

Plastics piping systems for buried and above-ground pressure systems for water for general purposes, drainage and sewerage - Polyethylene (PE) - Part 4: Valves

Plastics piping systems for buried and above-ground pressure systems for water for general purposes, drainage and sewerage - Polyethylene (PE) - Part 4: Valves

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13244-4:2003 sisaldab Euroopa standardi EN 13244-4:2002 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.02.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13244-4:2003 consists of the English text of the European standard EN 13244-4:2002.</p> <p>This document is endorsed on 18.02.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

<p>Käsitlusala:</p> <p>This Part of prEN 13244 specifies the characteristics of valves or valve bodies made from polyethylene (PE) intended for buried and above-ground pressure systems for water for general purposes, drainage and sewerage. It is also applicable for vacuum sewer systems</p>	<p>Scope:</p> <p>This Part of prEN 13244 specifies the characteristics of valves or valve bodies made from polyethylene (PE) intended for buried and above-ground pressure systems for water for general purposes, drainage and sewerage. It is also applicable for vacuum sewer systems</p>
---	---

ICS 23.060.01, 93.030

Võtmesõnad: fire hoses, pipes, properties, service water, sewage, sewer pipes, sewers, specification (approval), specifications, testing, tubes, underground, valves, water, water pipelines, water pipes, water practice, water supply

ICS 23.060.01; 93.030

English version

**Plastics piping systems for buried and above-ground pressure
systems for water for general purposes, drainage and sewerage
- Polyethylene (PE) - Part 4: Valves**

Systèmes de canalisations en plastique pour les
applications générales de transport d'eau, de branchement
et de collecteurs d'assainissement, enterrés sous pression
- Polyéthylène (PE) - Partie 4: Robinets

Kunststoff-Rohrleitungssysteme für erd- und oberirdisch
verlegte Druckrohrleitungen für Brauchwasser,
Entwässerung und Abwasser - Polyethylen (PE) - Teil 4:
Armaturen

This European Standard was approved by CEN on 16 October 2002.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

	page
Foreword.....	3
Introduction	5
1 Scope	6
2 Normative references	6
3 Definitions, symbols and abbreviations.....	7
4 Material.....	8
4.1 Compound for PE valve bodies.....	8
4.2 Material for non-polyethylene parts.....	8
5 General characteristics	9
5.1 Appearance of the valve.....	9
5.2 Design	9
5.3 Colour.....	9
6 Geometrical characteristics.....	10
6.1 General.....	10
6.2 Measurement of dimensions	10
6.3 Wall thickness at any point of the PE valve body	10
6.4 Dimensions of spigot ends for valves	10
6.5 Dimensions of valves with electrofusion sockets.....	10
6.6 Dimensions of the operating cap	10
7 Mechanical characteristics for assembled valves.....	10
7.1 General.....	10
7.2 Conditioning.....	11
7.3 Requirements	11
7.4 Retest in case of failure of hydrostatic strength at 80 °C.....	13
8 Physical characteristics	14
8.1 Conditioning.....	14
8.2 Requirements	14
9 Performance requirements	15
10 Marking	15
10.1 General.....	15
10.2 Marking on valves.....	15
10.3 Marking on a label.....	15
11 Packaging	16
Bibliography	17

Foreword

This document (EN 13244-4:2002) has been prepared by Technical Committee CEN/TC 155 "Plastics piping systems and ducting systems", the secretariat of which is held by NEN.

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 2003, and conflicting national standards shall be withdrawn at the latest by December 2004.

For components which have conformed to the relevant national standard before December 2002, as shown by the manufacturer or by a certification body, the national standard may continue to be applied until the December 2004.

It has been prepared in liaison with CEN/TC 165 "*Waste water engineering*".

This European Standard is a Part of a System Standard for plastics piping systems of a particular material for a specified application. There are a number of such System Standards.

System Standards are based on the results of the work being undertaken in ISO/TC 138 "*Plastics pipes, fittings and valves for the transport of fluids*", which is a Technical Committee of the International Organization for Standardization (ISO).

They are supported by separate standards on test methods to which references are made throughout the System Standard.

The System Standards are consistent with standards on general functional requirements and standards on recommended practice for installation.

EN 13244 consists of the following Parts, under the general title *Plastics piping systems for buried and above-ground pressure systems for water for general purposes, drainage and sewerage — Polyethylene (PE)*:

- *Part 1: General*
- *Part 2: Pipes*
- *Part 3: Fittings*
- *Part 4: Valves (this standard)*
- *Part 5: Fitness for purpose of the system*
- *Part 7: Guidance for the assessment of conformity* (to be published as a CEN/TS)

NOTE It was decided not to publish a Part 6: Recommended practice for installation. Instead, existing national practices would be applicable.

This Part of EN 13244 includes the following:

- Bibliography

System Standards for piping systems of other plastics materials used for the conveyance of water, drainage and sewerage under pressure include the following:

prEN 14364, *Plastics piping systems for pressure and non-pressure drainage and sewerage — Glass-reinforced thermosetting (GRP) plastics based on polyester resin (UP)*.

