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**Cevni sistemi iz polimernih materialov - Fitingi, oblikovani z injekcijskim vbrizgavanjem, z oglavki za lepljene spoje v tlačnih cevovodih - Metoda za preskus odpornosti proti kratkotrajnemu notranjemu hidrostatičnemu tlaku**

Plastics piping systems - Injection-moulded socket fittings for solvent-cemented joints for pressure piping - Test method for resistance to a short-term internal hydrostatic pressure

Kunststoff-Rohrleitungssysteme - Spritzguß-Formstücke mit Klebmuffenverbindungen für Druckrohrleitungen - Prüfverfahren für die Widerstandsfähigkeit gegen hydrostatischen Kurzzeit-Innendruck

Systemes de canalisations en plastiques - Raccords moulés par injection a joints collés pour canalisations avec pression - Méthode d'essai de la résistance a une pression hydrostatique interne de courte durée

**Ta slovenski standard je istoveten z: EN 804:1994**

**ICS:**

23.040.45	Fitingi iz polimernih materialov	Plastics fittings
23.040.60	Prirobnice, oglavki in spojni elementi	Flanges, couplings and joints

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EUROPEAN STANDARD

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Descriptors: Plastics, fittings, socket, injection mouldings, pressure, solvent cemented, joint, internal pressure, hydrostatic, test

English version

**Plastics piping systems - Injection-moulded socket fittings for solvent-cemented joints for pressure piping - Test method for resistance to a short-term internal hydrostatic pressure**

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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

## Foreword

This standard is prepared by the Technical Committee CEN/TC 155 "Plastics piping systems and ducting systems".

This standard is based on ISO 2044:1974 "Unplasticized polyvinyl chloride (PVC) injection-moulded solvent-welded socket fittings for use with pressure pipe - Hydraulic internal pressure test", published by the International Organization for Standardization (ISO). It is a modification of ISO 2044:1974 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 materials is mentioned;
- test parameters, except those common to all plastics, are omitted;
- editorial changes have been introduced

The material-dependent 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.

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 October 1994, and conflicting national standards shall be withdrawn at the latest by October 1994.

According to the 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, United Kingdom.

## 1 Scope

This standard specifies a method for testing the resistance to internal hydrostatic pressure at 20 °C of injection-moulded thermoplastics fittings for connecting, by means of solvent cementing, to pressure pipes of the same type of material, having a nominal diameter,  $d_n$ , less than or equal to 315 mm.

This method is intended for testing fittings over a period of the order of 1 h to 10 h at a pressure which is material-dependent and typically several times higher than the nominal pressure of the fitting.

## 2 Principle

A specified pressure is applied for a specified period at  $(20 \pm 2)$  °C to a test piece consisting of the fitting solvent-cemented to a section of pipe of the same type of material.

The test piece is inspected for signs of failure of the fitting.

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

[SIST EN 804:1997](https://standards.iteh.ai/SIST/EN/804:1997)

- a) the test pressure,  $p$ , generally expressed as a multiple, not necessarily integer, of the nominal pressure rating of the fittings;
- b) the period of time,  $t$ , that the test piece is subjected to pressure.

## 3 Apparatus

3.1 Pressurizing device, including thermostatic and/or environmental controls, capable of maintaining the specified hydrostatic pressure,  $p$ , [see item a) of the note to clause 2] to within  $\pm 2,5$  %, for the specified period of time,  $t$  [see item b) of the note to clause 2], and of maintaining the test piece at  $(20 \pm 2)$  °C.

3.2 Pressure gauge, capable of checking conformity to the specified test pressure,  $p$  (see 3.1).

#### 4 Test piece

The test piece shall comprise an assembly of one or more pipe sections and fittings including at least one fitting of the type to be tested, solvent cemented to pipe of the same type of material.

Unless otherwise specified in the referring standard the section(s) of pipe to be connected shall have a length of three times  $d_n$  with a minimum of 250 mm. They shall be capable of withstanding the test pressure,  $p$ , required by the referring standard.

Assembling of the test piece shall be carried out in accordance with the manufacturer's instructions.

Unless a longer period is required in accordance with the manufacturer's instructions, a period of at least 10 days shall be allowed to ensure satisfactory setting of the joint before the following procedure is applied.

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5 Procedure <https://standards.iteh.ai/catalog/standards/sist/3b7d801b-d4d4-442b-8239-a3e0567ac1cb/sist-en-804-1997>

In any convenient order carry out the following steps:

- a) connect the end of one of the pipe sections of the test piece to the pressurizing device (see 3.1);
- b) close by appropriate means the ends of the test piece;
- c) fill the test piece with water at  $(20 \pm 2) ^\circ\text{C}$ , taking care to bleed off all internal air. Wait for at least 20 min after filling, to ensure equalization of the temperature to  $(20 \pm 2) ^\circ\text{C}$ .

Suspend or support the test piece so that stresses induced in the test piece by hydrostatic test pressure are not affected by external forces.

Apply hydrostatic pressure progressively in such a way that the test pressure,  $p$ , is reached in not less than 30 s and not more than 300 s.

Maintain the test piece environment at  $(20 \pm 2) ^\circ\text{C}$  for the specified period,  $t$ , or until prior failure occurs.

Maintain the pressure,  $p$ , for the specified period,  $t$ , checking by means of the pressure gauge that the pressure is within  $\pm 2,5\%$  and ensuring that no leakage occurs at any area of the test piece, unless prior failure occurs.

Inspect the test piece for signs of deterioration, leakage, fracture or any other form of failure as specified by the referring standard.

Record the results accordingly.

Repeat the test if a pipe bursts or if the solvent-cemented joint(s) leak(s) within the specified period of time.

## 6 Test report

The test report shall include the following information:

- a) a reference to this standard and to the referring standard;
- b) the size, type and nominal pressure of the fitting and the material from which the fitting is made;
- c) the identity of the batch or production run from which the fitting was sampled;
- d) the type of pipe(s) solvent-cemented to the fitting and the material(s) from which the pipe(s) is(are) made;
- e) the test pressure,  $p$ , in bars <sup>1)</sup>;
- f) the period of time,  $t$ , in hours, during which the test piece was subjected to pressure;
- g) the test temperature, in degrees Celsius;
- h) whether or not the fitting and/or its joints exhibited any signs of deterioration, leakage, fracture or any other form of failure as specified by the referring standard;
- i) if applicable, observations of any failure causing repetition of the test;
- j) any factors which may have affected the results, such as any incidents or any operating details not specified in this standard;
- k) the date of test.

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1) 1 bar =  $10^5$  N/m<sup>2</sup>