SIST

SLOVENSKI STANDARD
oSIST prEN 17176-3:2018

01-januar-2018

Cevni sistemi iz polimernih materialov za oskrbo z vodo in za podzemne in nadzemne sisteme odvodnjavanja, kanalizacije ter namakanja pod tlakom - Orientiran nemehčan polivinilklorid (PVC-O) - 3. del: Fitingi

Plastic piping systems for water supply and for buried and above ground drainage, sewerage and irrigation under pressure - Oriented unplasticized poly(vinyl chloride) (PVC -O) - Part 3: Fittings

Kunststoff-Rohrleitungssysteme für die Wasserversorgung und für erdverlegte und nicht erdverlegte Entwässerungs-, Abwasser- und Bewässerungsdruckleitungen - Orientiertes weichmacherfreies Polyvinylchlorid (PVC-O) - Teil 3: Formstücke

Systèmes de canalisations en plastique pour l’alimentation en eau, les branchements et collecteurs d’assainissement et les systèmes d’irrigation sous pression, enterrés ou aériens - Poly(chlorure de vinyle) non plastifié orienté (PVC-O) - Partie 3 : Raccords

Ta slovenski standard je istoveten z: **prEN 17176-3**

ICS:

23.040.45	Fitingi iz polimernih materialov	Plastics fittings
91.140.80	Drenažni sistemi	Drainage systems
93.030	Zunanji sistemi za odpadno vodo	External sewage systems

oSIST prEN 17176-3:2018 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 17176-3

November 2017

ICS 23.040.45

English Version

Plastic piping systems for water supply and for buried and above ground drainage, sewerage and irrigation under pressure - Oriented unplasticized poly(vinyl chloride) (PVC-O) - Part 3: Fittings

Systèmes de canalisations en plastique pour l'alimentation en eau, les branchements et collecteurs d'assainissement et les systèmes d'irrigation sous pression, enterrés ou aériens - Poly(chlorure de vinyle) non plastifié orienté (PVC-O) - Partie 3 : Raccords

Kunststoff-Rohrleitungssysteme für die Wasserversorgung und für erdverlegte und nicht erdverlegte Entwässerungs-, Abwasser- und Bewässerungsdruckleitungen - Orientiertes weichmacherfreies Polyvinylchlorid (PVC-O) - Teil 3: Formstücke

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 155.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.

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

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

Contents

Page

European foreword

This document (prEN 17176-3:2017) has been prepared by Technical Committee CEN/TC 155 “Plastics piping systems and ducting systems”, the secretariat of which is held by NEN.

This document is currently submitted to the CEN Enquiry.

This standard is a part of a System Standards for plastics piping systems of particular materials for specified applications. There are a number of such System Standards.

System Standards are based on the results of the work 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 general standards on functional requirements and on recommended practice for installation.

prEN 17176 consists of the following parts, under the general title *Plastics piping systems for water supply and for buried and above ground drainage, sewerage and irrigation under pressure — Oriented unplasticized poly(vinyl chloride) (PVC-O)*:

a) *Part 1: General*;

b) *Part 2: Pipes*;

c) *Part 3: Fittings* (this document);

d) *Part 5: Fitness for purpose of the system*;

e) *Part 7: Guidance for assessment of conformity*[1)].

Valves – See EN ISO 1452-4.

Guidance for installation is given in ISO/TR 4191.

1) Currently in preparation.

Introduction

The System Standard, of which this is Part 3, specifies the requirements for a piping system made from oriented unplasticized poly(vinyl chloride) (PVC-O) pipes and its components. The piping system is intended to be used for water supply, pressurized drainage, sewerage, treated waste water and irrigation systems to be used underground or above ground where protected to direct sunlight.

In respect of potential adverse effects on the quality of water intended for human consumption, caused by the products covered by this part of prEN 17176, the following are relevant.

a) This part of prEN 17176 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 PVC-O material and components, other than fittings, are specified in prEN 17176-1 and prEN 17176-2. Reference is made to the following standards: EN ISO 1452-3, EN 12842 for other components not manufactured from PVC-O. Characteristics for fitness for purpose (mainly for joints) are specified in prEN 17176-5.

This part of prEN 17176 specifies the characteristics of PVC-O fittings.

