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**DETERMINATION OF THE ELASTICITY OF  
FABRICS - PART 2: MULTIAXIAL TESTS**

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EUROPEAN STANDARD

**EN 14704-2**

NORME EUROPÉENNE

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English Version

## Determination of the elasticity of fabrics - Part 2: Multiaxial tests

Détermination de l'élasticité des étoffes - Partie 2: Essais  
multiaxiaux

Bestimmung der Elastizität von textilen Flächengebilden -  
Teil 2: Multiaxiale Prüfungen

This European Standard was approved by CEN on 7 January 2007.

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.

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**EN 14704-2:2007 (E)**

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## **Foreword**

This document (EN 14704-2:2007) 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of an identical text or by endorsement, at the latest by August 2007, and conflicting national standards shall be withdrawn at the latest by August 2007.

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

EN 14704 *Determination of the elasticity of fabrics* consists of the following parts:

*Part 1: Strip tests*

*Part 2: Multiaxial tests*

*Part 3: Narrow fabrics*

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, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

## EN 14704-2:2007 (E)

### 1 Scope

This European Standard specifies the methods of test, which can be used to measure elasticity and related properties of fabrics, when they undergo a deformation of their surface, excluding narrow fabrics. Two methods are specified, one a dynamic method (method A) and the other a static method (method B).

The results obtained cannot be compared. The choice of method should be agreed between parties and indicated in the test report.

### 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 14704-1, *Determination of the elasticity of fabrics — Part 1: Strip tests*

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, *Measurement management systems — Requirements for measurement processes and measuring equipment (ISO 10012:2003)*

### 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

##### **bagging**

residual deformation, expressed in millimetres, between the original state and the state of the surface when it has undergone a multidirectional force, which by repetition creates a “bag”

#### 3.5

##### **maximum deformation**

maximum deformation, expressed in millimetres, developed when a specified force is applied to the surface of the test specimen compared to the original state of a test specimen

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