EN 1456, *Plastics piping systems for buried and above-ground drainage and sewerage under pressure — Unplasticized poly(vinyl chloride) (PVC-U)*.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

EN 13244, of which this is Part 4, specifies the requirements of a piping system and its components when made from polyethylene (PE). It is intended to be used for buried and above-ground pressure systems for water for general purposes, drainage and sewerage, including vacuum systems.

Requirements and test methods for material and components, other than valves, are specified in EN 13244-1, EN 13244-2 and EN 13244-3. Characteristics for fitness for purpose are covered in EN 13244-5 and prCEN/TS 13244-7 gives guidance for the assessment of conformity.

This Part of EN 13244 covers the characteristics of valves.

1 Scope

This Part of EN 13244 specifies the characteristics of valves or valve bodies made from polyethylene (PE) intended for buried and above-ground pressure systems for water for general purposes, drainage and sewerage. It is also applicable for vacuum sewer systems.

NOTE 1 Water for general purposes is not intended for human consumption and components conforming to this standard should not be used in systems conveying water for human consumption. For PE components intended for the conveyance of water intended for human consumption and raw water prior to treatment, see EN 12201 ^[1].

NOTE 2 Valves made from material other than polyethylene (PE) designed to (a) relevant standard(s) can be used in PE piping systems conforming to EN 13244 when they have relevant PE connection ends for butt fusion or electrofusion (see EN 13244-3).

It also specifies the test parameters for the test methods referred to in this standard.

In conjunction with other Parts of EN 13244 (see Foreword), it is applicable to PE valves, their joints and to joints with components of other materials intended to be used as follows:

- buried in the ground;
- sea outfalls;
- laid in water;
- above-ground, including pipes suspended below bridges;
- a maximum operating pressure, MOP, up to and including 25 bar¹⁾;
- an operating temperature of 20 °C as a reference temperature.

NOTE 3 For applications operating at constant temperatures greater than 20 °C and up to 40 °C, see annex A of EN 13244-1:2002.

EN 13244 covers a range of maximum operating pressures and gives requirements concerning colours and additives.

NOTE 4 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 guidance or regulations and installation practices or codes.

This Part of EN 13244 covers valves for pipes with a nominal outside diameter $d_n \leq 225$ mm.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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

EN 681-2, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 2: Thermoplastic elastomers.*

1) 1 bar = 10⁵ N/m².

EN 728, *Plastics piping and ducting systems — Polyolefin pipes and fittings — Determination of oxidation induction time.*

EN 917:1997, *Plastics piping systems — Thermoplastics valves — Test methods for resistance to internal pressure and leaktightness.*

EN 1680, *Plastics piping systems — Valves for polyethylene (PE) piping systems — Test method for leaktightness under and after bending applied to the operating mechanism.*

EN 1705, *Plastics piping systems — Thermoplastics valves — Test method for the integrity of a valve after an external blow.*

EN 12100, *Plastics piping systems — Polyethylene (PE) valves — Test method for resistance to bending between supports.*

EN 13244-1:2002, *Plastics piping systems for buried and above-ground pressure systems for water for general purposes, drainage and sewerage — Polyethylene (PE) — Part 1: General.*

EN 13244-2, *Plastics piping systems for buried and above-ground pressure systems for water for general purposes, drainage and sewerage — Polyethylene (PE) — Part 2: Pipes.*

EN 13244-3:2002, *Plastics piping systems for buried and above-ground pressure systems for water for general purposes, drainage and sewerage — Polyethylene (PE) — Part 3: Fittings.*

EN 13244-5, *Plastics piping systems for buried and above-ground pressure systems for water for general purposes, drainage and sewerage — Polyethylene (PE) — Part 5: Fitness for purpose of the system.*

EN 28233:1990, *Thermoplastic valves — Torque — Test method (ISO 8233:1988).*

EN ISO 1133:1999, *Plastics — Determination of the melt mass-flow rate (MFR) and the melt volume-flow rate (MVR) of thermoplastics (ISO 1133:1997).*

prEN ISO 3126:1999, *Plastics piping systems — Plastics piping components — Measurement and determination of dimensions (revision of prEN 496:1991 and ISO 3126:1974) (ISO/DIS 3126:1999).*

ISO 5208:1993, *Industrial valves — Pressure testing of valves.*

ISO 10933:1997, *Polyethylene (PE) valves for gas distribution systems.*

3 Definitions, symbols and abbreviations

For the purposes of this European Standard, the terms, definitions, symbols and abbreviations given in EN 13244-1 together with the following apply.

3.1

external leaktightness

leaktightness of the body enveloping the space containing the water, with respect to the atmosphere

3.2

internal leaktightness

leaktightness between the inlet and the outlet of the valve, with the valve in the closed position

3.3

leaktightness test

test for both of the following characteristics:

- a) the internal leaktightness of the valve's seat when closed and pressurised from either side;
- b) the external leaktightness of the valve when half open