SLOVENSKI STANDARD
oSIST prEN 476:2020

01-oktober-2020

Splošne zahteve za elemente za odvod odpadne vode in kanalizacijo

General requirements for components used in drains and sewers

Allgemeine Anforderungen an Bauteile für Abwasserleitungen und -kanäle

Exigences générales pour les composants utilisés pour les branchements et les collecteurs d'assainissement

Ta slovenski standard je istoveten z: **prEN 476**

ICS:

13.060.30	Odpadna voda	Sewage water
93.030	Zunanji sistemi za odpadno vodo	External sewage systems

oSIST prEN 476:2020 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

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ICS 23.040.05; 93.030

Will supersede EN 476:2011

English Version

General requirements for components used in drains and sewers

Exigences générales pour les composants utilisés pour les branchements et les collecteurs d'assainissement

Allgemeine Anforderungen an Bauteile für Abwasserleitungen und -kanäle

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 165.

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.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. prEN 476:2020 E

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European foreword

This document (prEN 476:2020) has been prepared by Technical Committee CEN/TC 165 “Waste water engineering”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 476:2011.

The specifications of this document are based on the requirements for wastewater systems specified in EN 752 and EN 12056. Significant technical differences between this edition and EN 476:2011 are as follows:

a) the Scope is clarified in the way that this document contains requirements for product standards;

b) Table 1 (Preferred nominal sizes DN/ID) and Table 2 (Preferred nominal sizes DN/OD), paragraph 5.2.1, are moved to the new Annex A;

c) the paragraphs under subclause 5.3, Dimensions of manholes and inspection chambers, are completely rewritten, with minimum internal dimension for different sections (always in compliance with the national regulations in force at the place of installation);

d) for reaction to fire, a new subclause 6.15 is added.

This document provides a framework for the development of product standards to be used in drain and sewer systems outside buildings. In Figure 1 the position of this document related to other standards on this subject is given.

This document describes the general requirements to be taken into account in product standards.

