SLOVENSKI STANDARD
SIST EN 1119:2009

01-junij-2009

Nadomešča:
SIST EN 1119:1997

Cevni sistemi iz polimernih materialov - Spoji za cevi in fitinge iz duromernih materialov, ojačenih s steklenimi vlakni (GRP) - Metode za preskus tesnjenja in odpornosti proti poškodbam gibljivih in omejeno gibljivih spojev

Plastics piping systems - Joints for glass-reinforced thermosetting plastics (GRP) pipes and fittings - Test methods for leaktightness and resistance to damage of non-thrust resistant flexible joints with elastomeric sealing elements

Kunststoff-Rohrleitungssysteme - Verbindungen für Rohre und Formstücke aus glasfaserverstärkten duroplastischen Kunststoffen (GFK) - Prüfverfahren zur Dichtheit und Widerstandsfähigkeit gegen Beschädigung von nicht druckbeständigen flexiblen Verbindungen mit elastomeren Dichtungselementen

Systèmes de canalisations plastiques - Assemblages pour tubes et raccords en plastique thermodurcissable renforcé de verre (PRV) - Méthodes d'essai d'étanchéité et de résistance à l'endommagement des assemblages flexibles non résistants à la poussée avec bagues d'étanchéité en élastomère

Ta slovenski standard je istoveten z: **EN 1119:2009**

ICS:

23.040.60	Prirobnice, oglavki in spojni elementi	Flanges, couplings and joints
83.120	Ojačani polimeri	Reinforced plastics

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1119

March 2009

ICS 23.040.60

Supersedes EN 1119:1996

English Version

Plastics piping systems - Joints for glass-reinforced thermosetting plastics (GRP) pipes and fittings - Test methods for leaktightness and resistance to damage of non-thrust resistant flexible joints with elastomeric sealing elements

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Kunststoff-Rohrleitungssysteme - Verbindungen für Rohre und Formstücke aus glasfaserverstärkten duroplastischen Kunststoffen (GFK) - Prüfverfahren zur Dichtheit und Widerstandsfähigkeit gegen Beschädigung von nicht druckbeständigen flexiblen Verbindungen mit elastomeren Dichtungselementen

This European Standard was approved by CEN on 8 February 2009.

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 CEN Management Centre or to any CEN member.

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 Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 1119:2009) has been prepared by Technical Committee CEN/TC 155 “Plastics piping systems and ducting systems”, the secretariat of which is held by NEN.

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 September 2009, and conflicting national standards shall be withdrawn at the latest by September 2009.

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 1119:1996.

The modifications are:

— changed title and scope to remove “reduced articulation” and clarify intent;

— changed testing sequence from mandatory to suggested;

— clarified support conditions and requirements.

The material-dependent test parameters and/or performance requirements are incorporated in the referring 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 national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies test methods for flexible non-thrust resistant socket-and-spigot joints with elastomeric sealing elements for buried and above ground glass-reinforced thermosetting plastics (GRP) pipeline applications. It covers methods of test for the leaktightness and resistance to damage of the joint only, when subject to specified combinations of longitudinal extension (draw), angular movement (angular deflection), compression (misalignment) perpendicular to the pipe axis and internal pressure. This European Standard is applicable to joints for either pressure or non-pressure applications.

NOTE The joints tested in accordance with this European Standard are subjected to conditions which measure their ability to function and thereby prove the design of the joint, especially for type test purposes.

These test procedures are applicable to joints for pipes and fittings of all nominal sizes. The tests are suitable for the evaluation of joints intended for applications in which the liquids are conveyed at temperatures specified in the referring standards.

2 Principle

A test piece comprising two pieces of pipe jointed together, by incorporation of a socket or inclusion of a double-socket coupler, is subjected to specified combinations of draw, angular deflection and misalignment. In each specified combination the test piece is subjected to a series of test pressures for specified periods of time, including an internal sub-atmospheric test pressure.

In addition, joints for pressure applications are subjected to a specified cyclic pressure test.

When under pressure, the joint is monitored for leakage.

Between each test condition (see Table 1 and Table 2) the joint is inspected for signs of damage.

