District heating pipes - Pre-insulated flexible pipe systems - Part 2: Bonded plastic service pipes - Requirements and test methods



FESTI STANDARDI FESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 15632-2:2010 sisaldab Euroopa standardi EN 15632-2:2010 ingliskeelset teksti.

This Estonian standard EVS-EN 15632-2:2010 consists of the English text of the European standard EN 15632-2:2010.

Standard on kinnitatud Eesti Standardikeskuse 31.03.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

This standard is ratified with the order of Estonian Centre for Standardisation dated 31.03.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 03.02.2010.

Date of Availability of the European standard text 03.02.2010.

Standard on kättesaadav Eesti standardiorganisatsioonist.

The standard is available from Estonian standardisation organisation.

ICS 23.040.01

Standardite reprodutseerimis- ja levitamisõigus kuulub Eesti Standardikeskusele

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

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega: Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

Right to reproduce and distribute Estonian 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 permission in writing from Estonian Centre for Standardisation.

If you have any questions about standards copyright, please contact Estonian Centre for Standardisation: Aru str 10 Tallinn 10317 Estonia; www.evs.ee; Phone: +372 605 5050; E-mail: info@evs.ee

EUROPEAN STANDARD NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 15632-2

February 2010

ICS 23.040.01

English Version

District heating pipes - Pre-insulated flexible pipe systems - Part 2: Bonded plastic service pipes - Requirements and test methods

Tuyaux de chauffage urbain - Systèmes de tuyaux flexibles préisolés - Partie 2: Système bloqué avec tube de service en plastique - Prescriptions et méthodes d'essai Fernwärmerohre - Werkmäßig gedämmte flexible Rohrsysteme - Teil 2: Verbundrohrsysteme mit Mediumrohren aus Kunststoff - Anforderungen und Prüfungen

This European Standard was approved by CEN on 10 December 2009.

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.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, 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 United Kingdom.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

d			
			3
tion			
cope			
erms and definitions			6
perating temperatures and service life			6
ervice pipes and fittings			6
xial shear strength			7
Vater vapour permeation			7
est procedures			7
General			7
xial shear stress			8
		O O O	
			5_
	erms and definitions	erms and definitions	lormative references erms and definitions classification. Departing temperatures and service life operating pressures dequirements deneral requirements. devervice pipes and fittings duality. Daygen tightness uxial shear strength dinear water tightness Vater vapour permeation dest procedures deneral demperature cycle test dial shear stress dinear water tightness dinformative) Application of Miner's Rule

Foreword

This document (EN 15632-2:2010) 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 August 2010, and conflicting national standards shall be withdrawn at the latest by August 2010.

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, Croatia, 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 plastic service pipes are used in district and local heating networks.

ndarc, which s₁. 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 which specifies the basic design criteria for flexible district heating pipes.

1 Scope

This European Standard provides requirements and test methods for flexible, pre-insulated, directly buried heating pipes with plastics service pipes and bonding between the layers of the pipes.

This European Standard is valid for maximum operating temperatures of 95 °C and maximum operating pressures up to 10 bar for a design lifetime of at least 30 years.

This European Standard does not cover surveillance systems.

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

EN ISO 15875-1, Plastics piping systems for hot and cold water installations — Crosslinked polyethylene (PE-X) — Part 1: General (ISO 15875-1:2003)

EN ISO 15875-2:2003, Plastics piping systems for hot and cold water installations — Crosslinked polyethylene (PE-X) — Part 2: Pipes (ISO 15875-2:2003)

EN ISO 15875-3, Plastics piping systems for hot and cold water installations — Crosslinked polyethylene (PE-X) — Part 3: Fittings (ISO 15875-3:2003)

EN ISO 15875-5:2003, Plastics piping systems for hot and cold water installations — Crosslinked polyethylene (PE-X) — Part 5: Fitness for purpose of the system (ISO 15875-5:2003)

EN ISO 15876-1, Plastics piping systems for hot and cold water installations — Polybutylene (PB) — Part 1: General (ISO 15876-1:2003)

EN ISO 15876-2, Plastics piping systems for hot and cold water installations — Polybutylene (PB) — Part 2: Pipes (ISO 15876-2:2003)

EN ISO 15876-3, Plastics piping systems for hot and cold water installations — Polybutylene (PB) — Part 3: Fittings (ISO 15876-3:2003)

EN ISO 15876-5, Plastics piping systems for hot and cold water installations — Polybutylene (PB) — Part 5: Fitness for purpose of the system (ISO 15876-5:2003)

EN ISO 21003-2, Multilayer piping systems for hot and cold water installations inside buildings – Part 2: Pipes (ISO 21003-2:2008)

ISO 10147, Pipes and fittings made of crosslinked polyethylene (PE-X) — Estimation of the degree of crosslinking by determination of the gel content

ISO 17455, Plastics piping systems — Multilayer pipes — Determination of the oxygen permeability of the barrier pipe