
Cevi za daljinsko ogrevanje - Izolirani vezani dvocevni sistemi za podzemeljska toplovodna omrežja - 2. del: Sestav fittingov 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

Ta slovenski standard je istoveten z: prEN 15698-2

ICS:

23.040.10	Železne in jeklene cevi	Iron and steel pipes
91.140.10	Sistemi centralnega ogrevanja	Central heating systems

oSIST prEN 15698-2:2014

en,fr,de

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 15698-2

November 2013

ICS 23.040.10

English Version

**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 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

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

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.

This draft European Standard was established by CEN 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.

CEN members are the national standards bodies of 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 United Kingdom.

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.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	3
Introduction	3
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
4 Requirements	8
4.1 General.....	8
4.2 Steel parts.....	8
4.3 Welding of steel parts	8
4.4 Casing	9
4.5 Polyurethane rigid foam insulation (PUR)	9
4.6 Fitting and valve assemblies	9
4.7 Requirements for effective operation and maintenance	9
4.8 Surveillance system	10
5 Test methods.....	10
6 Marking	10
6.1 General.....	10
6.2 Steel service pipe.....	10
6.3 Casing	10
6.4 Fittings assembly.....	10
6.5 Steel valves and valves assembly	10
Annex A (informative) Examples of fitting and valve assemblies.....	11
Annex B (informative) Waste treatment and recycling.....	17

Foreword

This document (prEN 15698-2:2013) 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 document is currently submitted to the CEN Enquiry.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 15698-2:2015

<https://standards.iteh.ai/catalog/standards/sist/42f00313-e879-4e30-b4e7-30a0bc101d7f/sist-en-15698-2-2015>

Introduction

In 2009 EN 15698-1 'Twin pipe assembly of steel service pipe, polyurethane thermal insulation and outer casing of polyethylene' was published.

prEN 15698-2 is a complement to the existing standards for district heating bonded single and twin pipe systems. This standard gives additional requirements for fitting and valve assemblies used in bonded twin pipe systems. These standards 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.

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

Other standards from 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;

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 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.

This European Standard covers the following:

- fittings: bends, T-pieces, reducers and anchors;
- valves constructions.

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.

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 fittings assemblies are given in EN 448, Annex A and EN 15698-1, Annex A.

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

Procedures for PE-welding are given in Annex B of EN 448.

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

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 253:2009+A1:2013, *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 448:2009, *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 488:2011, *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 and EN 15698-1, and the following apply.

3.1

anchor

steel construction used to transfer the axial load 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 which are subsequently welded together

3.4

cap

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

3.5

cold formed bend

bend manufactured by cold bending of steel pipe

3.6

fitting

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

3.7

forged T-piece

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

3.8

horizontal bend

bend in the horizontal plane

3.9

hot formed bend

bend manufactured by heating pipe during bending

3.10

induction bend

bend manufactured by induction bending

3.11

induction bending

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

3.12**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)

3.13**nominal size, DN**

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

3.14**reducer**

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

3.15**single pipe assembly**

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

3.16**twin pipe assembly**

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

3.17**twisting of service pipes**

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

3.18**vertical bend**

bend in the vertical plane

3.19**surveillance system**

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

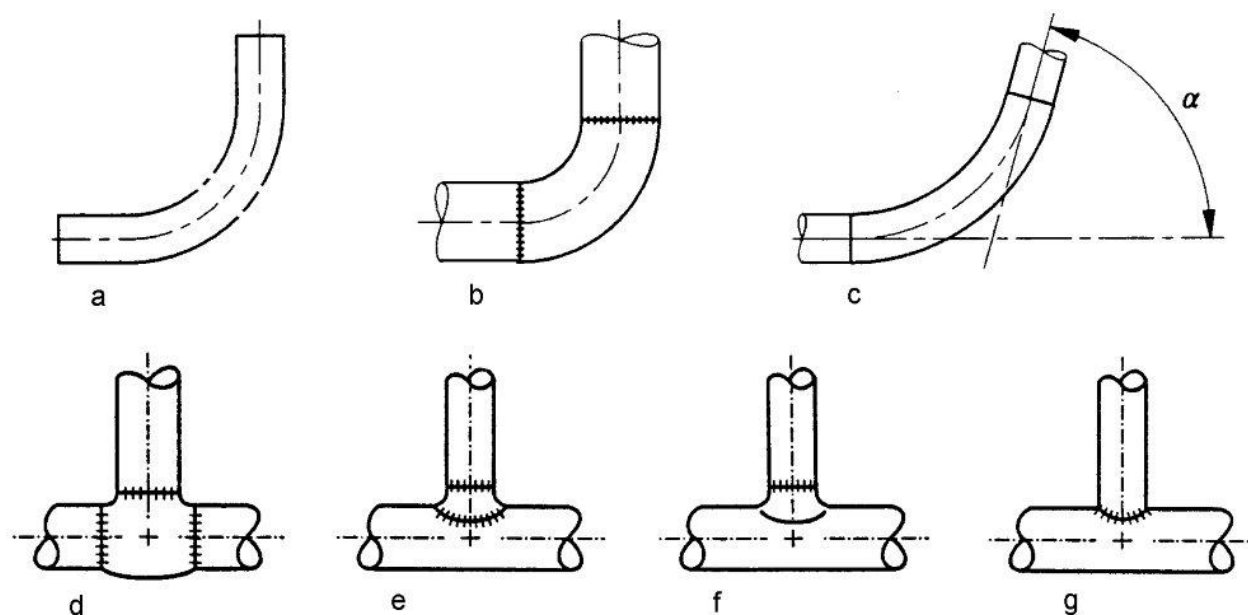
3.20**welded T-piece**

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

3.21**welding saddle**

butt welding fitting to be welded into the main pipe for the welded connection between the main pipe and the branch pipe in a T-piece

Note 1 to entry: For examples of fittings see Figure 1 (source EN 448).



Key

- | | | | |
|---|-----------------------------|---|-----------------------------|
| a | Cold or hot formed bends | e | T-piece with welding saddle |
| b | Butt welding bend or elbows | f | T-piece with drawn collar |
| c | Bending angle, α | g | Directly welded T-piece |
| d | Forged T-piece | | |

Figure 1 — Examples of fittings

SIST EN 15698-2:2015

<https://standards.iteh.ai/catalog/standards/sist/42f00313-e879-4e30-b4e7-30a0bc101d7f/sist-en-15698-2-2015>

4 Requirements

4.1 General

The material of pressurized steel parts shall be certified, with a 3.1 material certificate, 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 EN 13941, for the actions and stresses that normally occur during a system's entire service life.

4.2 Steel parts

The requirements for the quality of the dimensions of the steel parts, such as wall thickness and diameter and components shall be in accordance with EN 448, 4.1.2 to 4.1.7, 4.1.9 and 4.1.11.

4.3 Welding of steel parts

Fusion welding between the steel parts in different fitting and valve assemblies shall be in accordance with EN 448, 4.1.10.

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