SLOVENSKI STANDARD
SIST ISO 3633:2012

01-junij-2012

Cevni sistemi iz polimernih materialov za (nizko- in visokotemperaturne) odvodne sisteme v stavbah - Nemehčan polivinilklorid (PVC-U)

Plastics piping systems for soil and waste discharge (low and high temperature) inside buildings -- Unplasticized poly(vinyl chloride) (PVC-U)

Systèmes de canalisations en plastique pour l'évacuation des eaux-vannes et des eaux usées (à basse et à haute température) à l'intérieur des bâtiments -- Poly(chlorure de vinyle) non plastifié (PVC-U)

Ta slovenski standard je istoveten z: **ISO 3633:2002**

ICS:

23.040.20	Cevi iz polimernih materialov	Plastics pipes
91.140.80	Drenažni sistemi	Drainage systems

SIST ISO 3633:2012 **en**

INTERNATIONAL STANDARD

ISO 3633

Second edition
2002-09-01

Plastics piping systems for soil and waste discharge (low and high temperature) inside buildings — Unplasticized poly(vinyl chloride) (PVC-U)

Systèmes de canalisations en plastique pour l'évacuation des eaux-vannes et des eaux usées (à basse et à haute température) à l'intérieur des bâtiments — Poly(chlorure de vinyle) non plastifié (PVC-U)

Reference number
ISO 3633:2002(E)

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

Printed in Switzerland

Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 3633 was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids,* Subcommittee SC 1, *Plastics pipes and fittings for soil, waste and drainage (including land drainage).*

This second edition cancels and replaces the first edition (ISO 3633:1991), which has been technically revised.

Introduction

Pipes and fittings conforming to this International Standard also meet the requirements of EN 1329-1 which are applicable to those pipes and fittings which, according to EN 1329-1, are intended to be used inside buildings (application area code “B”, see EN 1329-1) only.

Plastics piping systems for soil and waste discharge (low and high temperature) inside buildings — Unplasticized poly(vinyl chloride) (PVC-U)

1 Scope

This International Standard specifies the requirements for unplasticized poly(vinyl chloride) (PVC-U) pipes and fittings for soil and waste discharge (low and high temperature) inside buildings, as well as the system itself. It does not include buried pipework.

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

This International Standard is applicable to PVC-U pipes and fittings, as well as assemblies of such pipes and fittings, intended to be used for the following purposes:

a) soil and waste discharge pipework for the conveyance of domestic waste waters (low and high temperature);

b) ventilation pipework associated with a);

c) rainwater pipework inside the building.

This International Standard does not cover requirements for the K-value of the raw material.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 265-1, *Pipes and fittings of plastics materials — Fittings for domestic and industrial waste pipes — Basic dimensions: Metric series — Part 1: Unplasticized poly(vinyl chloride) (PVC-U)*

ISO 3126:—[1)], *Plastics piping systems — Plastics piping components — Measurement and determination of dimensions*

EN 580, *Plastics piping systems — Unplasticized poly(vinyl chloride) (PVC-U) pipes — Test method for the resistance to dichloromethane at a specified temperature (DCMT)*

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

1) To be published. (Revision of ISO 3126:1974)

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

EN 727, *Plastics piping and ducting systems — Thermoplastics pipes and fittings — Determination of Vicat softening temperature (VST)*

EN 743, *Plastics piping and ducting systems — Thermoplastics pipes — Determination of the longitudinal reversion*

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

EN 763, *Plastics piping and ducting systems — Injection-moulded thermoplastics fittings — Test method for visually assessing effects of heating*

EN 1053, *Plastics piping systems — Thermoplastics piping systems for non-pressure applications — Test method for watertightness*

EN 1054, *Plastics piping systems — Thermoplastics piping systems for soil and waste discharge — Test method for airtightness of joints*

EN 1055:1996, *Plastics piping systems — Thermoplastics piping systems for soil and waste discharge inside buildings — Test method for resistance to elevated temperature cycling*

EN 1329-1, *Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure — Unplasticized poly(vinyl chloride) (PVC-U) — Part 1: Specifications for pipes, fittings and the system*

EN 1411, *Plastics piping and ducting systems — Thermoplastics pipes — Determination of resistance to external blows by the staircase method*

EN 1905, *Plastics piping systems — Unplasticized poly(vinyl chloride) (PVC-U) pipes, fittings and material — Method for assessment of the PVC content based on total chlorine content*

3 Symbols and abbreviations

3.1 Symbols

A	length of engagement
C	depth of sealing zone
d_e	outside diameter (at any point)
d_{em}	mean outside diameter
d_n	nominal outside diameter
d_s	inside diameter of the socket
d_{sm}	mean inside diameter of the socket
DN	nominal size
DN/OD	nominal size (outside-diameter related)
e	wall thickness (at any point)
e_m	mean wall thickness

e_2 wall thickness of the socket

e_3 wall thickness at the groove

H length of chamfer

L_1 length of spigot

L_2 length of socket

l effective length of a pipe

R radius of swept fittings

z design length (z-length) of a fitting

α nominal angle of a fitting

3.2 Abbreviations

PVC-U unplasticized poly(vinyl chloride)

TIR true impact rate

4 Material

4.1 Raw material

The raw material shall be PVC-U to which are added those additives that are needed to facilitate the manufacture of components conforming to the requirements of this International Standard. For the use of non-virgin material, it is recommended that the specifications given in EN 1329-1 are followed.

NOTE Definitions concerning materials are given in EN 1329-1.

When calculated for a known formulation, and in cases of dispute and in cases when the formulation is not known, the PVC content, determined in accordance with EN 1905, shall be at least 80 % by mass for pipes and at least 85 % by mass for injection-moulded fittings.

4.2 Sealing ring retaining means

Sealing rings may be retained using means made from polymers other than PVC-U, provided the joints conform to the requirements given in clause 9.

4.3 Fire behaviour

No specific requirements are set by this International Standard for fire behaviour. Attention is drawn to the need to comply with any relevant national regulations in this respect.

5 General characteristics

5.1 Appearance

When viewed without magnification, the following requirements shall be met:

— the internal and external surfaces of pipes and fittings shall be smooth, clean and free from grooving, blistering, impurities, pores or any other surface irregularity likely to prevent conformity of pipes and fittings to this International Standard;

— each end of a pipe or fitting shall be cleanly cut, if applicable, and shall be square to its axis.

5.2 Colour

Pipes and fittings shall be coloured through the whole wall.

The recommended colour for pipes and fittings is grey.

6 Geometrical characteristics

6.1 General

All dimensions shall be measured in accordance with ISO 3126:—.

In cases of dispute, the reference temperature shall be (23 ± 2) °C.

The figures are schematic sketches only, to indicate the relevant dimensions. They do not necessarily represent manufactured components. The dimensions given shall be conformed to however.

6.2 Dimensions of pipes

6.2.1 Outside diameter

The mean outside diameter, d_{em}, shall conform to Table 1 or Table 2, as applicable.

6.2.2 Out-of-roundness

The out-of-roundness, measured directly after production, shall be less than or equal to $0{,}024 d_n$.