SLOVENSKI STANDARD
oSIST prEN 15698-2:2018

01-april-2018

Cevi za daljinsko ogrevanje - Poviti dvocevni sistemi za neposredno vkopana vročevodna omrežja - 2. del: Tovarniško izdelan sestav fitingov in ventilov iz jeklene cevi, poliuretanske toplotne izolacije in zunanjega polietilenskega plašča

District heating pipes - Bonded twin pipe systems for directly buried hot water networks - Part 2: Factory made fitting and valve assemblies of steel service pipes, polyurethane thermal insulation and one casing of polyethylene

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

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

Ta slovenski standard je istoveten z: **prEN 15698-2**

ICS:

23.040.07	Cevovodi za daljinsko ogrevanje in njihovi deli	Pipeline and its parts for district heat
23.040.10	Železne in jeklene cevi	Iron and steel pipes
91.140.10	Sistemi centralnega ogrevanja	Central heating systems

oSIST prEN 15698-2:2018 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 15698-2

February 2018

ICS 23.040.07

Will supersede EN 15698-2:2015

English Version

District heating pipes - Bonded twin pipe systems for directly buried hot water networks - Part 2: Factory made fitting and valve assemblies of steel service pipes, polyurethane thermal insulation and one casing of polyethylene

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

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This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 107.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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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.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (prEN 15698-2:2018) 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 document is currently submitted to the CEN Enquiry.

This document will supersede EN 15698-2:2015.

In comparison with the previous edition, the main changes in EN 15698-2 are:

— editorial changes to the new structure of standards prepared by the Technical Committee CEN/TC 107.

EN 15698 is currently composed with the following parts:

— *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 a casing of polyethylene* [new edition currently at Enquiry stage];

— *District heating pipes — Bonded twin pipe systems for directly buried hot water networks — Part 2: Factory made fitting and valve assemblies of steel service pipes, polyurethane thermal insulation and one casing of polyethylene* [the present Enquiry draft].

Introduction

EN 15698-2 is Part 2 of the EN15698 series.

This standard has been elaborated as a complement to the standards for bonded pipe systems for buried hot water networks using steel service pipe and polyurethane foam thermal insulation and one casing of polyethylene.

These standards 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 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*;

— prEN 489-1, *District heating pipes — Bonded single and twin pipe systems for buried hot water networks — Part 1: Joint casing assemblies and thermal insulation for hot water networks in accordance with EN 13941-1*;

— prEN 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*;

— prEN 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 11419, *District heating pipes — Preinsulated bonded pipe systems for directly buried hot water networks — Surveillance systems*;

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

— prEN 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 a casing of polyethylene*.

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

1 Scope

This document specifies requirements and test methods for fittings of factory made thermally insulated bonded twin pipe assemblies for hot water networks in accordance with prEN 13941-1, comprising two steel service fittings and/or valves, rigid polyurethane foam insulation and one casing of polyethylene.

The pipe assembly can also include the following additional elements: Measuring wires, spacers and diffusion barriers.

This document covers the following assemblies:

— fittings: bends, T-pieces, reducers and anchors;

— valves constructions.

This document applies to fitting and valve assemblies with a minimum design pressure of 16 bar (overpressure).

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 253:2009+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, *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 736-1, *Valves — Terminology — Part 1: Definition of types of valves*

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

prEN 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 — Preinsulated bonded pipe systems for directly buried hot water networks — Surveillance systems*

prEN 15698-1:2017, *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 a casing of polyethylene*

3 Terms and definitions

For the purposes of this document, the terms and definitions for types of valves given in EN 736-1 apply.

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 http://www.iso.org/obp

4 Requirements

4.1 General

The material of the fitting and valve steel parts shall be certified, in accordance with EN 10204. If traceability on materials is required by the end user, it shall be specified at the time of ordering. Corresponding material certificates shall be delivered to the end user if specified at the time of ordering.

All components shall be designed in accordance with prEN 13941-1, for the actions and stresses that normally occur during a system's entire service life.

4.2 Steel parts

The quality of service pipe material used for the assembly of fittings and valves shall be in accordance with prEN 13941-1. The dimensions of the steel parts, such as wall thickness and diameter and components shall be in accordance with EN 448.

4.3 Welding of steel parts

4.3.1 Welding of steel pipes and elements

Fusion welding between the steel parts in different fitting and valve assemblies shall be in accordance with EN 448.

The quality of the steel ends of the fittings shall match with the steel service pipes.

4.3.2 Welding of fixing bars

The fixing bars shall be welded to the pipes according to the requirements of prEN 13941-1.

4.3.3 Placing of the fixing bars

Fixing bars shall be welded to the straight part of the twin pipe fittings at

— transition assembly at the twin pipe part of fitting assemblies,

— horizontal and vertical bends from both sides of bended area,

— reducers at the largest pipe diameter,

— tees at branch pipes,

— valve assemblies from both sides of the valve,

— venting and draining fitting assemblies at the main pipe from both sides of the fitting assembly.

4.4 Casing

The casing materials, casing properties and dimensions shall be in accordance with prEN 15698-1. Casing shall be tested according the requirements of prEN 15698-1.

