## Determination of the elasticity of fabrics - Part 1: Strip tests

Determination of the elasticity of fabrics - Part 1: Strip tests



#### **EESTI STANDARDI EESSÕNA**

#### **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 14704-1:2005 sisaldab Euroopa standardi EN 14704-1:2005 ingliskeelset teksti.

Käesolev dokument on jõustatud 30.05.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 14704-1:2005 consists of the English text of the European standard EN 14704-1:2005.

This document is endorsed on 30.05.2005 with the notification being published in the official publication of the Estonian national standardisation organisation.

The standard is available from Estonian standardisation organisation.

#### Käsitlusala:

This document describes the methods of test using strips of fabric in straight strip form or as loops, which can be used to measure elasticity and related properties of fabrics, excluding narrow fabrics.

#### Scope:

This document describes the methods of test using strips of fabric in straight strip form or as loops, which can be used to measure elasticity and related properties of fabrics, excluding narrow fabrics.

**ICS** 59.080.30

Võtmesõnad:

### **EUROPEAN STANDARD** NORME EUROPÉENNE

**EUROPÄISCHE NORM** 

April 2005

EN 14704-1

ICS 59.080.30

#### **English version**

#### Determination of the elasticity of fabrics - Part 1: Strip tests

Détermination de l'élasticité des étoffes - Partie 1: Essais sur bande

Bestimmung der Elastizität von textilen Flächengebilden -Teil 1: Streifenprüfungen

This European Standard was approved by CEN on 3 March 2005.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

# Contents

	$O_{i}$	Page
Forewo	ord	
1	Scope	4
2	Normative references	4
3	Terms and definitions	
4	Principle	
5	Sampling	
6	Apparatus	6
7	Atmosphere for conditioning and testing	7
8 8.1 8.2 8.2.1 8.2.2 8.2.3	Preparation of test specimens  General  Test specimen preparation  Woven fabrics  Knitted fabrics  Non-woven fabrics	7 8 8 8
9 9.1.1 9.1.2 9.2 9.2.1 9.2.2 9.3	Procedure  Method A - Strip test specimens  Method B - Looped test specimens  Knitted fabrics  Method A - Strip test specimens  Method B - Looped test specimens  Operation	10 10 10 10 10 11
10	Recording	
11	Expressions and calculations of test results	12
12	Test report	14
	A (informative) Example of a typical cycling graph	
Annex	B (informative) Procedure for sampling	16
Annex	C (informative) Clamping and holding devices	17
Annex	D (informative) Example of a pattern for cutting test specimens from a laboratory samp	ole20
		7

#### **Foreword**

This document (EN 14704-1:2005) has been prepared by 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 October 2005, and conflicting national standards shall be withdrawn at the latest by October 2005.

The reasons for the development of this document are because of technical advancements in yarn and fabric structures and properties, which increase product range and developments.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, akia, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

#### 1 Scope

This document describes the methods of test using strips of fabric in straight strip form or as loops, which can be used to measure elasticity and related properties of fabrics, excluding narrow fabrics.

#### 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.

EN ISO 139, Textiles - Standard atmospheres for conditioning and testing (ISO 139:2005).

EN ISO 7500-1, Metallic materials – Verification of static uniaxial testing machines – Part 1: Tension/compression testing machines – Verification and calibration of the force-measuring system (ISO 7500-1:2004).

EN ISO 10012:2003, Measurement management systems - Requirements for measurement processes and measuring equipment (ISO 10012:2003).

ISO 4915, Textiles – Stitch types – Classification and terminology.

#### 3 Terms and definitions

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

#### 3.1

#### narrow fabric

woven or knitted construction intended for use as a trim, binding, edging, strapping or harness, and designed to be used in its full width

#### 3.2

#### elasticity

property of a material by virtue of which it tends to recover its original size and shape immediately after the removal of the force causing deformation

#### 3.3

#### constant-rate-of-extension (CRE) testing machine

tensile testing machine provided with one clamp, which is stationary, and another clamp, which moves with a constant speed throughout the test, the entire testing system being virtually free from deflection

#### 3.4

#### strip test specimen

test specimen in which the full width is gripped in the jaws of the testing machine

#### 3.5

#### loop test specimen

test specimen in which a seam is made to create a loop of the full width of the specimen and which is placed around a loop bar assembly positioned on the testing machine

NOTE This method of preparation is useful when any ageing or exposure testing is to be carried out on the specimens after measurement.