

**District heating pipes - Pre-insulated flexible pipe systems - Part4: Bonded system with metal service pipes; requirements and test methods**

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 15632-4:2009 sisaldab Euroopa standardi EN 15632-4:2009 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 23.02.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 14.01.2009.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 15632-4:2009 consists of the English text of the European standard EN 15632-4:2009.

This standard is ratified with the order of Estonian Centre for Standardisation dated 23.02.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 14.01.2009.

The standard is available from Estonian standardisation organisation.

ICS 23.040.01

Võtmesõnad:

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English Version

## District heating pipes - Pre-insulated flexible pipe systems - Part 4: Bonded system with metal service pipes; requirements and test methods

Tuyaux de chauffage urbain - Systèmes de tuyaux flexibles préisolés - Partie 4: Système bloqué avec tube de service en métal - Prescriptions et méthodes d'essai

Fernwärmerohre - Werkmäßig gedämmte flexible Rohrsysteme - Teil 4: Verbundmediumrohre aus Metall - Anforderungen und Prüfungen

This European Standard was approved by CEN on 5 December 2008.

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 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 Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

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## Foreword

This document (EN 15632-4:2009) 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 July 2009, and conflicting national standards shall be withdrawn at the latest by July 2009.

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 is one of a series of standards which form several parts of EN 15632, *District heating pipes — Pre-insulated flexible pipe systems*:

Part 1: *Classification, general requirements and test methods*;

Part 2: *Bonded system with plastic service pipes; requirements and test methods*;

Part 3: *Non bonded system with plastic service pipes; requirements and test methods*;

Part 4: *Bonded system with metal service pipes; requirements and test methods*.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

## Introduction

Pre-insulated flexible bonded pipe systems with metallic service pipes are used in district and local heating networks.

This part of the series of standards for the various types of flexible pipe systems is intended to be used in connection with EN 15632-1 where the basic design criteria for flexible district heating pipes are specified.

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## 1 Scope

This European Standard provides requirements and test methods for flexible, pre-insulated, directly buried district heating pipe assemblies with metallic service pipes and bonding between the layers of the pipes and thermal insulation materials of polyurethane or polyisocyanurate foam, the casing pipes being made of polyethylene.

This European Standard is valid for maximum operating temperatures up to 140 °C and pressures up to 25 bar for a design lifetime of at least 30 years.

NOTE For higher temperatures or for the transport of other fluids, for example potable water, additional requirements and testing is needed. Such requirements are not specified in this European Standard.

## 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 1057, *Copper and copper alloys — Seamless, round copper tubes for water and gas in sanitary and heating applications*

EN 10088-2, *Stainless steels — Part 2: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general purposes*

EN 10246-1, *Non destructive testing of steel tubes — Part 1: Automatic electromagnetic testing of seamless and welded (except submerged arc welded) ferromagnetic steel tubes for verification of hydraulic leak-tightness*

EN 10305-1, *Steel tubes for precision applications — Technical delivery conditions — Part 1: Seamless cold drawn tubes*

EN 10305-2, *Steel tubes for precision applications — Technical delivery conditions — Part 2: Welded cold drawn tubes*

EN 12449, *Copper and copper alloys — Seamless, round tubes for general purposes*

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 15632-1:2009, *District heating pipes – Pre-insulated flexible pipe systems – Part 1: Classification, general requirements and test methods*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 15632-1:2009 shall apply.