4.5 Polyurethane rigid foam thermal insulation (PUR)

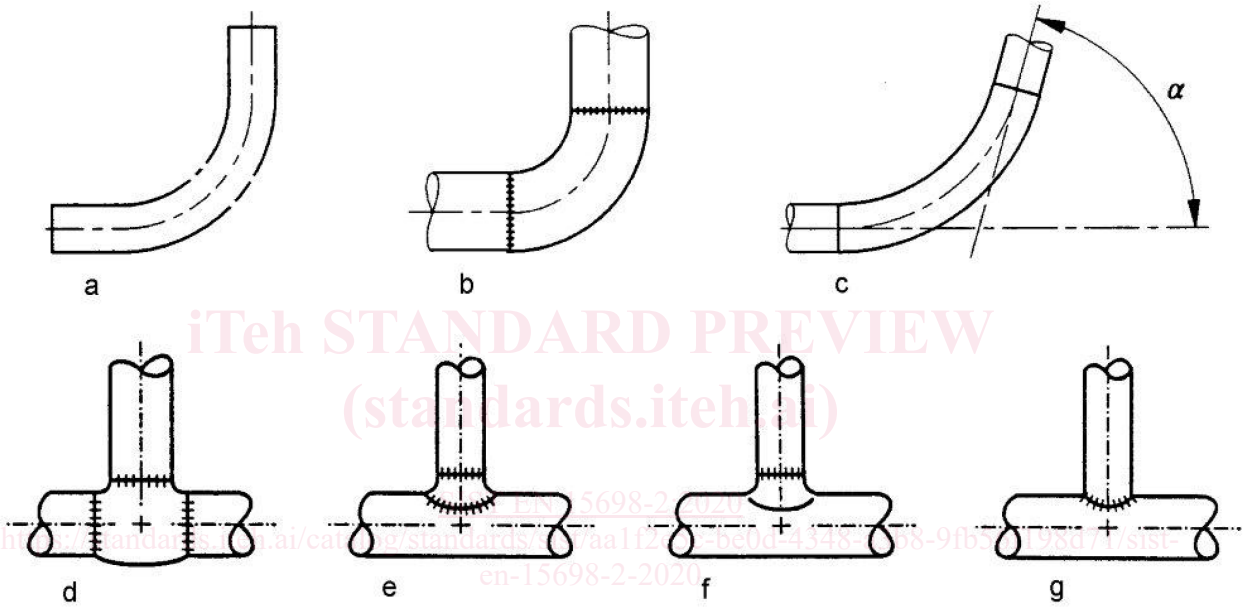
Material and thermal insulation properties shall be specified and tested as specified in prEN 15698-1.

4.6 Fitting and valve assemblies

At the joint end, the isolation thickness shall meet the requirements of prEN 15698-1. The isolation thickness inside the fitting and valve assemblies can vary, depending on the construction and shall at any point have a minimum isolation thickness of 15 mm, between service pipe and casing

Valve assemblies shall meet the requirements of EN 488. The centre line and angular deviation shall be according to prEN 15698-1. Fitting assemblies shall meet the requirements of EN 448. The centre line and angular deviation shall be according to prEN 15698-1. Centre line deviation and out of roundness are measured as 3 × 2 linear measurements (see A, B and C in Figure 1).

Limits at joint end for all three measurements shall be (max. – min.) ≤ 2 × (max. centre line deviation, EN 253:2009+A2:2015, Table 7).



Key

A the 2 smallest distances from service pipe to casing surface expressed in millimetres (mm)

B the 2 long distances from service pipe casing surface expressed in millimetres (mm)

C diameter expressed in millimetres (mm)

Figure 1 — Centre line deviations

The distance between the flow and return steel service pipes, at the joint ends, shall be in accordance with prEN 15698-1:2017, Table 2.

The distance inside the fitting- and valve assemblies can vary on the condition that welding is still possible.

4.7 Requirements for effective operation and maintenance

Effective operation and maintenance shall meet the requirements of EN 488.

4.8 Surveillance system

If a surveillance system is installed, it shall comply with EN 14419.

5 Test methods

The testing of the fitting assemblies shall be tested according to the requirements of EN 448.

The valves for supply and return pipes shall be tested according to the requirements of EN 488.

6 Marking

6.1 General

The fitting and valve assemblies shall be marked by any suitable method which does not affect the functional properties of the casing, and which is able to withstand conditions of handling, storage and use.

6.2 Steel service pipe

The steel service pipe shall be marked, according to the requirements on marking given in EN 448. Steel service pipe cut to length are only marked if traceability on materials is required by the end user at the time of ordering.

It is sufficient to mark a steel pipe, which is cut to length, with the cast number (heat number) according to EN 448.

6.3 Casing

The casing of the fitting shall be marked, according to the requirements on marking given in EN 448. Casing cut to length can miss marking. Nominal diameter and wall thickness of all joint ends of the fitting assembly shall be written on a label.

6.4 Fitting assembly

The fitting assembly shall be marked, according to the requirements on marking given in EN 448.

6.5 Steel valves and valve assembly

The steel valves and valve assembly shall be marked accordingly to the requirements on marking given in EN 488.