1	Swedish national legislative deviations on steel service pipes	48
Annex H (informative) Main changes from the previous edition of EN 253		49
Annex I (informative) Waste treatment and recycling		52
Bibliography		53

European foreword

This document (EN 253:2009+A2:2015) has been prepared by Technical Committee CEN/TC 107 “Prefabricated district heating 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 2016, and conflicting national standards shall be withdrawn at the latest by April 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document includes Amendment 1, approved by CEN on 2012-12-14, and Amendment 2, approved by CEN on 2015-07-17.

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

This document supersedes A2 EN 253:2009+A1:2013 A2.

Annex H provides details of significant technical changes between this European Standard and the previous editions.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

EN 253:2009+A2:2015 (E)

Introduction

This specification is part of the standards for bonded systems using polyurethane foam thermal insulation applied to bond to a steel service pipe and a polyethylene casing.

The other standards from CEN/TC 107 covering this subject are:

EN 448, *District heating pipes – Preinsulated bonded pipe systems for directly buried hot water networks – Fitting assemblies of steel service pipes, polyurethane thermal insulation and outer casing of polyethylene;*

EN 488, *District heating pipes – Preinsulated bonded pipe systems for directly buried hot water networks – Steel valve assembly for steel service pipes, polyurethane thermal insulation and outer casing of polyethylene;*

EN 489, *District heating pipes – Preinsulated bonded pipe systems for directly buried hot water networks – Joint assembly for steel service pipes, polyurethane thermal insulation and outer casing of polyethylene;*

EN 13941, *Design and installation of preinsulated bonded pipe systems for district heating;*

EN 14419, *District heating pipes – Preinsulated bonded pipe systems for directly buried hot water networks – Surveillance systems;*

EN 15698-1, *District heating pipes – Preinsulated bonded twin pipe systems for directly buried hot water networks – Part 1: Twin pipe assembly of steel service pipe, polyurethane thermal insulation and outer casing of polyethylene*

1 Scope

This European Standard specifies requirements and test methods for straight lengths of prefabricated thermally insulated pipe-in-pipe assemblies for directly buried hot water networks, comprising a steel service pipe from DN 15 to DN 1200, rigid polyurethane foam insulation and an outer casing of polyethylene. The pipe assembly may also include the following additional elements: measuring wires, spacers and diffusion barriers.

This standard applies only to insulated pipe assemblies, for continuous operation with hot water at various temperatures up to 120 °C and occasionally with a peak temperature up to 140 °C.

The estimation of expected thermal life with continuous operation at various temperatures is outlined in Annex B.

2 Normative references

The following referenced documents are indispensable for the application 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 489, *District heating pipes – Preinsulated bonded pipe systems for directly buried hot water networks – Joint assembly for steel service pipes, polyurethane thermal insulation and outer casing of polyethylene*

EN 728, *Plastics piping and ducting systems – Polyolefin pipes and fittings – Determination of oxidation induction time*

EN 10204, *Metallic products – Types of inspection documents*

EN 10216-2, *Seamless steel tubes for pressure purposes – Technical delivery conditions – Part 2: Non-alloy and alloy steel tubes with specified elevated temperature properties*

EN 10217-1, *Welded steel tubes for pressure purposes – Technical delivery conditions - Part 1: Non-alloy steel tubes with specified room temperature properties*

EN 10217-2, *Welded steel tubes for pressure purposes – Technical delivery conditions – Part 2: Electric welded non-alloy and alloy steel tubes with specified elevated temperature properties*

EN 10217-5, *Welded steel tubes for pressure purposes – Technical delivery conditions – Part 5: Submerged arc welded non-alloy and alloy steel tubes with specified elevated temperature properties*

EN 10220, *Seamless and welded steel tubes – Dimensions and masses per unit length*

EN 13941, *Design and installation of preinsulated bonded pipe systems for district heating*

EN 14419, *District heating pipes – Preinsulated bonded pipe systems for directly buried hot water networks – Surveillance systems*

EN ISO 1133:2005, *Plastics – Determination of the melt mass-flow rate (MFR) and the melt volume-flow rate (MVR) of thermoplastics (ISO 1133:2005)*

EN ISO 2505, *Thermoplastics pipes – Longitudinal reversion – Test methods and parameters (ISO 2505:2005)*

EN ISO 3126, *Plastics piping systems – Plastics components – Determination of dimensions (ISO 3126:2005)*

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