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



#### EESTI STANDARDI EESSÕNA

#### NATIONAL FOREWORD

			This Estonian standard EVS-EN 15698-2:2015 consists of the English text of the European standard EN 15698-2:2015.
Standard on jõustu avaldamisega EVS Teat		e teate	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimise Euroopa standardi kättesaadavaks 12.08.2	rahvuslikele li		Date of Availability of the European standard is 12.08.2015.
Standard on Standardikeskusest.	kättesaadav	Eesti	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile <u>standardiosakond@evs.ee</u>.

#### ICS 23.040.10

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega: Aru 10, 10317 Tallinn, Eesti; koduleht <u>www.evs.ee</u>; telefon 605 5050; e-post <u>info@evs.ee</u>

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Aru 10, 10317 Tallinn, Estonia; homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

# EUROPEAN STANDARD

### EN 15698-2

# NORME EUROPÉENNE

**EUROPÄISCHE NORM** 

August 2015

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 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

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 European Standard was approved by CEN on 3 July 2015.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists 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.



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

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

	ents	Page
		•
•	ean foreword	
itrodi	uction	
	Scope	5
	Normative references	5
	Terms and definitions	6
	Requirements	8
1	General	
2	Steel parts	9
3	Welding of steel parts	
3.1	Welding of steel pipes and elements	9
3.2	Welding of fixing bars	9
3.3	Placing of the fixing bars	9
4	Casing	9
5	Polyurethane rigid foam insulation (PUR)	
6	Fitting and valve assemblies	
7	Requirements for effective operation and maintenance	
8	Surveillance system	10
	Test methods	
	Marking	10
1	General	
2	Steel service pipe	
3	Casing	
4	Fitting assembly	11
5	Steel valves and valve assembly	
	A (normative) Waste treatment and recycling	
	B (informative) Examples of twin pipe fitting assemblies	

## **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.

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.

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, Swe, South Control of the Control of Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

#### 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