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

a) the nominal size of the components to be connected by the joint (see 4.1);

b) the pressure class of the components (see 4.1);

c) the total effective length, L, of the test piece (see 4.1);

d) the number of test pieces (see 4.2);

e) if applicable, the conditioning to be applied (see Clause 5);

f) the test temperature (see Clause 6);

g) sequence of testing, if appropriate (see 7.1);

h) the joint positions (see Table 1 and Table 2);

i) the draw, angular deflection (see 7.2.3) and the force F (see 7.3.5);

j) the permissible change in negative pressure (see 7.5.4).

3 Apparatus

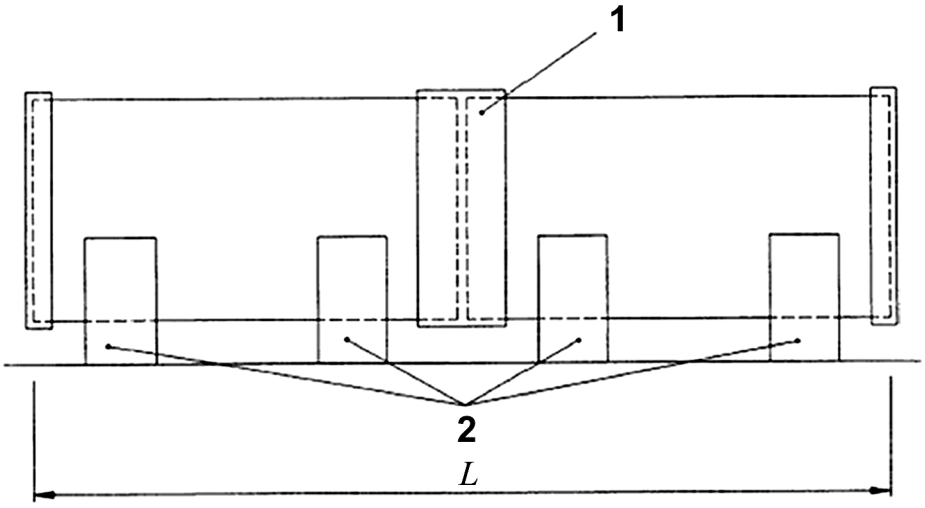
3.1 End sealing devices, of sizes and type appropriate to the components under test, anchored to take the axial end thrust and permit free longitudinal movement.

3.2 Supports and restraints

3.2.1 Straps or cradles, (100 ± 5) mm wide supporting an 180° arc of the pipe barrel or of the socket (see Figure 1).

The use is as follows:

a) **support R** [see Figure 1b) and Figure 2b)], positioned at least 500 mm from the spigot end of the pipe at the point of balance (see Figure 1) to provide support during testing with misalignment; cradles shall be provided close to the ends of the pipe during testing with angular deflection and draw [see Figure 1a) and Figure 2a)];

