



SLOVENSKI STANDARD
SIST EN ISO 6259-1:2002

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SIST EN 638:1997

Plastomerne cevi - Ugotavljanje nateznih lastnosti - 1. del: Splošna preskusna metoda (ISO 6259-1:1997)

Thermoplastics pipes - Determination of tensile properties - Part 1: General test method (ISO 6259-1:1997)

Rohre aus Thermoplasten - Bestimmung der Eigenschaften im Zugversuch - Teil 1: Allgemeines Prüfverfahren (ISO 6259-1:1997)

Tubes en matieres thermoplastiques - Détermination des caractéristiques en traction - Partie 1: Méthode générale d'essai (ISO 6259-1:1997)

Ta slovenski standard je istoveten z: EN ISO 6259-1:2001

ICS:

23.040.20 Cevi iz polimernih materialov Plastics pipes

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en

EUROPEAN STANDARD
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EN ISO 6259-1

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English version

Thermoplastics pipes - Determination of tensile properties - Part 1: General test method (ISO 6259-1:1997)

Tubes en matières thermoplastiques - Détermination des caractéristiques en traction - Partie 1: Méthode générale d'essai (ISO 6259-1:1997)

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This European Standard was approved by CEN on 4 October 2001.

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 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 Management Centre has the same status as the official versions.

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

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

EN ISO 6259-1:2001 (E)**Foreword**

The text of the International Standard from Technical Committee ISO/TC 138 "Plastics pipes, fittings and valves for the transport of fluids" of the International Organization for Standardization (ISO) has been taken over as an European Standard by Technical Committee CEN/TC 155 "Plastics piping systems and ducting systems", the secretariat of which is held by NEN.

This European Standard supersedes EN 638:1994.

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 2002, and conflicting national standards shall be withdrawn at the latest by April 2002.

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

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The text of the International Standard ISO 6259-1:1997 has been approved by CEN as a European Standard without any modification.

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INTERNATIONAL STANDARD

ISO
6259-1

First edition
1997-12-15

Thermoplastics pipes — Determination of tensile properties —

Part 1: General test method

*Tubes en matières thermoplastiques — Détermination des caractéristiques
en traction —*
Partie 1: Méthode générale d'essai

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Reference number
ISO 6259-1:1997(E)

ISO 6259-1:1997(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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International Standard ISO 6259-1 was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 5, *General properties of pipes, fittings and valves of plastic materials and their accessories* — ~~SITest methods and basic specifications.~~

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ISO 6259 consists of the following parts, under the general title *Thermoplastics pipes — Determination of tensile properties*:

- *Part 1: General test method*
- *Part 2: Pipes made of unplasticized poly(vinyl chloride) (PVC-U), chlorinated poly(vinyl chloride) (PVC-C) and high-impact poly(vinyl chloride) (PVC-HI)*
- *Part 3: Polyolefin pipes*

Annex A of this part of ISO 6259 is for information only.

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Introduction

This part of ISO 6259 specifies a short-term tensile test method for determining the tensile properties of thermoplastics pipes.

It can provide data for further testing for the purpose of research and development.

It cannot be regarded as significant for applications in which the conditions of application of the force differ considerably with those in this test method, such applications requiring the appropriate impact, creep and fatigue tests.

The tests of tensile properties should be principally regarded as tests of material in the form of pipe. The results can be useful as a material process control test, but are not a quantitative assessment of long term pipe performance.

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ISO 6259 has been drawn up on the basis of ISO 527.

For ease of use, it has been thought preferable to draw up a complete document that can be used for determining the tensile properties of thermoplastics pipes. For greater detail, reference should be made to ISO 527. <https://standards.iteh.ai/catalog/standards/sist/en-iso-6259-1-2002>

It should however be noted that ISO 527 is applicable to materials in sheet form, whereas ISO 6259 is applicable to materials in pipe form.

As it was considered essential to test the pipes as supplied, i.e. without reduction in thickness, difficulties are those in the choice of test piece.

ISO 527 specifies test pieces a few millimetres thick, whereas the thickness of a pipe can be up to around 60 mm. This is why certain changes have been made on this point.

