SLOVENSKI STANDARD

SIST EN 1055:1997

01-februar-1997

Cevni sistemi iz polimernih materialov - Plastomerni cevni sistemi za odpadno vodo in kanalizacijo v zgradbah - Metoda za preskus odpornosti proti zvišani temperaturi

Plastics piping systems - Thermoplastics piping systems for soil and waste discharge inside buildings - Test method for resistance to elevated temperature cycling

Kunststoff-Rohrleitungssysteme - Rohrleitungssysteme aus Thermoplasten für Abwasserleitungen innerhalb von Gebäuden - Prüfverfahren für die Temperaturbeanspruchbarkeit

Systemes de canalisations en plastiques - Systemes de canalisations thermoplastiques pour évacuation des eaux-vannes et des eaux usées a l'intérieur des bâtiments - Méthode d'essai de résistance a des cycles a température élevée

Ta slovenski standard je istoveten z: **EN 1055:1996**

ICS:

23.040.20	Cevi iz polimernih materialov	Plastics pipes

SIST EN 1055:1997 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1055

January 1996

ICS 23.040.20

Descriptors: sanitation, water removal, sewage, buildings, interior, plastic tubes, thermoplastic resins, thermal tests, high temperature tests, thermal cycling tests, thermal resistance

English version

Plastics piping systems - Thermoplastics piping systems for soil and waste discharge inside buildings - Test method for resistance to elevated temperature cycling

Systèmes de canalisations en plastiques - Systèmes de canalisations thermoplastiques pour évacuation des eaux-vannes et des eaux usées à l'intérieur des bâtiments - Méthode d'essai de résistance à des cycles à température élevée

Kunststoff-Rohrleitungssysteme - Rohrleitungssysteme aus Thermoplasten für Abwasserleitungen innerhalb von Gebäuden - Prüfverfahren für die Temperaturbeanspruchbarkeit

This European Standard was approved by CEN on 1995-12-21. 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 July 1996, and conflicting national standards shall be withdrawn at the latest by July 1996.

This draft standard is based on annex D of the International Standard 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 D of ISO 3633:1991 for reasons of applicability to other plastics materials and alignment with texts of other standards on test methods.

The modifications are:

- no material is mentioned;
- no material-dependent requirements are given;
- editorial changes have been introduced.

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

No existing European Standard is superseded by this standard.

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

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

1 Scope

This standard specifies a method for testing the resistance of thermoplastics piping systems for soil and waste discharge inside buildings, marked "B", or buried in the ground within the building structure, marked "BD" or "UD", to 1500 cycles of elevated temperature cycling.

The method assesses leaktightness and resistance to sagging.

NOTE: Definitions for application area codes, such as "B", are given in the referring standards.

2 Normative references

This 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 standard only when incorporated in it by amendment or revision.
For undated references the latest edition of the publication referred to applies.

ISO/TR 7024 *Above-ground drainage - Recommended practice and techniques for the installation of unplasticized polyvinyl chloride (PVC-U) sanitary pipework for above-ground systems inside buildings*

3 Definitions and symbols

3.1 Definitions

For the purposes of this standard, the following definitions apply:

3.1.1 nominal outside diameter (d_n): The specified diameter, in millimetres, assigned to a nominal size (DN/OD) [prEN 1329-1:1994]

3.1.2 expansion gap (L_E):. The distance between the bottom of a socket and the spigot of the inserted component allowing expansion of the system.

3.2 Symbols

For the purposes of this standard, the symbols given in ISO/TR 7024 apply.

3.3 Free length between fixed points: The maximum permitted span between support centres in an above ground installation.

4 Principle

A test assembly of pipes and fittings is subjected to a given pattern of thermal cycling by using hot and cold water alternately for a given number of cycles, during which the leaktightness of joints is verified by inspection and sagging of pipe is checked against a given limit.

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

the minimum value for the expansion gap, L_E, for a pipe/socket joint (see clause 6).

5 Apparatus

5.1 Thermometer or other temperature measuring device, capable of checking conformity of the test assembly inlet water temperature to the specified temperature limits (see 5.2, 5.3 and clause 6).

NOTE: It is recommended that the device is capable of recording and/or controlling the relevant temperature/time cycles (see clause 7).

5.2 Cold water source, capable of supplying, every 4 min, the following quantity(ies) of water at (15 ± 5) °C (see 7.3);

a) for programme A, (30 ± 0,5) l in (60 ± 2) s;

b) for programme B, (15 ± 0,5) l in (60 ± 2) s.

5.3 Hot water source, capable of supplying, every 4 min, the following quantity(ies) of water at (93 ± 2) °C (see 7.3):

a) for programme A, (30 ± 0,5) l in (60 ± 2) s;

b) for programme B, (15 ± 0,5) l in (60 ± 2) s.

5.4 Plugs or other closures, to seal temporarily the water outlet (see 7.1 and 7.4).

5.5 Device, capable of measuring pipe sagging as shown in figure 1, 2 and 3, as applicable, to an accuracy of 0,1 mm.

5.6 Supporting brackets, as appropriate, comprising anchor brackets (fixed points) capable of restraining piping components, and guide brackets, capable of supporting piping components without inhibiting longitudinal movement (see clause 6 and figures 1, 2 and 3).

6 Test assembly

The test assembly shall comprise a vertical stack of pipes with fittings and two near-horizontal pipe assemblies with fittings. The assembly shall depend upon the purposes for which the components are intended as follows:

a) for components intended for use in systems inside buildings (application area "B" only);

b) as a test assembly supplementary to a) for components intended for use in systems buried in the ground within the building structure (application areas "BD" and "UD").