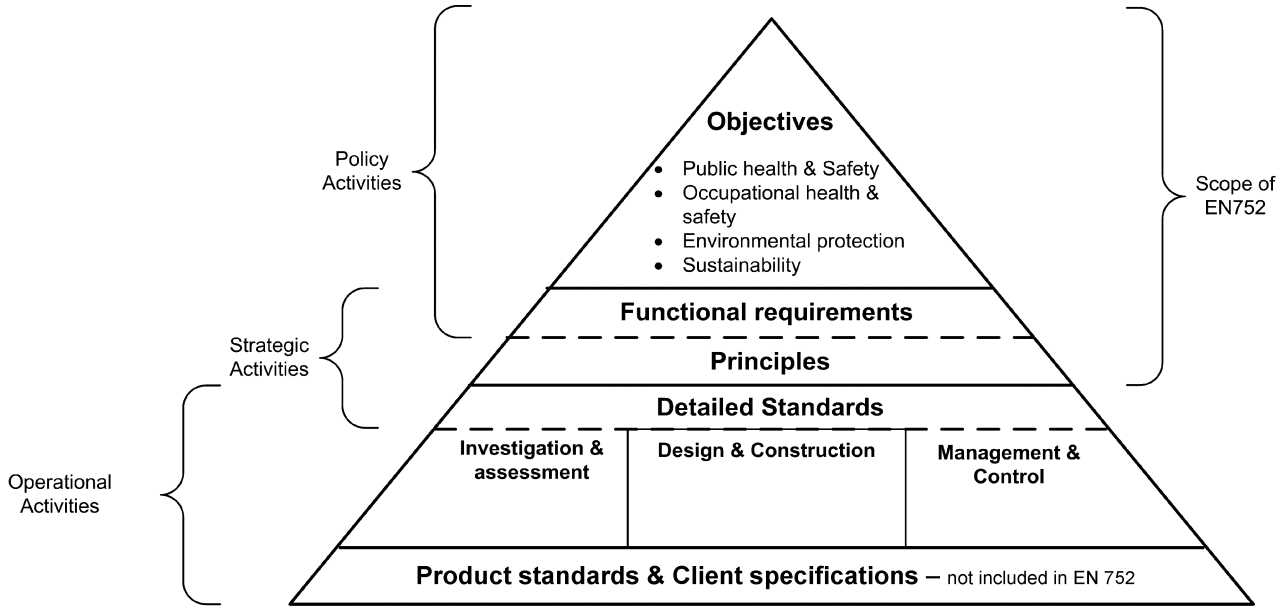


Figure 1 — Pyramid diagram

1 Scope

This document specifies general requirements to be respected in product standards for components such as pipes, fittings, inspection chambers and manholes with their respective joints intended for use in drains and sewers inside and outside buildings which operate as gravity systems allowing for a maximum pressure of 40 kPa.

It also specifies general requirements for components used in hydraulically and pneumatically pressurized discharge pipes, drains and sewers.

NOTE 1 Where the term "inside buildings" is used in the context of components fixed inside buildings, it also includes discharge pipes and fittings fixed on external surfaces of buildings

NOTE 2 This document is not a product standard and therefore not intended for the direct evaluation of products.

This document covers components to be used in conveying in a satisfactory manner:

— domestic wastewater;

— rainwater and surface water; and

— other waste waters acceptable for discharge into the system (e.g. industrial wastewater).

This document applies to components of circular and other cross sections.

This document applies equally to components which are factory-made and to those constructed on site, where applicable.

NOTE 3 This document does not apply to components used for trenchless construction according to EN 14457 and for components used for renovation of drains and sewers according to EN 13380.

This document does not supersede the functional requirements of a complete system as defined in EN 752.

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 124 (all parts), *Gully tops and manhole tops for vehicular and pedestrian areas*

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 - Material requirements for pipe joint seals used in water and drainage applications - Part 2: Thermoplastic elastomers*

EN 681-3, *Elastomeric seals - Material requirements for pipe joint seals used in water and drainage applications - Part 3: Cellular materials of vulcanized rubber*

EN 681-4, *Elastomeric seals - Material requirements for pipe joint seals used in water and drainage applications - Part 4: Cast polyurethane sealing elements*

EN 682, *Elastomeric seals - Materials requirements for seals used in pipes and fittings carrying gas and hydrocarbon fluids*

EN 13501-1, *Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests*

EN 13823, *Reaction to fire tests for building products - Building products excluding floorings exposed to the thermal attack by a single burning item*

EN 16000, *Plastics piping systems - Systems within the building structure - Mounting and fixing of components in the test apparatus to thermal attack by a single burning item*

EN ISO 11925-2, *Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test (ISO 11925-2)*

ISO 48-2, *Rubber, vulcanized or thermoplastic - Determination of hardness - Part 2: Hardness between 10 IRHD and 100 IRHD*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

— ISO Online browsing platform: available at https://www.iso.org/obp/ui

— IEC Electropedia: available at http://www.electropedia.org/

3.1
adjustable fitting
fitting which is designed to permit specific angular deflection at the time of installation (for pressurized and vacuum systems)

3.2
adjustable joint
joint which permits significant angular deflection at the time of installation but not thereafter

3.3
crushing strength
load per unit length a rigid pipe is required to withstand in kN/m

3.4
external diameter
mean external dimension of the pipe barrel at any cross section where for pipes with external profiles on the barrels, the external diameter is the maximum diameter when viewed in cross section

3.5
flexible joint
joint which permits angular deflection

3.6
flexible pipe
pipe, the load carrying capacity of which is limited by diametral deformation under load to the ultimate design criteria without breaking or overstressing

Note 1 to entry: Materials such as PVC, PP, PE, etc.

3.7
hydraulically pressurised system
system where flow is caused by hydraulic pressure and where the pipe normally operates full

3.8
inspection chamber
chamber with a removable cover constructed on a drain or sewer that permits the introduction of cleaning and inspection equipment from surface level, but does not provide access for personnel

[SOURCE: EN 16323:2014, 2.2.4.13]

Note 1 to entry: Examples are given in Figure 4 and 5.

