SLOVENSKI STANDARD
PSIST prEN 1445:1996

01-december-1996

Vlaknatocementni cevovodi - Tlačni preskusi na terenu

Fibre-cement pipelines - Field pressure testing

Faserzement-Rohrleitungen - Baustellen-Druckprüfung

Conduites en fibres-ciment - Essai de pression en chantier

Ta slovenski standard je istoveten z: **prEN 1445**

ICS:

23.040.50	Cevi in fitingi iz drugih materialov	Pipes and fittings of other materials
91.100.40	Cementni izdelki, ojačani z vlakni	Products in fibre-reinforced cement

PSIST prEN 1445:1996 **en**

DRAFT
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EUROPEAN STANDARD

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Descriptors :

English version

Fibre-cement pipelines - Field pressure testing

Conduites en fibres-ciment - Essai de pression en chantier

Faserzement-Rohrleitungen - Baustellen-Druckprüfung

This draft European Standard is submitted to the CEN members for CEN enquiry. It has been drawn up by Technical Committee CEN/TC 164 .

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 Central Secretariat has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

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Contents list

Foreword

This draft European Standard has been prepared by the Technical Committee CEN /TC 164 "Water supply", the secretariat of which is held by AFNOR.

The CEN/TC 164 has decided to submit this draft European Standard to the CEN Public Enquiry.

In accordance with the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard:

1 SCOPE AND FIELD OF APPLICATION

This draft European Standard applies to the field pressure testing of fibre-cement pipelines, installed outside buildings for use under pressure for conveying potable and non potable water and sewerage.

It outlines the basic methods of pressure testing these types of fibre-cement pipelines.

2 NORMATIVE REFERENCES

This draft 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.

prEN 512 Fibre-cement products - Pressure pipes and joints

prEN*** Fibre-cement pipelines - Guide for laying and on-site work practices

prEN 805 Water supply - Requirements for external systems and components

3 DEFINITIONS

3.1 design pressure *(DP)*

Maximum operating pressure of the pressure zone fixed by the designer considering future developments but excluding surges.

3.2 maximum design pressure *(MDP)*

Maximum operating pressure of the pressure zone fixed by the designer considering future developments and including surge.

3.3 operating pressure *(OP)*

Internal pressure which may occur at a particular time and at a particular point in the water supply system.

3.4 system test pressure *(STP)*

The hydrostatic pressure applied to a newly laid pipeline in order to ensure its integrity and tightness.

4 SELECTION AND LENGTH OF THE TEST SECTION

The length of the section shall be indicated by the pipeline designer, taking into account local factors such as contour of the pipeline, weather conditions, traffic, time available before completion of the trench backfill, location of permanent concrete anchorage, availability of test water and of suitable anchorage for temporary end closure, etc.

The test section shall be selected so that:

- the test pressure can be achieved at the lowest point of the test section;

- a pressure of at least *MDP* can be achieved at the highest point of the test section unless otherwise specified by the designer;

- the necessary water for testing can be provided and removed. The discharge of water used in pressure tests, particularly with large diameter mains, should be given careful consideration. Unplanned discharges can lead to pollution of water courses and/or flooding if released into foul, sewer or storm drains. The removal of water from pipelines shall be the responsibility of the contractor's engineer.

It may be necessary to subdivide the pipeline system into several test sections.

The length of the test section should normally be from 500 m to 1 000 m. Shorter or longer sections may be permitted, always provided that, during the test, the pressure at the highest point of the section is not less than *MDP*.

Should difficulties be encountered testing sections longer than 1 000 m the test section should be divided into shorter test lengths and the test repeated on each section.

5 PREPARATION OF THE SECTION TO BE TESTED

5.1 Pipelines in trench

5.1.1 Backfilling before test

The backfilling may be partial or complete, as specified by the the pipeline designer.

5.1.1.1 Partial backfill

The pipes comprising the test section shall be anchored by partially backfilling the trench according to the procedure of EN 805, to at least 300 mm above the crown of pipes not exceeding 200 mm diameter, and to about 500 mm for pipes of larger diameter.

The backfill shall be placed and compacted so that the internal pressure will not give rise to any transverse or vertical displacement of the pipes. The joints shall remain uncovered for visual inspection during the test.

5.1.1.2 Complete backfill

The pipes comprising the test section are completely backfilled before pressure testing, avoiding changes in ground conditions which may lead to leaks. The pipeline installer shall locate and uncover leakage indicated by testing.

5.1.2 Anchorage

The pressure test shall not be carried out until all permanent anchor blocks have been placed, leaving the joints adjacent to the anchor blocs accessible.

Permanent and temporary abutments or anchorages shall be constructed on the pipelines bends, branches and other fittings to withstand thrust at the test pressure. Concrete anchorblock shall be allowed to develop adequate strength before testing begins. Care shall be taken to ensure that caps or other temporary end closure fittings are adequately anchored with the load spread according to the strength of the supporting ground. Any temporary supports or anchorages at the ends of the test section shall not be removed until the pipeline is depressurised.

5.2 Pipeline laid on or above ground level

The pipes and fittings shall be fixed to their supports in accordance with the recommendations given in EN 805. Pipes and fittings shall be anchored to prevent any displacement of the pipeline.

5.3 Filling of the test section

Any debris and foreign matter shall be removed from the pipeline before testing. The test section shall be filled with water. For potable water pipelines, potable water shall be used for the pressure test unless otherwise specified by the designer.