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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)*



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# Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Principle</b> .....	<b>2</b>
<b>5 Sampling</b> .....	<b>2</b>
<b>6 Apparatus</b> .....	<b>2</b>
<b>7 Atmosphere for conditioning and testing</b> .....	<b>3</b>
<b>8 Preparation of seams and of test specimens</b> .....	<b>3</b>
8.1 Preparation of seams, if required, before testing.....	3
8.2 Dimensions.....	3
8.3 Preparation of test specimens.....	4
<b>9 Procedure</b> .....	<b>5</b>
9.1 Gauge length.....	5
9.2 Rate of extension.....	5
9.3 Mounting of test specimens.....	5
9.4 Operation.....	6
<b>10 Calculation and expression of results</b> .....	<b>6</b>
<b>11 Test report</b> .....	<b>6</b>
<b>Annex A (informative) Arrangements of jaws for the grab test</b> .....	<b>8</b>
<b>Bibliography</b> .....	<b>9</b>

## 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]