



**NSAI**  
Standards

Irish Standard  
I.S. EN ISO 9073-4:2021

Nonwovens - Test methods - Part 4:  
Determination of tear resistance by the  
trapezoid procedure (ISO 9073-4:2021)

**I.S. EN ISO 9073-4:2021**

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## National Foreword

I.S. EN ISO 9073-4:2021 is the adopted Irish version of the European Document EN ISO 9073-4:2021, Nonwovens - Test methods - Part 4: Determination of tear resistance by the trapezoid procedure (ISO 9073-4:2021)

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EUROPEAN STANDARD

**EN ISO 9073-4**

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2021

ICS 59.080.30

Supersedes EN ISO 9073-4:1997

English Version

## Nonwovens - Test methods - Part 4: Determination of tear resistance by the trapezoid procedure (ISO 9073-4:2021)

Nontissés - Méthodes d'essai - Partie 4: Détermination de la résistance à la déchirure par la méthode du trapèze (ISO 9073-4:2021)

Vliesstoffe - Prüfverfahren - Teil 4: Bestimmung der Weiterreißfestigkeit mittels des Trapezoidverfahrens (ISO 9073-4:2021)

This European Standard was approved by CEN on 15 January 2021.

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COMITÉ EUROPÉEN DE NORMALISATION  
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**EN ISO 9073-4:2021 (E)**

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## **European foreword**

This document (EN ISO 9073-4:2021) 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of an identical text or by endorsement, at the latest by August 2021, and conflicting national standards shall be withdrawn at the latest by August 2021.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 9073-4:1997.

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 9073-4:2021 has been approved by CEN as EN ISO 9073-4:2021 without any modification.

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# INTERNATIONAL STANDARD

# ISO 9073-4

Third edition  
2021-01

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## Nonwovens — Test methods —

Part 4:

### Determination of tear resistance by the trapezoid procedure

*Nontissés — Méthodes d'essai —*

*Partie 4: Détermination de la résistance à la déchirure par la méthode  
du trapèze*



Reference number  
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## ISO 9073-4:2021(E)

### 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)).

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](http://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 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/TC38, *Textiles*.

This third edition cancels and replaces the second edition (ISO 9073-4:1997), which has been technically revised.

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

- the title has been changed to "Nonwovens — Test methods — Part 4: Determination of tear resistance by the trapezoid procedure";
- the value method of single specimen, changed from average value of the series of significant load peaks to maximum force as the test result of a single specimen has been modified.

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 [www.iso.org/members.html](http://www.iso.org/members.html).

# Nonwovens — Test methods —

## Part 4:

# Determination of tear resistance by the trapezoid procedure

## 1 Scope

This document specifies a method for the determination of tear resistance of nonwovens by the trapezoid method.

This document applies to nonwovens.

## 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 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

#### **constant rate of extension testing machine**

#### **CRE testing machine**

tensile-testing machine where one clamp is stationary whilst the other is moving with a constant speed throughout the test and where the entire testing system is virtually free from deflection

### 3.2

#### **gauge length**

distance between the two effective clamping points of a testing device

Note 1 to entry: The effective clamping points (or lines) of jaws can be checked by clamping a test specimen under defined pretension with carbon copy paper to produce a gripping pattern on the test specimen and/or jaw faces.

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