
**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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Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative reference	1
3 Terms and definitions	1
3.1 Geometric definitions.....	1
3.2 Definitions related to material characteristics.....	3
4 Principle	3
5 Apparatus	3
6 Test Pieces	4
6.1 Type of the test piece.....	4
6.2 Preparation of test pieces.....	4
6.2.1 Sampling from the pipe.....	4
6.2.2 Selection of test pieces.....	5
6.3 Checking test pieces.....	6
7 Conditioning	6
8 Test speed	6
9 Procedure	6
10 Expression of results	7
10.1 Stress at yield.....	7
10.2 Elongation at break.....	7
10.3 Statistical parameters.....	7
10.4 Retests.....	7
11 Test report	8
Bibliography	9

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword — Supplementary information](#).

The committee responsible for this document is 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 basic specifications*.

This second edition cancels and replaces the first edition (ISO 6259-1:1997), which has been technically revised.

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*

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 as 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.^{[1][2]}

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.^{[1][2]}

However, let it be noted that ISO 527^{[1][2]} 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^{[1][2]} 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.