



**NSAI**  
Standards

Irish Standard  
I.S. EN ISO 13935-2:2014

Textiles - Seam tensile properties of fabrics and made-up textile articles - Part 2: Determination of maximum force to seam rupture using the grab method (ISO 13935-2:2014)

## I.S. EN ISO 13935-2:2014

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

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NSAI  
1 Swift Square,  
Northwood, Santry  
Dublin 9

T +353 1 807 3800  
F +353 1 807 3838  
E standards@nsai.ie  
W NSAI.ie

Sales:  
T +353 1 857 6730  
F +353 1 857 6729  
W standards.ie

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**Textiles - Seam tensile properties of fabrics and made-up textile articles - Part 2: Determination of maximum force to seam rupture using the grab method (ISO 13935-2:2014)**

Textiles - Propriétés de résistance à la traction des coutures d'étoffes et d'articles textiles confectionnés - Partie 2: Détermination de la force maximale avant rupture des coutures par la méthode d'arrachement (Grab test) (ISO 13935-2:2014)

Textilien - Zugversuche an Nähten in textilen Flächegebilden und Konfektionstextilien - Teil 2: Bestimmung der Höchstzugkraft von Nähten mit dem Grab-Zugversuch (ISO 13935-2:2014)

This European Standard was approved by CEN on 11 February 2014.

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**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

**EN ISO 13935-2:2014 (E)**

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## **Foreword**

This document (EN ISO 13935-2:2014) 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of an identical text or by endorsement, at the latest by October 2014, and conflicting national standards shall be withdrawn at the latest by October 2014.

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 13935-2:1999.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### **Endorsement notice**

The text of ISO 13935-2:2014 has been approved by CEN as EN ISO 13935-2:2014 without any modification.

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**INTERNATIONAL  
STANDARD**

**ISO  
13935-2**

Second edition  
2014-04-01

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**Textiles — Seam tensile properties of  
fabrics and made-up textile articles —**

**Part 2:**

**Determination of maximum force to  
seam rupture using the grab method**

*Textiles — Propriétés de résistance à la traction des coutures d'étoffes  
et d'articles textiles confectionnés —*

*Partie 2: Détermination de la force maximale avant rupture des  
coutures par la méthode d'arrachement (Grab test)*



Reference number  
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**ISO 13935-2:2014(E)**



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Tel. + 41 22 749 01 11  
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## ISO 13935-2:2014(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. [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. [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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 38, *Textiles*, Subcommittee SC 24, *Conditioning atmospheres and physical tests for textile fabrics*.

This second edition cancels and replaces the first edition (ISO 13935-2:1999), of which it constitutes a minor revision.

ISO 13935 consists of the following parts, under the general title *Textiles — Seam tensile properties of fabrics and made-up textile articles*:

- *Part 1: Determination of maximum force to seam rupture using the strip method*
- *Part 2: Determination of maximum force to seam rupture using the grab method*

## **Introduction**

This part of ISO 13935 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. See Bibliography for informative references.

Where it is intended to compare the seam maximum force values of sewn seams with the fabric maximum force, it is important to use the same type of test, test conditions and test specimens in the tests in this part of ISO 13935 and ISO 13934-2 (see Bibliography).



# Textiles — Seam tensile properties of fabrics and made-up textile articles —

## Part 2:

# Determination of maximum force to seam rupture using the grab method

## 1 Scope

This part of ISO 13935 specifies methods for the determination of seam maximum force of sewn seams when the force is applied perpendicularly to the seam. This part of ISO 13935 describes the method known as the grab test.

NOTE ISO 13935-1 describes the method known as the strip test. For informative references see the 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 may be applicable to fabrics produced by other techniques. It is normally not applicable to geotextiles, nonwovens, coated fabrics, textile-glass woven fabrics and fabrics made from carbon fibres or polyolefin tape yarns (see Bibliography).

The sewn fabrics may be obtained from previously sewn articles or may be prepared from fabric samples, as agreed by the parties interested in the results.

This method is applicable to straight seams only and not to curved seams.

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

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 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

[SOURCE: ISO 13934-1:2013]

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