



SLOVENSKI STANDARD

SIST EN 1053:1997

01-februar-1997

Cevni sistemi iz polimernih materialov - Plastomerni cevni sistemi, ki delujejo po težnostnem principu - Metoda za preskus vodotesnosti

Plastics piping systems - Thermoplastics piping systems for non-pressure applications - Test method for watertightness

Kunststoff-Rohrleitungssysteme - Rohrleitungssysteme aus Thermoplasten für drucklose Anwendungen - Prüfverfahren auf die Wasserdichtheit

Systemes de canalisations en plastiques - Systemes de canalisations thermoplastiques pour applications sans pression - Méthode d'essai de l'étanchéité à l'eau

<https://standards.iteh.ai/catalog/standards/sist/0a1b8011-205c-46cc-bfa6-5e85c83b9b4e/sist-en-1053-1997>

Ta slovenski standard je istoveten z: EN 1053:1995

ICS:

23.040.20 Cevi iz polimernih materialov Plastics pipes

SIST EN 1053:1997

en

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EUROPEAN STANDARD

EN 1053

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 1995

ICS 23.040.20

Descriptors: sanitation, water removal, sewage, buildings, interior, plastic tubes, thermoplastic resins, leak tests, water-tightness verification

English version

Plastics piping systems - Thermoplastics piping systems for non-pressure applications - Test method for watertightness

Systemes de canalisations en plastiques - Kunststoff-Rohrleitungssysteme -
Systemes de canalisations thermoplastiques pour Rohrleitungssysteme aus Thermoplasten für
applications sans pression - Méthode d'essai de drucklose Anwendungen - Prüfverfahren auf die
l'étanchéité à l'eau (standards.iteh.ai) Wasserdichtheit

[SIST EN 1053:1997](https://standards.iteh.ai/catalog/standards/sist/0a1b8011-205c-46cc-bfa6-5e85c83b9b4e/sist-en-1053-1997)

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This European Standard was approved by CEN on 1995-10-05. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist 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.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

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

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

Foreword

This European Standard has been prepared by the Technical Committee CEN/TC 155 "Plastics piping systems and ducting systems", of which the secretariat is held by NNI.

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 April 1996, and conflicting national standards shall be withdrawn at the latest by April 1996.

According to CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

This standard is based on annex B "Watertightness test" of the ISO 3633:1991 "Unplasticized poly(vinyl chloride) (PVC-U) pipes and fittings for soil and waste discharge (low and high temperature) systems inside buildings - Specifications", published by the International Organization for Standardization (ISO). It is a modification of annex B for reasons of applicability to other plastics materials and/or other test conditions and alignment with texts of other standards on test methods.

The modifications are:

- no material is mentioned;
- test parameters, except those common to all plastics, are omitted;
- no diameter limit is included;
- no material-dependent requirements are given;
- editorial changes have been introduced;
- the method has been extended to cover quick testing of fabricated products made from more than one piece.

The material-dependent test parameters and/-or performance requirements are incorporated in the System Standard(s) concerned.

This standard is one of a series of standards on test methods which support System Standards for plastics piping systems and ducting systems.

1 Scope

This standard specifies a test method for watertightness of

- a) joints of thermoplastics piping systems for non-pressure applications;
- b) thermoplastics fabricated products made from more than one piece for non-pressure applications.

2 Principle

A test assembly comprising either a fabricated product or an assembly of pipes and/or fittings is subjected to a given internal hydrostatic pressure for a given period during which the leaktightness of the fabricated product or the joint is verified by inspection.

NOTE: It is assumed that the following test parameters are set by the standard making reference to this standard:

- a) *the sampling procedure (see 4.1);*
- b) *the number of test pieces (see 4.2).*

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3 Apparatus <https://standards.iteh.ai/catalog/standards/sist/0a1b8011-205c-46cc-bfa6-5e85c83b9b4e/sist-en-1053-1997>

3.1 End-sealing devices, having a size and using a sealing method both appropriate to the type of joint under test. The devices shall be restrained in a manner that does not exert longitudinal forces on the joint assembly and that prevents the devices or the assembly under test from separating under pressure. The weight of the devices shall not be allowed to influence the angular deflection to be applied (see 5.2).

3.2 Hydrostatic pressure source, connected to one end of at least one end-sealing device, capable of applying the required pressure gradually and evenly in accordance with 5.4 and then of keeping it constant to within $\pm 2\%$ for the duration of the test required (see clause 5).

