

## Netkané textílie Skúšobné metódy

Časť 18: Zisťovanie pevnosti v ťahu a predĺženia netkaných materiálov ťahovou metódou Grab (ISO 9073-18: 2023, opravená verzia 2024-05)

STN EN ISO 9073-18

80 6201

Nonwovens - Test methods - Part 18: Determination of tensile strength and elongation at break using the grab tensile test (ISO 9073-18:2023, Corrected version 2024-05)

Táto norma obsahuje anglickú verziu európskej normy. This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/24

Obsahuje: EN ISO 9073-18:2023, ISO 9073-18 Corrected version 2024-05:2023

Oznámením tejto normy sa ruší STN EN ISO 9073-18 (80 6201) zo septembra 2008

#### 138938

# EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

EN ISO 9073-18

November 2023

ICS 59.080.30

Supersedes EN ISO 9073-18:2008

#### **English Version**

Nonwovens - Test methods - Part 18: Determination of tensile strength and elongation at break using the grab tensile test (ISO 9073-18:2023, Corrected version 2024-05)

Nontissés - Méthodes d'essai - Partie 18: Détermination de la résistance à la traction et de l'allongement à la rupture par l'essai d'arrachement par traction (ISO 9073-18:2023, Version corrigée 2024-05) Vliesstoffe - Prüfverfahren - Teil 18: Bestimmung der Höchstzugkraft und der Höchstzugkraftdehnung von Vliesstoffen mit dem Grab-Zugversuch (ISO 9073-18:2023, korrigierte Fassung 2024-05)

This European Standard was approved by CEN on 25 November 2023.

This European Standard was corrected and reissued by the CEN-CENELEC Management Centre on 29 May 2024.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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, Türkiye and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

#### EN ISO 9073-18:2023 (E)

Contents	Page
European foreword	3

EN ISO 9073-18:2023 (E)

#### **European foreword**

This document (EN ISO 9073-18:2023) 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 May 2024, and conflicting national standards shall be withdrawn at the latest by May 2024.

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 9073-18:2008.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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, Türkiye and the United Kingdom.

#### **Endorsement notice**

The text of ISO 9073-18:2023, Corrected version 2024-05 has been approved by CEN as EN ISO 9073-18:2023 without any modification.



# International Standard

ISO 9073-18

Nonwovens — Test methods —

Part 18:

Determination of tensile strength and elongation at break using the grab tensile test

Nontissés — Méthodes d'essai —

Partie 18: Détermination de la résistance à la traction et de l'allongement à la rupture par l'essai d'arrachement par traction

Second edition 2023-11

Corrected version 2024-05



#### **COPYRIGHT PROTECTED DOCUMENT**

© ISO 2023

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office CP 401 • Ch. de Blandonnet 8 CH-1214 Vernier, Geneva Phone: +41 22 749 01 11 Email: copyright@iso.org

Website: <a href="www.iso.org">www.iso.org</a>
Published in Switzerland

Contents		Page
Fore	word	iv
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Principle	3
5	Reagents and materials	3
6	Apparatus	3
7	Sampling 7.1 Lot sampling 7.2 Laboratory sample 7.3 Test specimens	4 5
8	Conditioning	5
9	Preparation of test specimens 9.1 General 9.2 Dimensions 9.3 Marking on the test specimen 9.4 Wet test specimens	6 6
10	Preparation, calibration and verification of apparatus  10.1 Tensile testing machine  10.2 Clamping system  10.3 Verification of the total operating system of the apparatus	6 7
11	Procedure  11.1 Gauge length  11.2 Rate of extension  11.3 Mounting of test specimens  11.4 Operation  11.4.1 General  11.4.2 Slippage  11.4.3 Jaw breaks	
12	Calculation	
	12.1 Breaking force	
13	Expression of results	9
14	Precision and bias	9
<b>15</b>	Test report	9
Anno	ex A (informative) Possible causes of low precision when grab strength testing	11
Bibli	iography	12

#### 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 document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see <a href="https://www.iso.org/directives">www.iso.org/directives</a>).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <a href="https://www.iso.org/patents">www.iso.org/patents</a>. ISO shall not be held responsible for identifying any or all such patent rights.

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 <a href="https://www.iso.org/iso/foreword.html">www.iso.org/iso/foreword.html</a>.

This document was prepared by Technical Committee ISO/TC 38, *Textiles*, 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 second edition cancels and replaces the first edition (ISO 9073-18:2007), which has been technically revised.

The main changes are as follows:

- the title has been changed from "Determination of breaking strength and elongation of nonwoven material using the grab tensile test" to "Determination of tensile strength and elongation at break suing the grab tensile test";
- the Scope has been clarified and made precise;
- new terms have been added to the list of terms in Clause 3;
- new following new Clauses have been added and subsequent clauses have been renumbered:
  - <u>Clause 7</u>, Sampling;
  - Clause 8, Conditioning;
  - <u>Clause 9</u>, Preparation of specimens;
  - <u>Clause 10</u>, Preparation, calibration and verification of apparatus;
  - Clause 13, Expression of results;
  - Clause 14, Precision and bias.

A list of all parts in the ISO 9073 series can be found on the ISO website.

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 <a href="https://www.iso.org/members.html">www.iso.org/members.html</a>.

This corrected version of ISO 9073-18:2023 incorporates the following corrections:

- in <u>3.7</u>, Note 1 to entry has been deleted;
- in 9.2, the gauge length has been corrected;
- in <u>11.1</u> and <u>11.2</u>, Options A and B have been deleted.

#### Nonwovens — Test methods —

#### Part 18:

# Determination of tensile strength and elongation at break using the grab tensile test

SAFETY WARNING — This document does not claim to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this document to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. It is expected that the person performing this test has been fully trained in all aspects of this procedure.

#### 1 Scope

This document specifies a test method for the determination of the breaking force of nonwovens using a grab method in conditioned or wet state.

This test method is not applicable to materials which have a high percentage of stretch. Comparing test results from tensile testing machines operating on different principles is not applicable.

This document specifies methods using constant rate of specimen extension (CRE) tensile testers. Constant-rate-of-loading (CRL) instruments is covered, for information, in ISO 2062:2009, Annex A, in recognition of the fact that these instruments are still in use and can be used by agreement.

#### 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 186, Paper and board — Sampling to determine average quality

ISO 2859-1, Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

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

ISO 3951-1, Sampling procedures for inspection by variables — Part 1: Specification for single sampling plans indexed by acceptance quality limit (AQL) for lot-by-lot inspection for a single quality characteristic and a single AQL

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

### koniec náhľadu – text ďalej pokračuje v platenej verzii STN