1 Scope

This part of prEN 17176 specifies the characteristics of solid-wall elbows, double sockets, repair couplings and reducers fittings made from oriented unplasticized poly(vinyl chloride) (PVC-O) for piping systems intended for water supply and for buried and above-ground drainage and sewerage under pressure and irrigation under pressure.

NOTE 1 The scope of this part is restricted to fittings on the market during the preparation of this standard. Therefore tees, flange adaptors, etc., are excluded from this version of the standard.

It also specifies the test parameters for the test methods referred to this part of prEN 17176.

In conjunction with prEN 17176-1, prEN 17176-2 and prEN 17176-5, it is applicable to oriented PVC-O fittings and to joints with components of PVC-O, PVC-U (EN ISO 1452-3), other plastics and non-plastics materials such as cast iron fittings (EN 12842) intended to be used for the following:

a) water mains and services lines in the ground;

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

c) drainage, sewerage and treated waste water under pressure;

d) irrigation 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 and water for irrigation under pressure.

This part of prEN 17176 specifies fittings for the conveyance of water intended for human consumption, waste water and water for irrigation up to and including 45 °C. For temperatures between 25 °C and 45 °C, prEN 17176-2:2017, Figure C.1 applies.

The piping system according to this European Standard is intended for the conveyance of cold water up to pressures of 25 bars and especially in those applications where special performance requirements are needed, such as impact loads and pressure fluctuations, up to pressure of 25 bar.

This part of prEN 17176 specifies a range of fittings sizes and pressure classes and gives a requirement and recommendations 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 documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 681-1, *Elastomeric seals — Materials requirements for pipe joint seals used in water and drainage applications — Part 1: Vulcanized rubber*

prEN 17176-1:2017, *Plastics piping systems for water supply and for buried and above ground drainage, sewerage and irrigation under pressure — Oriented unplasticized poly(vinyl chloride) (PVC-O) — Part 1: General*

prEN 17176-2:2017, *Plastics piping systems for water supply and for buried and above ground drainage, sewerage and irrigation under pressure — Oriented unplasticized poly(vinyl chloride) (PVC-O) — Part 2: Pipes*

prEN 17176-5, *Plastic piping systems for water supply and for buried and above ground drainage, sewerage and irrigation under pressure — Oriented unplasticized poly(vinyl chloride) (PVC-O) — Part 5: Fitness for purpose of the system*

EN 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 1167-1)*

EN 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 1167-2)*

EN ISO 1167-3, *Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 3: Preparation of components (ISO 1167-3)*

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

EN ISO 1452-1, *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 1452-1)*

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

EN ISO 1452-3:2010, *Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure — Unplasticized poly(vinyl chloride) (PVC-U) — Part 3: Fittings (ISO 1452-3:2009, corrected version 2010-03-01)*

EN ISO 1452-4, *Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure — Unplasticized poly(vinyl chloride) (PVC-U) — Part 4: Valves (ISO 1452-4)*

EN 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 1452-5)*

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

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

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

EN ISO 9080, *Plastics piping and ducting systems — Determination of the long-term hydrostatic strength of thermoplastics materials in pipe form by extrapolation (ISO 9080)*

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

ISO 161-1, *Thermoplastics pipes for the conveyance of fluids — Nominal outside diameters and nominal pressures — Part 1: Metric series*

ISO 2507-1, *Thermoplastics pipes and fittings — Vicat softening temperature — 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 18373-1, *Rigid PVC pipes — Differential scanning calorimetry (DSC) method — Part 1: Measurement of the processing temperature*

3 Terms, definitions and symbols

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 1452-1 and prEN 17176-1, and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1.1
laying length
Z-length
(socketed outlet) distance from the inserted tube or spigot end to the intersection point of the fitting/valve axis (fitting or valve center)

3.1.2
laying length
Z-length
(spigot outlet) distance from the outlet end to the intersection point of the fitting/valve axis (fitting or valve centre)

3.1.3
laying length
Z-length
(socket with parallel outlets) distance between the ends of the inserted tubes or spigots

3.1.4
laying length
Z-length
(one socket and one spigot with parallel outlets) distance from the inserted tube or spigot end to the end of the spigot outlet