Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure - Unplasticized poly(vinyl chloride) (PVC-U) - Part 2: Pipes

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NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 1452-2:2010 sisaldab Euroopa standardi EN ISO 1452-2:2009 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 1452-2:2010 consists of the English text of the European standard EN ISO 1452-2:2009.
Standard on kinnitatud Eesti Standardikeskuse 28.02.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 28.02.2010 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 01.12.2009.	Date of Availability of the European standard text 01.12.2009.
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English Version

Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure - Unplasticized poly(vinyl chloride) (PVC-U) - Part 2: Pipes (ISO 1452-2:2009)

Systèmes de canalisations en plastique pour l'alimentation en eau, pour branchements et collecteurs d'assainissement enterrés et aériens avec pression - Poly(chlorure de vinyle) non plastifié (PVC-U) - Partie 2: Tubes (ISO 1452-2:2009)

Kunststoff-Rohrleitungssysteme für die Wasserversorgung und für erdverlegte und nicht erdverlegte Entwässerungs- und Abwasserdruckleitungen - Weichmacherfreies Polyvinylchlorid (PVC-U) - Teil 2: Rohre (ISO 1452-2:2009)

This European Standard was approved by CEN on 4 November 2009.

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Foreword

This document (EN ISO 1452-2:2009) has been prepared by Technical Committee CEN/TC 155 “Plastics piping systems and ducting systems", the secretariat of which is held by NEN, in collaboration with Technical Committee ISO/TC 138 "Plastics pipes, fittings and valves for the transport of fluids".

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of an identical text or by endorsement, at the latest by June 2010, and conflicting national standards shall be withdrawn at the latest by June 2010.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 supersedes EN 1452-2:1999, EN 1456-1:2001.

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.

Contents

Page

Introduction

The System Standard, of which this is Part 2, specifies the requirements for a piping system and its components made from unplasticized poly(vinyl chloride) (PVC-U). The piping system is intended to be used for water supply and for buried and above-ground drainage and sewerage under pressure.

In respect of potential adverse effects on the quality of water intended for human consumption, caused by the products covered by this part of ISO 1452, the following are relevant.

a) This part of ISO 1452 provides no information as to whether or not the products can be used without restriction.

b) Existing national regulations concerning the use and/or the characteristics of these products remain in force.

Requirements and test methods for material and components, other than pipes, are specified in ISO 1452-1, ISO 1452-3 and ISO 1452-4. Characteristics for fitness for purpose (mainly for joints) are established in ISO 1452-5.

This part of ISO 1452 specifies the characteristics of pipes.

Guidance for installation is given in ISO/TR 4191[1].

Guidance for assessment of conformity is provided in ENV 1452-7[2].

Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure — Unplasticized poly(vinyl chloride) (PVC-U) —

Part 2: **Pipes**

1 Scope

This part of ISO 1452 specifies the characteristics of solid-wall pipes made from unplasticized poly(vinyl chloride) (PVC-U) for piping systems intended for water supply and for buried and above-ground drainage and sewerage under pressure.

It also specifies the test parameters for the test methods referred to in this part of ISO 1452.

In conjunction with ISO 1452-1 and ISO 1452-5, it is applicable to extruded PVC-U pipes without a socket and pipes with a socket (integral or not), intended to be used for the following:

a) water mains and services buried in the ground;

b) conveyance of water above ground for both outside and inside buildings;

c) buried and above-ground drainage and sewerage under pressure.

It is applicable to piping systems intended for the supply of water under pressure up to and including 25 °C (cold water) intended for human consumption and for general purposes as well as for waste water under pressure.

This part of ISO 1452 specifies pipes for the conveyance of water and waste water up to and including 45 °C. For temperatures between 25 °C and 45 °C, Figure A.1 applies.

NOTE 1 The producer and the end-user can come to agreement on the possibilities of use for temperatures above 45 °C on a case-by-case basis.

This part of ISO 1452 specifies a range of pipe sizes and pressure classes, and gives requirements concerning colours.

NOTE 2 It is the responsibility of the purchaser or specifier to make the appropriate selections from these aspects, taking into account their particular requirements and any relevant national regulations and installation practices or codes.

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.

ISO 1167-1, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 1: General method*

ISO 1167-2, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 2: Preparation of pipe test pieces*

ISO 1183-1:2004, *Plastics — Methods for determining the density of non-cellular plastics — Part 1: Immersion method, liquid pyknometer method and titration method*

ISO 1452-1:2009, *Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure — Unplasticized poly(vinyl chloride) (PVC U) — Part 1: General*

ISO 1452-5, *Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure — Unplasticized poly(vinyl chloride) (PVC U) — Part 5: Fitness for purpose of the system*

ISO 2505, *Thermoplastics pipes — Longitudinal reversion — Test method and parameters*

ISO 2507-1:1995, *Thermoplastics pipes and fittings — Vicat softening temperature — Part 1: General test method*

ISO 3126, *Plastics piping systems — Plastics components — Determination of dimensions*

ISO 6259-1, *Thermoplastics pipes — Determination of tensile properties — Part 1: General test method*

ISO 6259-2, *Thermoplastics pipes — Determination of tensile properties — Part 2: Pipes made of unplasticized poly(vinyl chloride) (PVC-U), chlorinated poly(vinyl chloride) (PVC-C) and high-impact poly(vinyl chloride) (PVC-HI)*

ISO 7387-1, *Adhesives with solvents for assembly of PVC-U pipe elements — Characterization — Part 1: Basic test methods*

ISO 7686, *Plastics pipes and fittings — Determination of opacity*

ISO 9311-1, *Adhesives for thermoplastic piping systems — Part 1: Determination of film properties*

ISO 9852, *Unplasticized poly(vinyl chloride) (PVC-U) pipes — Dichloromethane resistance at specified temperature (DCMT) — Test method*

ISO 18373-1, *Rigid PVC pipes — Differential scanning calorimetry (DSC) method — Part 1: Measurement of the processing temperature*

EN 681-1:1996, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 1: Vulcanized rubber*

EN 744:1995, *Plastics piping and ducting systems — Thermoplastics pipes — Test method for resistance to external blows by the round-the-clock method*

3 Terms, definitions, symbols and abbreviated terms

For the purposes of this document, the terms, definitions, symbols and abbreviated terms given in ISO 1452-1 and the following apply:

L length of socket

m depth of engagement