

**Tekstiil. Lausriide katsetamise  
meetodid. Osa 4: Rebimistugevuse  
määramine**

Textiles - Test methods for nonwovens - Part 4:  
Determination of tear resistance

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 9073-4:2000 sisaldab Euroopa standardi EN ISO 9073-4:1997 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 11.01.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 9073-4:2000 consists of the English text of the European standard EN ISO 9073-4:1997.</p> <p>This document is endorsed on 11.01.2000 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b> See standard määrab kindlaks meetodi lausmaterjalide rebenemistugevuse määramiseks trapetsimeetodiga.</p>	<p><b>Scope:</b></p>
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**Võtmesõnad:** kangad, katsed, lausriie, määramine, rebenemistugevus, rebimistestid, tekstiil

**English version**

Textiles

**Test methods for nonwovens**

Part 4: Determination of tear resistance  
(ISO 9073-4 : 1997)

Textiles – Méthodes d'essai pour  
nontissés – Partie 4: Détermination  
de la résistance à la déchirure  
(ISO 9073-4 : 1997)

Textilien – Prüfverfahren für Vlies-  
stoffe – Teil 4: Bestimmung der  
Weiterreißfestigkeit  
(ISO 9073-4 : 1997)

This European Standard was approved by CEN on 1997-07-05.

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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**CEN**

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

**Central Secretariat: rue de Stassart 36, B-1050 Brussels**

## Foreword

International Standard

ISO 9073-4 : 1997 Textiles – Test methods for nonwovens – Part 4: Determination of tear resistance, which was prepared by ISO/TC 38 'Textiles' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 248 'Textiles and textile products', the Secretariat of which is held by BSI, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by January 1998 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

## Endorsement notice

The text of the International Standard ISO 9073-4 : 1997 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

## Introduction

Although nonwovens are classified within the textile industry, it should be recognized that nonwovens technologically share characteristics not only with textile products but also with paper and/or plastic products. There is no current International Standard for determination of tear strength of textiles, but work is proceeding on determination of tear resistance (falling pendulum method, ISO 9290:1990, *Textiles — Woven fabrics — Determination of tear resistance by falling pendulum method*) and determination of tear resistance (tongue-tear method).

This method, which uses a trapezoidal tear, is a tension test in which the strength is determined primarily by the fibres of the composite structure and their bonding or interlocking. It is useful for estimating relative ease of tearing of nonwovens. In nonwovens, the mechanism of failure is affected by interfibre frictional forces and differs from that found for woven fabrics, where failure is essentially that of sequential rupture of yarns in tension.

There is evidence that this test may not be applicable to nonwovens above a certain mass per unit area and stiffness. Additional work on this problem is in progress.

## 1 Scope

This part of ISO 9073 specifies a method for the determination of tear resistance of nonwovens by the trapezoid method.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 9073. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 9073 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 139:1973, *Textiles — Standard atmospheres for conditioning and testing*.

ISO 186:1994, *Paper and board — Sampling to determine average quality*.

## 3 Principle

Marking of a trapezoid on a test piece.

Clamping of the non-parallel sides of the trapezoid in the jaws of a tensile testing machine.

Application of a continuously increasing extension to the test piece in such a way that a tear propagates across its width.

Determination of the average maximum tear resistance in newtons.

## 4 Apparatus

**4.1 Tensile testing machine**, either constant rate of extension type or constant rate of traverse type, equipped with an autographic recorder to register applied force.

**4.2 Clamps**, of sufficient width to accommodate the full width of the test piece.

**4.3 Template**, with dimensions as shown in figure 1.