

**Plastid. Tõmbeomaduste määramine. Osa 1:  
Üldpõhimõtted (ISO 527-1:2012)**

**Plastics - Determination of tensile properties - Part 1:  
General principles (ISO 527-1:2012)**

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English Version

## Plastics - Determination of tensile properties - Part 1: General principles (ISO 527-1:2012)

Plastiques - Détermination des propriétés en traction -  
Partie 1: Principes généraux (ISO 527-1:2012)

Kunststoffe - Bestimmung der Zugeigenschaften - Teil 1:  
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## Foreword

This document (EN ISO 527-1:2012) has been prepared by Technical Committee ISO/TC 61 "Plastics" in collaboration with Technical Committee CEN/TC 249 "Plastics" the secretariat of which is held by NBN.

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of an identical text or by endorsement, at the latest by August 2012, and conflicting national standards shall be withdrawn at the latest by August 2012.

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# Contents

Page

Foreword .....	iv
<b>1 Scope .....</b>	<b>1</b>
<b>2 Normative references .....</b>	<b>1</b>
<b>3 Terms and definitions .....</b>	<b>2</b>
<b>4 Principle and methods .....</b>	<b>5</b>
<b>4.1 Principle .....</b>	<b>5</b>
<b>4.2 Method .....</b>	<b>6</b>
<b>5 Apparatus .....</b>	<b>6</b>
<b>5.1 Testing machine .....</b>	<b>6</b>
<b>5.2 Devices for measuring width and thickness of the test specimens .....</b>	<b>9</b>
<b>6 Test specimens .....</b>	<b>9</b>
<b>6.1 Shape and dimensions .....</b>	<b>9</b>
<b>6.2 Preparation of specimens .....</b>	<b>9</b>
<b>6.3 Gauge marks .....</b>	<b>10</b>
<b>6.4 Checking the test specimens .....</b>	<b>10</b>
<b>6.5 Anisotropy .....</b>	<b>10</b>
<b>7 Number of test specimens .....</b>	<b>10</b>
<b>8 Conditioning .....</b>	<b>11</b>
<b>9 Procedure .....</b>	<b>11</b>
<b>9.1 Test atmosphere .....</b>	<b>11</b>
<b>9.2 Dimensions of test specimen .....</b>	<b>11</b>
<b>9.3 Gripping .....</b>	<b>11</b>
<b>9.4 Prestresses .....</b>	<b>12</b>
<b>9.5 Setting of extensometers .....</b>	<b>12</b>
<b>9.6 Test speed .....</b>	<b>12</b>
<b>9.7 Recording of data .....</b>	<b>13</b>
<b>10 Calculation and expression of results .....</b>	<b>13</b>
<b>10.1 Stress .....</b>	<b>13</b>
<b>10.2 Strain .....</b>	<b>13</b>
<b>10.3 Tensile modulus .....</b>	<b>14</b>
<b>10.4 Poisson's ratio .....</b>	<b>15</b>
<b>10.5 Statistical parameters .....</b>	<b>16</b>
<b>10.6 Significant figures .....</b>	<b>16</b>
<b>11 Precision .....</b>	<b>16</b>
<b>12 Test report .....</b>	<b>16</b>
<b>Annex A (informative) Determination of strain at yield .....</b>	<b>18</b>
<b>Annex B (informative) Extensometer accuracy for the determination of Poisson's ratio .....</b>	<b>20</b>
<b>Annex C (normative) Calibration requirements for the determination of the tensile modulus .....</b>	<b>21</b>
<b>Bibliography .....</b>	<b>23</b>

# Plastics — Determination of tensile properties —

## Part 1: General principles

### 1 Scope

1.1 This part of ISO 527 specifies the general principles for determining the tensile properties of plastics and plastic composites under defined conditions. Several different types of test specimen are defined to suit different types of material which are detailed in subsequent parts of ISO 527.

1.2 The methods are used to investigate the tensile behaviour of the test specimens and for determining the tensile strength, tensile modulus and other aspects of the tensile stress/strain relationship under the conditions defined.

1.3 The methods are selectively suitable for use with the following materials:

- rigid and semi-rigid (see 3.12 and 3.13, respectively) moulding, extrusion and cast thermoplastic materials, including filled and reinforced compounds in addition to unfilled types; rigid and semi-rigid thermoplastics sheets and films;
- rigid and semi-rigid thermosetting moulding materials, including filled and reinforced compounds; rigid and semi-rigid thermosetting sheets, including laminates;
- fibre-reinforced thermosets and thermoplastic composites incorporating unidirectional or non-unidirectional reinforcements, such as mat, woven fabrics, woven rovings, chopped strands, combination and hybrid reinforcement, rovings and milled fibres; sheet made from pre-impregnated materials (prepregs),
- thermotropic liquid crystal polymers.

The methods are not normally suitable for use with rigid cellular materials, for which ISO 1926 is used, or for sandwich structures containing cellular materials.

### 2 Normative references

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

ISO 291, *Plastics — Standard atmospheres for conditioning and testing*

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

ISO 7500-1:2004, *Metallic materials — Verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Verification and calibration of the force-measuring system*

ISO 9513:1999, *Metallic materials — Calibration of extensometers used in uniaxial testing*

ISO 16012, *Plastics — Determination of linear dimensions of test specimens*

ISO 20753, *Plastics — Test specimens*

ISO 23529, *Rubber — General procedures for preparing and conditioning test pieces for physical test methods*