3.9
internal diameter
mean internal dimension of the pipe barrel at any cross section

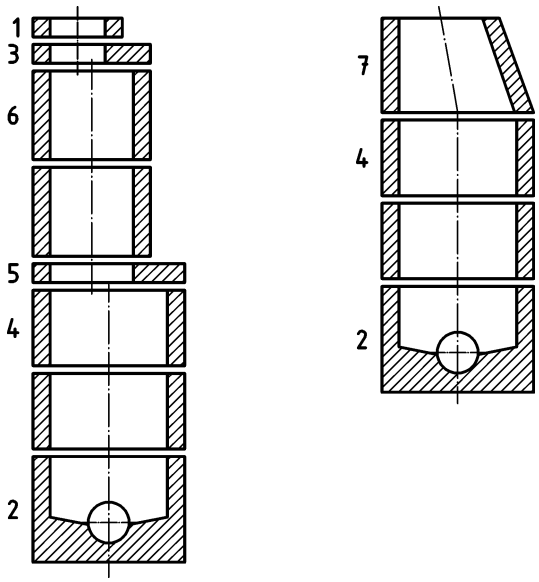
3.10
invert
lowest point of the internal surface of the barrel of a pipe or channel at any cross section

3.11
joint
connection between the adjacent ends of two components including the means of sealing

3.12
manhole
chamber with a removable cover constructed on a drain or sewer to permit entry by personnel

[SOURCE: EN 16323:2014, 2.2.4.15]

Note 1 to entry: Examples are given in Figure 2 and 3.



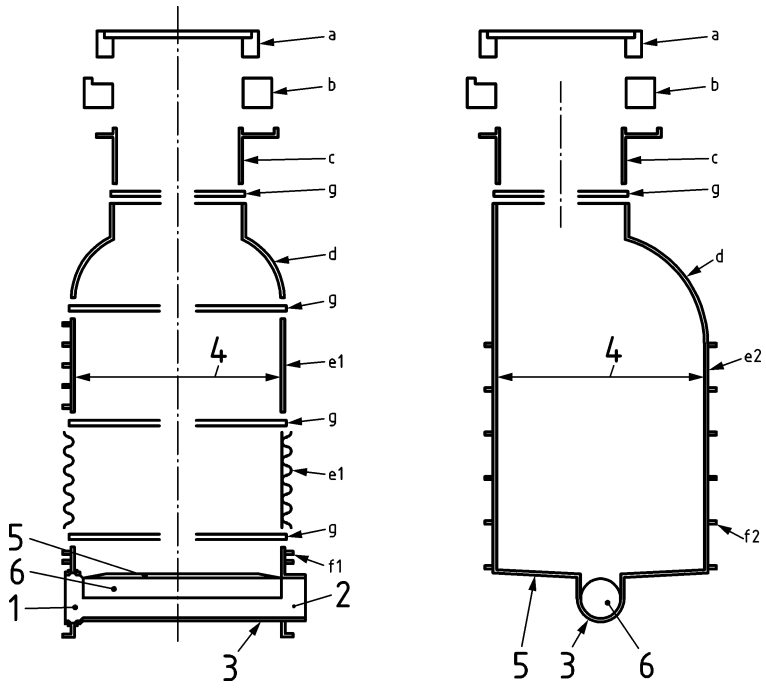
Key

1 adjusting unit
2 base unit
3 cover slab
4 chamber unit
5 reducing slab
6 shaft unit/riser
7 taper/cone

NOTE 1 Joint details have been omitted for clarity.

NOTE 2 Precast base slabs of structures can be integral with the base unit or a separate slab incorporating construction joints.

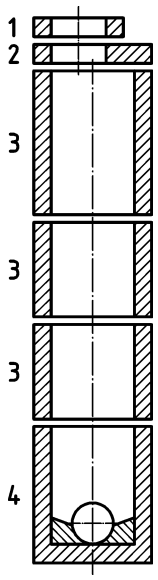
Figure 2 — Description of manhole components



Key

a	cover	1	inlet
b	near surface component	2	outlet
c	telescopic adaptor	3	invert
d	cone	4	inner diameter
e	riser	5	benching
f	base	6	channel
g	connection		

Figure 3 — Schematic representation of plastic manholes



Key

1 adjusting unit
2 cover slab
3 shaft unit
4 base unit

NOTE Joint details have been omitted for clarity

Figure 4 — Description of inspection chamber components