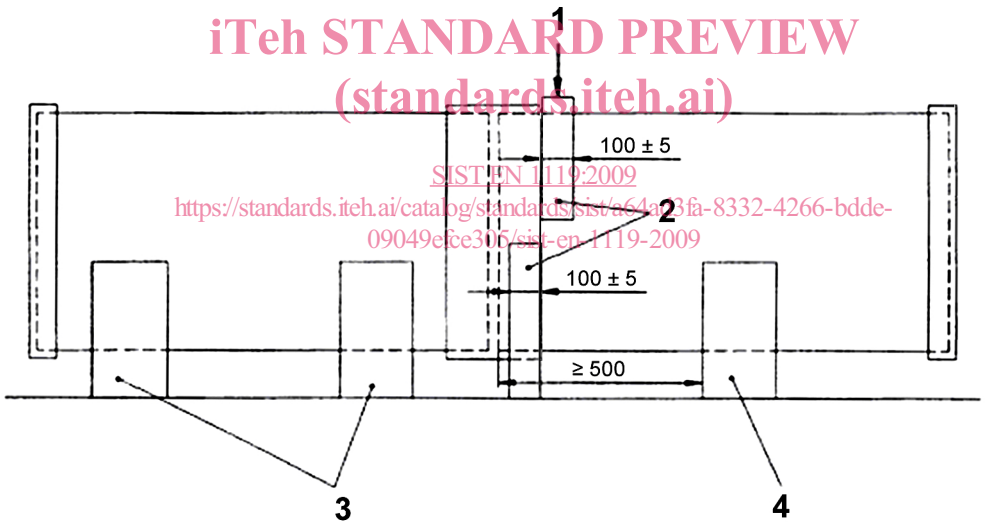


Key

1 socket (or double socket coupler)
2 supports

a) Arrangement for angular deflection and draw

Dimensions in millimetres

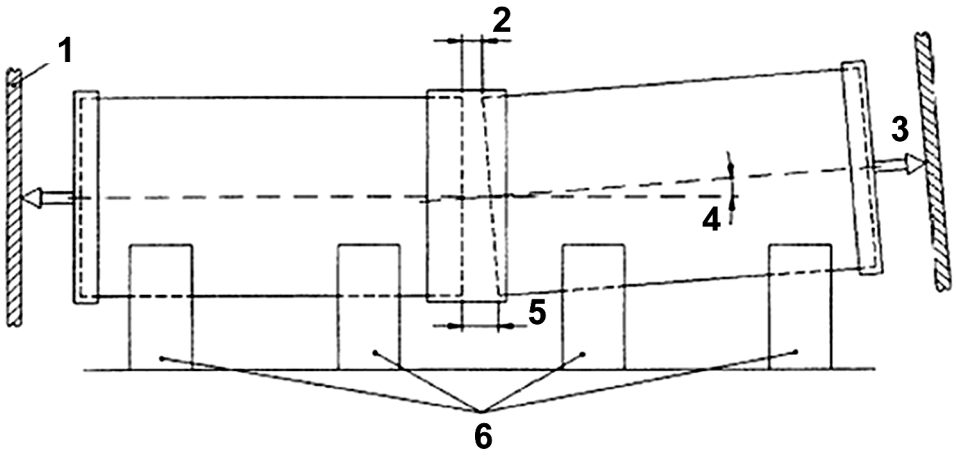


Key

1 additional force $F = 20 \times [DN]$
2 straps or cradles
3 supports
4 support R

b) Arrangement for misalignment and draw

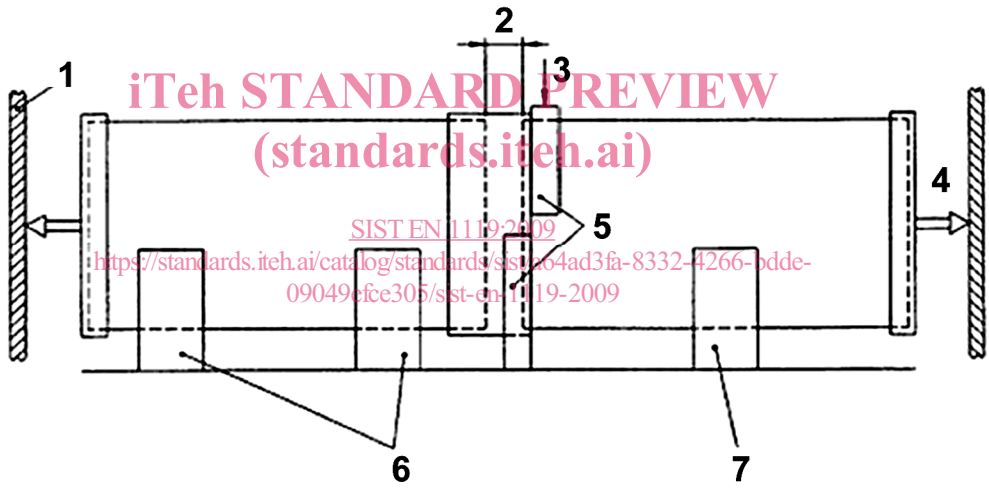
Figure 1 — Test arrangement before testing (see 3.2.1)



Key

1 rig
2 draw
3 end trust carried by rig
4 angular deflection
5 total draw
6 supports

a) Joint position for angular deflection and draw



Key

1 rig
2 total draw
3 force *F*
4 end trust carried by rig
5 straps or cradles
6 supports
7 support R

b) Joint position for misalignment and draw

Figure 2 — Joint positions during testing for arrangements shown in Figure 1 (see 3.2.1)

NOTE Figures 1 and 2 show the loading on the test assembly applied in a vertical plane. This is only for purposes of illustration and the loading and supports can be in any orientation.

b) **a cradle**, to support the socket on a fixed base, as required for misalignment testing (see 7.3);

c) **a strap or cradle**, positioned adjacent to the end of the joint being tested [see Figure 1b) and Figure 2b)], through which the force *F* necessary for misalignment testing (see 7.3) can be applied;