
Plastomerne cevi - Ugotavljanje nateznih lastnosti - 2. del: Cevi iz nemehčane polivinilklorida (PVC-U), orientiranega nemehčane polivinilklorida (PVC-O), kloriranega polivinilklorida (PVC-C) in iz polivinilklorida (PVC-HI), zelo odpornega na udar (ISO/DIS 6259-2:2019)

Thermoplastics pipes - Determination of tensile properties - Part 2: Pipes made of unplasticized poly(vinyl chloride) (PVC-U), oriented unplasticized poly(vinyl chloride) (PVC-O), chlorinated poly(vinyl chloride) (PVC-C) and high-impact poly(vinyl chloride) (PVC-HI) (ISO/DIS 6259-2:2019)

Rohre aus Thermoplasten - Bestimmung der Eigenschaften im Zugversuch - Teil 2: Rohre aus weichmacherfreiem Polyvinylchlorid (PVC-U), orientiertem weichmacherfreiem Polyvinylchlorid (PVC-O), chloriertem Polyvinylchlorid (PVC-C) und hochschlagzähem Polyvinylchlorid (PVC-HI) (ISO/DIS 6259-2:2019)

Tubes en matières thermoplastiques - Détermination des caractéristiques en traction - Partie 2: Tubes en poly(chlorure de vinyle) non plastifié (PVC-U), poly(chlorure de vinyle) non plastifié orienté (PVC-O), poly(chlorure de vinyle) chloré (PVC-C) et poly(chlorure de vinyle) à résistance au choc améliorée (PVC-HI) (ISO/DIS 6259-2:2019)

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Thermoplastics pipes — Determination of tensile properties —

Part 2:

Pipes made of unplasticized poly(vinyl chloride) (PVC-U), oriented unplasticized poly(vinyl chloride) (PVC-O), chlorinated poly(vinyl chloride) (PVC-C) and high-impact poly(vinyl chloride) (PVC-HI)

Tubes en matières thermoplastiques — Détermination des caractéristiques en traction —

Partie 2: Poly(chlorure de vinyle) non plastifié (PVC-U), poly(chlorure de vinyle) chloré (PVC-C), et poly(chlorure de vinyle) à résistance au choc améliorée (PVC-choc)

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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.

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This document 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 – Test methods and specifications*.

This second edition cancels and replaces the first edition (ISO 6259-2:1997), which has been technically revised.

The main changes compared to the previous edition are as follows:

- *Introduction of PVC-O pipes*
- *Correction of cross references with ISO 6259-1:2015*
- *Introduction of stress at break as additional characteristics to be measured and recorded*
- *Extended sampling for pipe dimensions above or equal 250 mm*
- *Updating the informative annexes*

A list of all parts in the ISO 6259- series can be found on the ISO website.

Introduction

This part of ISO 6259 specifies a method for determining the tensile properties of pipes made of PVC-U, PVC-O, PVC-C and PVC-HI.

NOTE In some countries PVC-HI is designated as PVC-M or PVC-A

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 are intended to 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.

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 can be made to ISO 527.

However, let it 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 in excess of 50 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.

Thermoplastics pipes — Determination of tensile properties —

Part 2:

Pipes made of unplasticized poly(vinyl chloride) (PVC-U), oriented unplasticized poly(vinyl chloride) (PVC-O), chlorinated poly(vinyl chloride) (PVC-C) and high-impact poly(vinyl chloride) (PVC-HI)

1 Scope

This part of ISO 6259 specifies a method of determining the tensile properties of pipes made of unplasticized poly(vinyl chloride) (PVC-U), oriented unplasticized poly(vinyl chloride) (PVC-O), chlorinated poly(vinyl chloride) (PVC-C) and high-impact poly(vinyl chloride) (PVC-HI, PVC-M or PVC-A), and in particular the following properties:

- the stress at yield and stress at break;
- the elongation at break.

NOTE The general method of test for the determination of the tensile properties of thermoplastics pipes is given in ISO 6259-1.

This part of ISO 6259 also gives, for information purposes only, the corresponding basic specifications in annexes A, B, C and D.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 527-1, *Plastics — Determination of tensile properties — Part 1: General principles*

ISO 6259-1:2015, *Thermoplastics pipes — Determination of tensile properties — Part 1: General test method*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6259-1 and the following apply.

3.1 Definitions related to material characteristics

3.1.1

Force at break

F_b

Force measured at the break

Note 1 to entry: It is expressed in Newton [N]

Note 2 to entry: It is the value of force on the force-strain curve directly prior to the separation of the specimen, i.e. directly prior to the load drop caused by crack initiation

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3.1.2

Stress at break σ_b

Stress measured at the break

Note 1 to entry: It is expressed in megapascal [MPa]

Note 2 to entry: It is the value of stress on the stress-strain curve directly prior to the separation of the specimen, i.e. directly prior to the load drop caused by crack initiation

4 Principle

See ISO 6259-1:2015, Clause 4, applicable to thermoplastics materials covered by this part of ISO 6259.

5 Apparatus

See ISO 6259-1:2015, Clause 5, applicable to thermoplastics materials covered by this part of ISO 6259.

6 Test pieces**6.1 General**

The test pieces shall be obtained by die cutting or machining. The method is determined by the thickness of the pipe wall and thermoplastic material.

NOTE Care ought to be taken when using die cutting to avoid damaging the test specimen or producing non parallel sides.

6.2 Dimensions of test pieces

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Depending on the method by which they are prepared (see 6.3), the shape and dimensions of the test pieces shall conform to table 1 and figure 1 or table 2 and figure 2, as applicable.

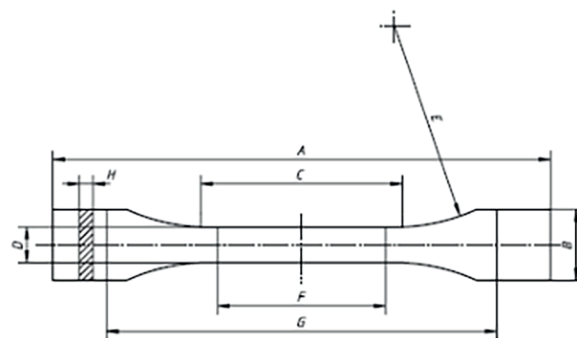


Figure 1 — Test piece obtained by machining (type 1)

Table 1 — Dimensions of test pieces prepared by machining