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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 3923.1-2013

**Textiles -- Tensile properties of fabrics -- Part 1: Determination
of maximum force and elongation at maximum force using the
strip method**

(English Translation)

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Foreword

GB/T 3923 consists of the following parts, under the general title "Textiles - Tensile properties of fabrics".

- Part 1.Determination of maximum force and elongation at maximum force using the strip method;

- Part 2.Determination of maximum force using the grab method.

This Part is Part 1 of GB/T 3923.

This Part was drafted according to the rules specified in GB/T 1.1-2009.

This Part replaces GB/T 3923.1-1997 "Textiles - Tensile properties of fabrics - Part 1.

Determination of breaking force and elongation at breaking force - Strip method".

Compared with GB/T 3923.1-1997, the main technical changes in this Part are as follows.

- The provision of "The method is restricted to the use of constant rate of extension

(CRE) testing machines" in Chapter 1 was deleted;

- In Chapter 2 "Normative References", GB/T 8170 was deleted; GB/T 6682, GB/T

16825.1 and GB/T 19022 were added;

- 3.2, 3.3 and 3.14 of the original standard were deleted; the notes of 3.3 and 3.5 were added;

- Add the note of 6.1;

- The provision of laboratory sampling (8.1) was integrated into Chapter 5;

- Add the column of "rate of elongation" in Table 1;

- The requirements of "round the results for values" in 10.1 was modified; and add "if required " in 10.3 and 10.4.

This Part was redrafted based on ISO 13934-1:1999 "Textiles - Tensile properties of fabrics - Part 1. Determination of maximum force and elongation at maximum force using the strip method" (English edition).

The main differences between this Part and ISO 13934-1:1999 are as follows.

- Foreword, introduction and bibliography of the international standard were deleted;

- Chapter 1 "Scope" was modified;

- The international standards and European Union standards specified in Normative References are replaced by corresponding national standards of China;

- The note of 3.3 was modified;

- Subclauses of 6.1 was replaced by inclusion of items;

- The hanging paragraph(es) of 9.3 and 9.4 were changed into 9.3.1 and 9.4.1; the series number of subsequent subclauses were increased accordingly;

- Add the notes of 9.3.1 and 9.3.3;

- Chapter 10 was divided into 4 subclauses; add the note of 10.1 and equations (1) to (5).

This Part was proposed by the China National Textile and Apparel Council.

This Part shall be under the jurisdiction of Subcommittee on Basic Standard of the National Technical Committee 209 on Textiles of Standardization Administration of China (SAC/TC 209/SC 1).

Drafting organizations of this Part. CTS (Beijing) Textile Testing & Certification Services and National Textile Quality Supervision Testing Center.

Chief drafting staffs of this Part. Liu Ming, Zheng Yuying, Wang Ying and Li Yafeng.

The previous editions replaced by this Standard are as follows.

- GB/T 3923-1983;
- GB/T 3923.1-1997.

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 GB/T 3923 specifies a procedure to determine the maximum force and elongation at maximum force of textile fabrics using a strip method.

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.

3 Terms and Definitions

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

Length of a test specimen under specified pretension between the two effective clamping points at the beginning of certain tests (see 3.3).

4 Principle

A fabric test specimen of specified dimensions is extended at a constant rate until it ruptures. The maximum force and the elongation at maximum force and, if required, the force at rupture and the elongation at rupture are recorded.

5 Sampling

Select samples either in accordance with the procedure laid down in the material specification for the fabric, or as agreed between the interested parties.

6 Apparatus

Metrological confirmation system of the tensile-testing machine shall be in accordance with GB/T 19022. The constant-rate-of-extension (CRE) machine shall have the general characteristics as follows.

7 Atmosphere for Conditioning and Testing

The atmospheres for preconditioning, conditioning and testing shall be as specified in GB/T 6529.

8 Preparation of Test Specimen

For woven fabrics, each test specimen shall be cut with its length parallel to the warp or the weft of the fabric and shall be sufficiently wide to allow the necessary fringes.

9 Procedure

Set the rate of extension or elongation of the tensile-testing machine as a function of the elongation at maximum force of the fabric as specified in Table 1.

Perform the test according 9.1 to 9.4 immediately after removal of a test specimen from the liquid (see 8.4.2) and briefly placing it on blotting paper to remove excess water. For wet tests, apply half of the pretension specified in 9.3.2.

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