

SLOVENSKI STANDARD

SIST EN 295-7:2013

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SIST EN 295-10:2005

SIST EN 295-7:1996

Keramični cevni sistemi za odvod odpadne vode in kanalizacijo - 7. del: Zahteve za keramične cevi in spoje za potisne cevi

Vitrified clay pipe systems for drains and sewers - Part 7: Requirements for pipes and joints for pipe jacking

iTeh STANDARD PREVIEW

Steinzeugrohrsysteme für Abwasserleitungen und -kanäle - Teil 7: Anforderungen an Rohre und Verbindungen für Rohrvortrieb

[SIST EN 295-7:2013](#)

Systèmes de tuyaux et accessoires en grès pour les réseaux de branchement et d'assainissement - Partie 7: Exigences pour les tuyaux et leurs assemblages destinés au fonçage

Ta slovenski standard je istoveten z: EN 295-7:2013

ICS:

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91.140.80	Drenažni sistemi	Drainage systems
93.030	Zunanji sistemi za odpadno vodo	External sewage systems

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**Vitrified clay pipe systems for drains and sewers - Part 7:
Requirements for pipes and joints for pipe jacking**

Systèmes de tuyaux et accessoires en grès pour les
réseaux de branchement et d'assainissement - Partie 7:
Exigences pour les tuyaux et leurs assemblages destinés
au fonçage

Steinzeugrohrsysteme für Abwasserleitungen und -kanäle -
Teil 7: Anforderungen an Rohre und Verbindungen für
Rohrvortrieb

This European Standard was approved by CEN on 1 December 2012.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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COMITÉ EUROPÉEN DE NORMALISATION
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EN 295-7:2013 (E)

Foreword

This document (EN 295-7:2013) has been prepared by Technical Committee CEN/TC 165 "Wastewater engineering", the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by August 2013, and conflicting national standards shall be withdrawn at the latest by August 2013.

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 295-7:1995 and together with EN 295-1:2013, EN 295-2:2013, EN 295-4:2013, EN 295-5:2013 and EN 295-6:2013 it supersedes EN 295-10:2005.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

The main changes with respect to the previous edition are listed below:

- nominal sizes DN 900, DN 1 200 and DN 1 400 added;
- requirements for the determination of jacking strength changed;
- requirements for the resistance to high pressure water jetting added;
- requirements for water absorption added;
- reaction to fire added;
- Annex ZA added;
- editorially revised.

The standard series EN 295 "Vitrified clay pipe systems for drains and sewers" consists of the following parts:

- *Part 1: Requirements for pipes, fittings and joints*
- *Part 2: Evaluation of conformity and sampling*
- *Part 3: Test methods*
- *Part 4: Requirements for adaptors, connectors and flexible couplings*
- *Part 5: Requirements for perforated pipes and fittings*
- *Part 6: Requirements for components of manholes and inspection chambers*
- *Part 7: Requirements for pipes and joints for pipe jacking* (the present document)

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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EN 295-7:2013 (E)

1 Scope

This European Standard specifies requirements for vitrified clay pipes and joints for pipe jacking for buried drain and sewer systems for the conveyance of wastewater (including domestic wastewater, surface water and rainwater) under gravity and periodic hydraulic surcharge or under continuous low head of pressure. Pipe jacking techniques include micro-tunnelling, pipe-eating, pipe bursting and where appropriate lining with discrete pipes.

This standard also specifies requirements for rubber, polyurethane, polypropylene, stainless steel and other materials used for joints for pipe jacking.

NOTE Corresponding provisions for the evaluation of conformity (ITT and FPC) and sampling and those for the test methods are further specified in EN 295-2 and EN 295-3, respectively.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 295-1:2013, *Vitrified clay pipe systems for drains and sewers — Part 1: Requirements for pipes, fittings and joints*

EN 295-2:2013, *Vitrified clay pipe systems for drains and sewers — Part 2: Evaluation of conformity and sampling*

EN 295-3:2012, *Vitrified clay pipe systems for drains and sewers — Part 3: Test methods*

EN 312, *Particleboards — Specifications*

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

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

EN 10088-2:2005, *Stainless steels — Part 2: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general purposes*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 295-1:2013 and the following apply.

3.1 jacking strength

declared capacity of the pipe to carry axial load without taking site conditions into account

3.2 maximum working jacking load

calculated allowable axial load on the pipe during construction, taking site conditions into account

4 Requirements for pipes for pipe jacking

4.1 Materials, manufacture, water absorption and appearance

For material, manufacture, water absorption and appearance, jacking pipes shall comply with EN 295-1:2013, 5.1.

4.2 Dimensions

4.2.1 General

Relevant dimensions of pipes or pipe sections shall be measured after grinding or cutting of ends.

4.2.2 Internal diameter

The internal diameter shall not be less than the values given in Table 1.

Table 1 — Internal diameter

Nominal size DN	Minimum internal diameter mm
100	96
150	146
200	195
225	219
250	244
300	293
400	390
500	487
600	585
700	682
800	780
900	878
1 000	975
1 200	1 170
1 400	1 365

Other nominal sizes can be manufactured to comply with this standard, provided that the minimum internal diameter shall be not less than 97,5 % of the nominal size, rounded to the nearest whole mm.

4.2.3 Tolerance on the declared internal diameter

The internal diameter of a pipe shall not deviate from the manufacturers declared value by an amount greater than the tolerance given in Table 2.

Table 2 — Tolerance on internal diameter

Nominal size DN	Tolerance on declared internal diameter mm
≤ 300	± 5
400	± 6
500	± 7,5
600	± 9
700	± 12
800	± 12
900	± 12
1 000	± 15
1 200	± 18
1 400	± 30

4.2.4 Continuity of invert

The calculated difference in invert levels between pipes shall not exceed the values given in Table 3, when measured in accordance with EN 295-3:2012, Clause 22.

If it is necessary for achieving continuity of invert, the pipe shall be marked.

Table 3 — Continuity of invert

Nominal size DN	Continuity of invert mm
≤ 400	4
> 400	0,01 x DN

4.2.5 External diameter

The external diameter of the barrel of a pipe shall not deviate from the manufacturers declared value by an amount greater than the tolerance given in Table 4.

Table 4 — Tolerance on external diameter

Nominal size DN	Tolerance on declared external diameter mm
≤ 300	0 -10
400	0 -12
500	0 -15
600	0 -18
700	0 -24
800	0 -24
900	0 -28
1 000	0 -30
1 200	0 -36
1 400	0 -60

4.2.6 Length

Lengths of pipes are not specified in this standard. The length shall be measured at 90° intervals around the circumference and the average value calculated. The tolerance on the measured average length shall be ± 2 mm on the manufacturer's declared nominal length.

4.2.7 Squareness of ends

When tested in accordance with EN 295-3:2012, 5.2, the maximum deviation from squareness measured at the pipe ends shall be not greater than 1 mm.

4.2.8 Deviation from straightness

When tested using a straight edge in the maximum bending plane, along the whole length of the pipe barrel which is not affected by jointing or grinding, the deviation from straightness at the mid-point shall be not greater than 5 mm.

4.3 Strength

4.3.1 Crushing strength (F_N)

When tested in accordance with EN 295-3:2012, Clause 7, the crushing strength (F_N) of pipes or pipe sections shall be not less than the values given in Table 5. Higher crushing strengths can be declared.