3.3 Bleed valve, capable of venting air when hydrostatic pressure is applied to the test piece.

3.4 Pressure measuring device, capable of checking conformity to the required test pressure (see 3.2 and clause 5).

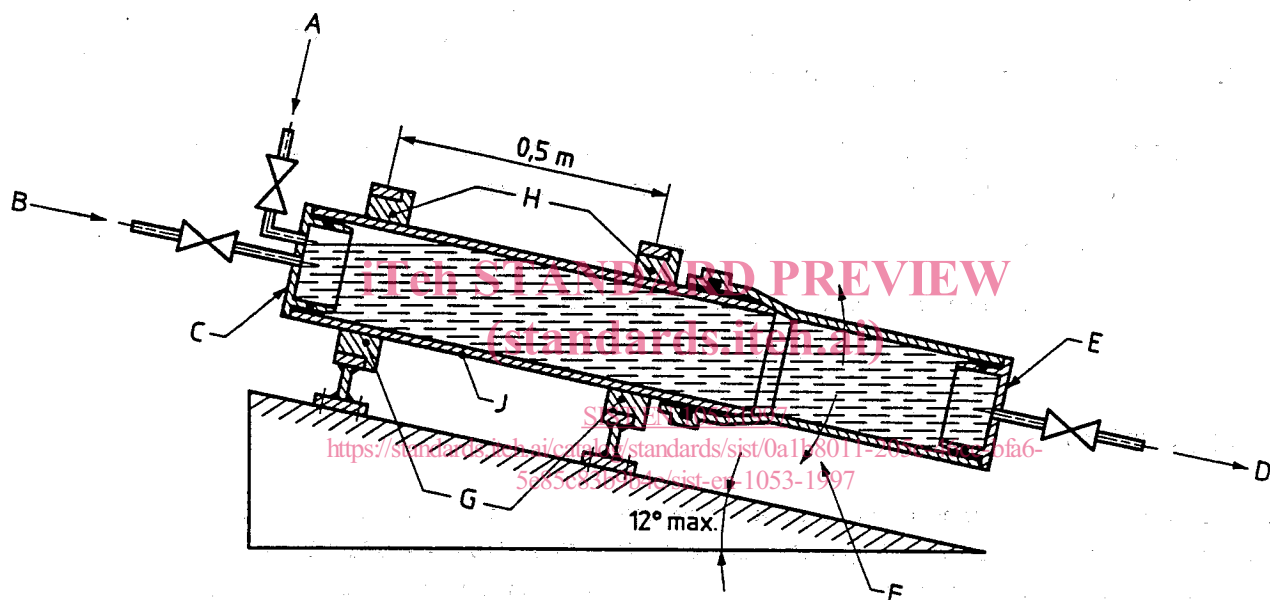
4 Test pieces

4.1 Preparation

The test piece shall comprise either a fabricated fitting or an assembly of (a) pipe section(s) (with or without sockets) and/or fitting(s) including at least one joint of the type under test (see figure 1).

To assist air removal, the test piece may be inclined by up to 12° .

Dimensions in metres



- A Air outlet
- B Water inlet
- C Sealing plug with water inlet, air outlet and end restraint
- D Water outlet
- E Sealing plug with water outlet and end restraint (see 3.1)
- F Direction of movement for angular deflection, if applicable (see 5.2)
- G Loose bushes to allow all sizes of pipes to be accommodated on the same test fixture
- H Fixed points
- J Fixed component

Figure 1: Typical arrangement

The assembly of the joint(s) shall be carried out in accordance with the manufacturer's instructions.

The assembly shall comprise the combination of the smallest available spigot end and the largest available socket or socket groove diameter within the applicable tolerance(s) and obtained by sampling in accordance with the referring standard.

The relevant diameters of the selected spigot(s) and socket(s) shall be measured and recorded.

4.2 Number

The number of test pieces shall be as specified in the referring standard.

5 Procedure

5.1 Carry out the following procedure at an ambient temperature of (23 ± 5) °C using cold tap water without permitting any condensation on the surface of the test piece.

5.2 Mount the test piece in the apparatus. If the joint to be tested permits angular deflection, arrange the test assembly so that the joint(s) under test is (are) subject to the (their) maximum angular deflection, as declared for the joint by the manufacturer, for the axes of the components thus joined.

5.3 When testing in accordance with 5.4 and 5.5, monitor the test piece for and record any evidence of leakage.

5.4 Introduce water into the test piece, while bleeding off all air, and apply the hydrostatic pressure as follows:

- a) **accelerated procedure for fabricated products:** unless otherwise specified in the referring standard, apply an hydrostatic pressure of 0,5 bar (50 kPa) and maintain it for at least 1 min.
- b) **assemblies of pipes and/or fittings which are not fabricated,** raise the hydrostatic pressure smoothly over a period of not greater than 15 min to 0,5 bar (50 kPa) and maintain that pressure for at least 15 min.

5.5 Depressurize, drain and dismantle the test piece. Inspect for and record any changes in the appearance of the components tested.

6 Test report

The test report shall include the following information:

- a) a reference to this standard and to the referring standard;
- b) the identification of the components (e.g. fitting(s), pipe(s), seal(s)) comprising the joint(s) under test and their respective diameters, in millimetres (see 4.1);
- c) the ambient temperature (see 5.1), in degrees Celsius;
- d) the test pressure, in bars;
- e) the length of time under pressure, in minutes;
- f) if applicable, the angle of deflection applied to the joint (see 5.2);
- g) a statement, that the joint did not leak or, if any, a report of signs of leakage or rupture, their position(s) and the pressure at which they occurred;
- h) any changes in the appearance of the components of the test piece(s) during the test, or immediately afterwards;
- i) any factors which may have affected the results, for example, such as any incidents or any operating details not specified in this standard; <https://standards.iteh.ai/catalog/standards/sist/0a1b8011-205c-46cc-bfa6-5e85c83b9b4e/sist-en-1053-1997>
- j) the date of the test.