SLOVENSKI STANDARD
SIST EN 15698-2:2015

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Cevi za daljinsko ogrevanje - Izolirani vezani dvocevni sistemi za podzemeljska toplovodna omrežja - 2. del: Sestav fitingov in ventilov iz jeklene cevi, poliuretanske toplotne izolacije in zunanjega polietilenskega plašča

District heating pipes - Preinsulated bonded twin pipe systems for directly buried hot water networks - Part 2: Fitting and valve assembly of steel service pipes, polyurethane thermal insulation and outer casing of polyethylene

Fernwärmerohre - Werkmäßig gedämmte Verbundmanteldoppelrohre für direkt erdverlegte Fernwärmenetze - Teil 2: Verbundformstück und vorgedämmte Absperrarmatur, bestehend aus Stahl-Mediumrohr, Polyurethan-Wärmedämmung und Außenmantel aus Polyethylen

Tuyaux de chauffage urbain - Systèmes bloqués de tuyaux pré-isolés pour les réseaux d'eau chaude directement enterrés - Partie 2: Assemblages de raccords et d'appareils de robinetterie pour tubes de service en acier, isolation thermique en polyuréthane et protection extérieure unique en polyéthylène

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District heating pipes - Preinsulated bonded twin pipe systems for directly buried hot water networks - Part 2: Fitting and valve assembly of steel service pipes, polyurethane thermal insulation and outer casing of polyethylene

Tuyaux de chauffage urbain - Systèmes bloqués de bitubes préisolés pour les réseaux d'eau chaude enterrés directement - Partie 2 : Assemblages de raccords et d'appareils de robinetterie pour tubes de service en acier, isolation thermique en polyuréthane et protection extérieure unique en polyéthylène

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

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Contents

Page

European foreword

This document (EN 15698-2:2015) has been prepared by Technical Committee CEN/TC 107 “Prefabricated district heating and district cooling pipe system”, 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of an identical text or by endorsement, at the latest by February 2016 and conflicting national standards shall be withdrawn at the latest by February 2016.

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Introduction

EN 15698-1:2009 was published with the following title: *'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'*.

EN 15698-2 is a complement to the following existing European Standards for district heating bonded single and twin pipe systems:

— 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 15698-2 gives additional requirements for fitting and valve assemblies used in bonded twin pipe systems.

Waste management and recycling of materials is dealt with in Annex A.

Other standards from CEN/TC 107 are:

— EN 253, *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*;

— 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 15632 (all parts), *District heating pipes - Pre-insulated flexible pipe systems*.

1 Scope

This European Standard specifies requirements and test methods for fittings of prefabricated thermally insulated twin pipe assemblies comprising steel service fittings and/or valves from DN 15 to DN 250, rigid polyurethane foam insulation and an outer casing of polyethylene for use in directly buried hot water networks with preinsulated twin pipe assemblies in accordance with EN 15698-1:2009.

This European Standard covers the following:

— fitting assemblies, such as T-pieces, reducers and anchors;

— valve assemblies.

This European Standard applies only to insulated fitting assemblies for continuous operation with hot water at various temperatures in accordance with the scope EN 15698-1:2009.

This European Standard applies to fitting and valve assemblies with a minimum design pressure of 16 bar (overpressure) complying with EN 13941.

Guidelines for quality inspection and testing of fitting assemblies are given in EN 448:2015, Annex A and EN 15698-1:2009, Annex A.

Guidelines for quality inspection and testing of valve assemblies are given in EN 488:2015, Annex A and EN 15698 -1:2009, Annex A.

Procedures for PE-welding are given in EN 448:2015, Annex B.

NOTE This European Standard does not include rules for calculation of loads and stresses.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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*

EN 448:2015, *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 488:2015, *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 10204, *Metallic products - Types of inspection documents*

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 15698-1:2009, *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*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 253:2009+A2:2015 and the following apply.

3.1
anchor
construction used to transfer the loads from the steel service pipe through the insulation and the casing to a fixed point

3.2
bending angle
α
deviation in direction of the steel pipe centre lines

3.3
butt welding bend
bend manufactured either by hot bending of steel pipe or by hot forming of steel plates that are subsequently welded together

3.4
transition assembly
preinsulated fitting to connect single and twin pipe

3.5
cap
not pre-insulated fitting to be welded on the end of a pipe or pipe element

3.6
cold formed bend
bend manufactured by cold bending of steel pipe

3.7
fitting
reducer, tee, factory-made elbow and bend, cap, welding stub, mechanical joint

3.8
fixing bars
steel plates used for bonding of flow and return pipes to eliminate various expansions of straight pipe sections on the fittings

3.9
forged T-piece
T-piece manufactured by hot forming of either steel pipes or steel plates that are subsequently welded together

3.10
horizontal bend
bend in the horizontal plane

3.11
house entry bend
bend assembly with 90° twisted service pipe used for house connections

3.12
hot formed bend
bend manufactured by heating pipe during bending

3.13
induction bend
bend manufactured by induction bending

3.14
induction bending
continuous bending process that utilizes induction heating to create a narrow, circumferential, heated band around the material being bent

3.15
joint end
end of the assembly (300 mm long, measured from end of service pipe) which is prepared for connection to another assembly (service pipe welded together and casing connected with a joint)

3.16
nominal size
DN
numerical metric designation of size, common to components in piping systems which are used for reference purposes

3.17
reducer
butt welding fitting to be welded between steel pipes or fittings of different diameters

3.18
single pipe assembly
technical solution of district heating pipes with one steel service pipe in one casing

[SOURCE: EN 15698-1:2009, 3.1]

3.19
twin pipe assembly
technical solution of district heating pipes with two steel service pipes in one casing

[SOURCE: EN 15698-1:2009, 3.2]

3.20
twisting of service pipes
tendency of the service pipes of a twin pipe assembly to twist around each other

[SOURCE: EN 15698-1:2009, 3.3]

3.21
vertical bend
bend in the vertical plane

3.22
surveillance system
system that consists of measuring sections and measuring instruments for surveillance of pipe systems according to EN 14419

3.23
welded T-piece
butt welding fitting manufactured by welding together pieces of steel pipes with or without the use of a welding saddle or a drawn collar on the main pipe