Textiles - Tensile properties of fabrics - Part 1: Determination of maximum force and elongation at maximum force using the strip method (ISO 13934-1:2013)

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NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 13934-1:2013 sisaldab Euroopa standardi EN ISO 13934-1:2013 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 13934-1:2013 consists of the English text of the European standard EN ISO 13934-1:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 17.04.2013.	Date of Availability of the European standard is 17.04.2013.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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English Version

Textiles - Tensile properties of fabrics - Part 1: Determination of maximum force and elongation at maximum force using the strip method (ISO 13934-1:2013)

Textiles - Propriétés des étoffes en traction - Partie 1: Détermination de la force maximale et de l'allongement à la force maximale par la méthode sur bande (ISO 13934-1:2013)

Textilien - Zugeigenschaften von textilen Flächengebilden - Teil 1: Bestimmung der Höchstzugkraft und Höchstzugkraft-Dehnung mit dem Streifen-Zugversuch (ISO 13934-1:2013)

This European Standard was approved by CEN on 2 April 2013.

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Foreword

This document (EN ISO 13934-1:2013) 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of an identical text or by endorsement, at the latest by October 2013, and conflicting national standards shall be withdrawn at the latest by October 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 13934-1:1999.

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Endorsement notice

The text of ISO 13934-1:2013 has been approved by CEN as EN ISO 13934-1:2013 without any modification.

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Introduction

This part of ISO 13934 has been prepared in the context of several test methods for determination of certain mechanical properties of textiles using mainly tensile testing machines, e.g. tensile properties, seam tensile properties, tear properties, seam slippage. The procedure for these standards agrees where appropriate. The results obtained by one of the methods should not be compared with those obtained by the other methods.

Textiles — Tensile properties of fabrics —

Part 1: Determination of maximum force and elongation at maximum force using the strip method

1 Scope

This part of ISO 13934 specifies a procedure to determine the maximum force and elongation at maximum force of textile fabrics using a strip method.

NOTE ISO 13934-2 describes the method known as the grab method. For informative references, see Bibliography.

The method is mainly applicable to woven textile fabrics, including fabrics which exhibit stretch characteristics imparted by the presence of an elastomeric fibre, mechanical, or chemical treatment. It can be applicable to fabrics produced by other techniques. It is not normally applicable to geotextiles, nonwovens, coated fabrics, textile-glass woven fabrics, and fabrics made from carbon fibres or polyolefin tape yarns (see Bibliography).

The method specifies the determination of the maximum force and elongation at maximum force of test specimens in equilibrium with the standard atmosphere for testing, and of test specimens in the wet state.

The method is restricted to the use of constant rate of extension (CRE) testing machines.

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.

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

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

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 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.

3.1
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

3.2
strip test
tensile test in which the full width of the test specimen is gripped in the jaws of the testing machine

3.3
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 the jaw faces.

3.4
initial length
length of a test specimen under specified pretension between the two effective clamping points at the beginning of certain tests

Note 1 to entry: See also 3.3.

3.5
pretension
force applied to a test specimen at the beginning of certain tests

Note 1 to entry: Pretension is used to determine the initial length of the test specimen (see also 3.4 and 3.7).

3.6
extension
increase in length of a test specimen produced by a force

Note 1 to entry: Extension is expressed in units of length.

3.7
elongation
ratio of the extension of a test specimen to its initial length

Note 1 to entry: Elongation is expressed as a percentage.

3.8
elongation at maximum force
elongation of a test specimen produced by the maximum force

Note 1 to entry: See Figure 1.