Typical test assemblies are shown in figure 1 (application area "B" only), figure 2 (application areas "BD" and "UD") and figure 3 (application area "B" for nominal diameters d_n smaller than 40 mm), where the positions and the types of the joint or fitting are indicative only. For application areas "BD" and UD", the components shall be assembled so that the weld lines will be in the water flow. The position and the type of joint(s) to be used shall be as appropriate for the system under test (e.g. cemented joint, welded joints, lip seal joints). The assembly of the joint(s) shall be carried out in accordance with the manufacturer's instructions and any applicable recommended practice for installation, e.g. to avoid undue stress in the test assembly. The symbols used to specify or report on a test assembly shall conform to ISO/TR 7024.

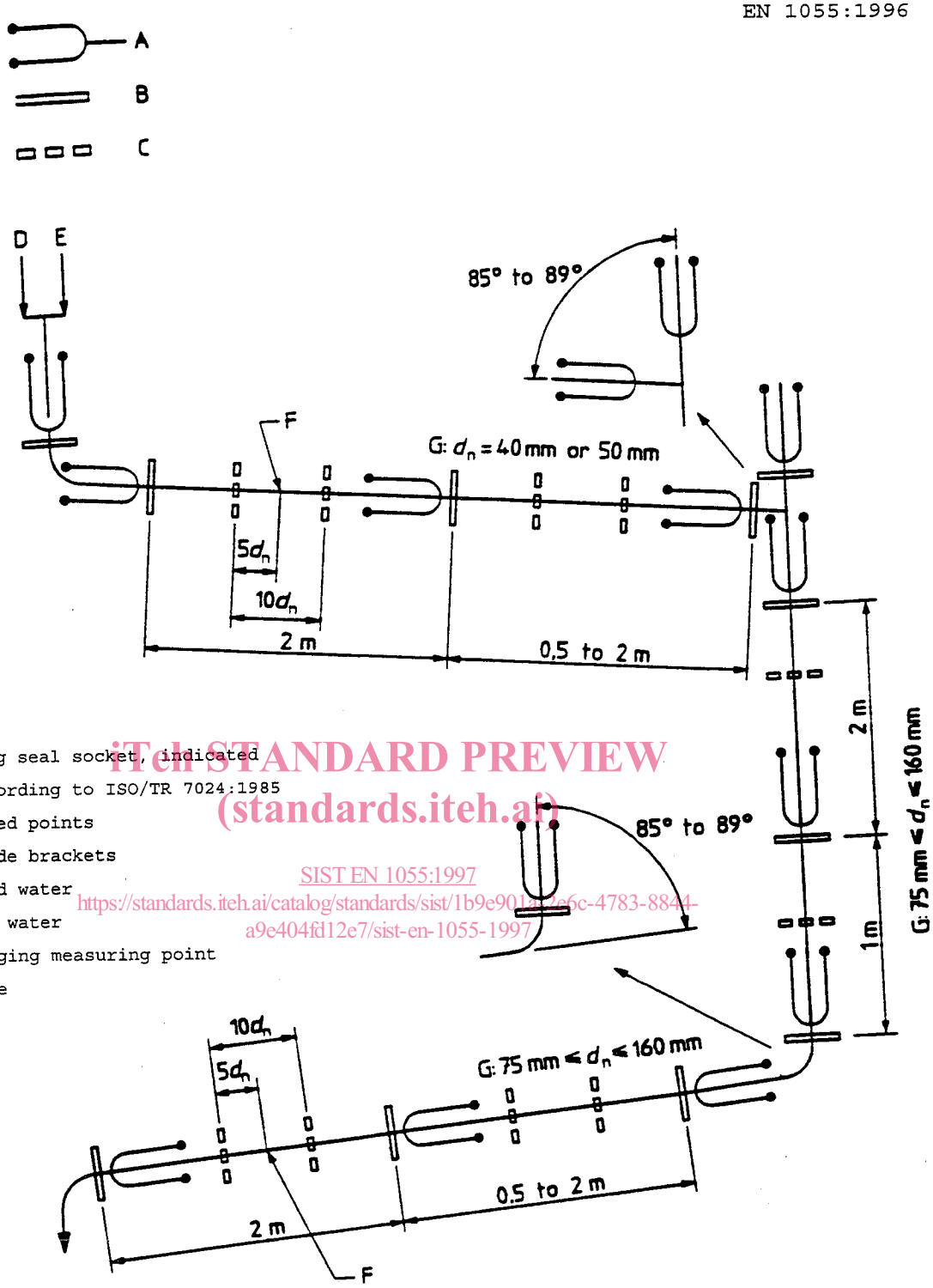
Installation of the test assembly shall be carried out on a firm wall or frame using both fixed and guide brackets, with no other support of the test assembly.

Anchor brackets shall be located directly on, below or behind the sockets of each pipe length. Except for the following:

a) the first pipe in the near-horizontal line from the inlet, where a possible sagging is to be measured (see figure 1, figure 2 or figure 3, as applicable);

b) pipe with nominal outside diameter d_n smaller than 40 mm, where the distance between the brackets always shall be 0,4 m;

guide brackets for near-horizontal assemblies shall be placed not less than $10d_n$ apart.



A Ring seal socket, indicated according to ISO/TR 7024:1985
B Fixed points
C Guide brackets
D Cold water
E Hot water
F Sagging measuring point
G Pipe

NOTE: *In this test assembly joints with elastomeric ring seals are indicated as examples. Other types of joints may be used as appropriate.*

Figure 1: Typical test assembly for elevated temperature cycling test (1500 cycles) for piping systems inside buildings (application area "B" only)