For thin-walled pipes, the test piece can be obtained by die cutting, while for thick pipes, it can be obtained only by machining.

At present, ISO 6259 comprises three parts. The first part gives the general conditions under which the tensile properties of thermoplastics pipes are to be determined. The other two parts provide, respectively, particular information on the execution of tests on pipe made from different materials (see the foreword).

The basic specifications for the various materials are given in informative annexes in the relevant parts.

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Thermoplastics pipes — Determination of tensile properties —

Part 1: General test method

1 Scope

This part of ISO 6259 specifies a method of determining the tensile properties of thermoplastics pipes, including in particular the following properties:

- stress at yield point;
- elongation at break.

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This part of ISO 6259 is applicable to all types of thermoplastics pipe, regardless of their intended use.

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2 Normative references

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The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 6259. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 6259 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 1167:1996, *Thermoplastics pipes for the conveyance of fluids — Resistance to internal pressure — Test method.*

ISO 2602:1980, *Statistical interpretation of test results — Estimation of the mean — Confidence interval.*

ISO 5893:1993, *Rubber and plastics test equipment — Tensile, flexural and compression types (constant rate of traverse) — Description.*

ISO 6259-2:1997, *Thermoplastics pipes — Determination of tensile properties — Part 2: Pipes made of unplasticized poly(vinyl chloride) (PVC-U), chlorinated poly(vinyl chloride) (PVC-C) and high-impact poly(vinyl chloride) (PVC-HI).*

ISO 6259-3:1997, *Thermoplastics pipes — Determination of tensile properties — Part 3: Polyolefin pipes.*

3 Principle

Test pieces of given shape and dimensions are obtained from a thermoplastics pipe, in the longitudinal direction, by cutting or machining.

The tensile properties are measured using a test machine under specified conditions.

4 Apparatus

4.1 Tensile-testing machine, complying with ISO 5893 and meeting the specifications given in 4.2 to 4.4, as follows.

4.2 Grips, for holding the test piece and attached to the machine so that the major axis of the test piece coincides with the direction of pull through the centreline of the assembly. This can be achieved, for example, by using centering pins in the grips.

The test piece shall be held such that slip relative to the grips is prevented as far as possible and this shall be effected with the type of grip that maintains or increases pressure on the test piece as the force applied to the test piece increases.

The clamping system shall not cause premature fracture at the grips.

4.3 Load indicator, incorporating a mechanism capable of showing the total tensile load carried by the test piece when held by the grips. The mechanism shall be essentially free from inertia lag at the specified rate of testing, and shall indicate the load with an accuracy of within 1 % of the actual value. Attention is drawn to ISO 5893.

4.4 Extensometer, suitable for determining the gauge length of the test piece at any moment during the test.

The instrument shall be essentially free from inertia lag at the specified test speeds and shall be capable of measuring deformation to an accuracy of within 1 %. Where a mechanical extensometer is used, this shall be fixed to the test piece in such a way that the test piece undergoes the minimum damage and distortion and no slip occurs between it and the extensometer.

The measurement of elongation of the test piece on the basis of the movement of the grips lacks accuracy and shall be avoided whenever possible.

NOTE — It is desirable, but not essential, for this instrument to record this length, or any variation in it, automatically as a function of the stress in the test piece.

4.5 Micrometer or equivalent, capable of reading to 0,01 mm or less and suitable for measuring the thickness and width of the test piece.

4.6 Cutting die, conforming to the relevant profile in ISO 6259-2 or ISO 6259-3, as applicable.

4.7 Milling machine and cutter, capable of producing the test piece specified in ISO 6259-2 or ISO 6259-3, as applicable.

5 Test pieces

5.1 Nature of the test pieces

The test pieces shall conform to the relevant type specified in ISO 6259-2 or ISO 6259-3, as applicable.

5.2 Preparation of test pieces

5.2.1 Sampling from the pipe

Cut strips from the pipe as supplied, i.e. which has not been heated or flattened, so that their axis is parallel to the axis of the pipe and the positions from which the strips are taken conform to item a) or item b) below, as applicable: