

Textile fibres - Determination of breaking force and elongation at break of individual fibres (ISO 5079:2020)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 5079:2020 sisaldab Euroopa standardi EN ISO 5079:2020 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 5079:2020 consists of the English text of the European standard EN ISO 5079:2020.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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English Version

**Textile fibres - Determination of breaking force and  
elongation at break of individual fibres (ISO 5079:2020)**

Fibres textiles - Détermination de la force de rupture et  
de l'allongement de rupture des fibres individuelles  
(ISO 5079:2020)

Textilfasern - Bestimmung der Höchstzugkraft und  
Höchstzugkraftdehnung an Spinnfasern (ISO  
5079:2020)

This European Standard was approved by CEN on 2 October 2020.

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

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## European foreword

This document (EN ISO 5079:2020) has been prepared by Technical Committee ISO/TC 38 "Textiles" in collaboration with Technical Committee CEN/TC 248 "Textiles and textile products" the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by April 2021, and conflicting national standards shall be withdrawn at the latest by April 2021.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 5079:1995.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Endorsement notice

The text of ISO 5079:2020 has been approved by CEN as EN ISO 5079:2020 without any modification.

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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.

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](http://www.iso.org/directives)).

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

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 38, *Textiles*, Subcommittee SC 23, *Fibres and yarns*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 248, *Textiles and textile products*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 5079:1995), which has been technically revised. The main changes compared to the previous edition are as follows:

- addition of “ISO 3696”, “ISO 7500-1” and “ISO 10012” as normative references;
- adjustment of “ISO 3060” and “IWT0 32” from normative references to bibliography;
- revision of the definitions of “breaking force” (3.1), “force at rupture” (3.2), “extension” (3.3), “elongation at break” (3.5), “elongation at rupture” (3.6), “gauge length” (3.7), “initial length” (3.8), “pretension” (3.9) and “breaking density” (3.11);
- deletion of terminological entry for “tension” (former 3.10);
- addition of terminological entry for “constant-rate-of-extension testing machine” (3.10);
- addition of a note in [Clause 4](#);
- redrafting of text describing the requirements for CRE testing machine in [5.1](#);
- addition of “Tweezers” (5.2);
- revision of requirements for wetting solution in [5.3](#) (former 5.2);
- addition of details about preparation of test specimen in [Clause 7](#);
- addition of [8.2 c](#));
- redrafting of the test procedure of wet test in [8.8](#) (former 8.6);

- redrafting of the test report in [Clause 10](#);
- addition of [Figure A.1](#);
- addition of [Annex B](#).

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

# Textile fibres — Determination of breaking force and elongation at break of individual fibres

## 1 Scope

This document specifies the method and conditions of test for the determination of the breaking force and elongation at break of individual fibres in the conditioned or wet state.

The determination of these fibre properties, when carried out on different kinds of testing equipment, will not generally give identical results. To avoid such differences, this document is restricted to the use of constant-rate-of-extension testing machine.

It is applicable to all fibres, including crimped fibres, provided that the length of fibre available enables the gauge length specified in this document.

**NOTE** For natural fibres (especially wool and cotton), the breaking test most commonly performed is that of bundles of fibres (see ISO 3060 and IWTO 32-82).

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 139, *Textiles — Standard atmospheres for conditioning and testing*

ISO 1130, *Textile fibres — Some methods of sampling for testing*

ISO 1973, *Textile fibres — Determination of linear density — Gravimetric method and vibroscope method*

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

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

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

ISO 10012, *Measurement management systems — Requirements for measurement processes and measuring equipment*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <http://www.electropedia.org/>

### 3.1

#### breaking force

maximum force appearing during a test specimen carried to rupture in a tensile test under specified conditions

**EXAMPLE** See  $A_1$  in [Figure 1](#).