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

GB/T 47779-2026

**Textiles - Biaxial tensile properties of woven fabric -
Determination of maximum force and elongation at maximum
force**

纺织品 机织物双轴向拉伸性能 断裂强力和断裂伸长率的测定

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is modified to adopt ISO 24281:2021 "Textiles - Biaxial tensile properties, breaking strength and elongation at break" for woven fabrics.

Determination (sampling method) Compared with ISO 24281:2021, this document has undergone the following structural adjustments.

--- Clauses 3.4 and 3.5 have been added, corresponding to clause 3.4 in ISO 24281:2021, with subsequent clauses updated accordingly;

---6.1 corresponds to the suspension section of Chapter 6 in ISO 24281:2021, and 6.2 corresponds to 6.1 in ISO 24281:2021. Subsequent clauses follow in sequence.

Postponed;

---8.2.1 and 8.2.2 correspond to 8.2 of ISO 24281:2021;

---8.3.1 and 8.3.2 correspond to 8.3 of ISO 24281:2021;

---Sections 9.3.1, 9.3.2, and 9.3.3 correspond to section 9.3 of ISO 24281:2021;

---10.1, 10.2, 10.3, and 10.4 correspond to Chapter 10 of ISO 24281:2021;

---B.1 and B.2 correspond to Annex B of ISO 24281:2021.

The technical differences between this document and ISO 24281:2021, and the reasons therefor, are as follows.

---The scope of application in Chapter 1 has been changed. the statement "not applicable to coated fabrics" in Chapter 1 of ISO 24281:2021 has been removed.

This is to adapt to domestic industry needs and improve the applicability of the standard;

---ISO 13934-2 (see Chapter 3) has been replaced with the normatively referenced GB/T

3923.2-2013 to adapt to my country's technical requirements.

Add components to increase operability;

---ISO 13934-1 (see Chapter 3) has been replaced with the normatively referenced GB/T 3923.1-2013 to adapt to my country's technical requirements.

Add components to increase operability;

---ISO 10012 (see 6.1) has been replaced with the normatively referenced GB/T 19022 to adapt to my country's technical conditions and increase operability.

Actual nature;

---ISO 7500-1 (see 6.2) has been replaced with the normatively referenced GB/T 16825.1 to adapt to my country's technical conditions and add [further details needed].

Operability;

---ISO 139 (see Chapter 7) has been replaced with the normatively referenced GB/T 6259 to adapt to my country's technical conditions and increase operability.

Actual nature;

---Added the terminology and definition of "strip test" (see 3.4) for ease of understanding;

Seek to improve the reproducibility of the method;

---Added technical content related to strip sample testing methods (see 3.4, Chapter 4, 6.8, 8.2.2, 8.3.2, 9.1, and 9.3.2);

---Equations (1) to (4) have been added (see Chapter 10) to facilitate understanding and increase operability;

---Added "e) Test method (snap sample test or strip sample test);" (see Chapter 11), which needs to be specified as either a snap sample test or a strip sample test;

---Added content on strip test specimens (see Appendix B, B.2) to include example diagrams of strip test specimen preparation, and added content on...

Operability.

The following editorial changes have been made to this document.

---Standard name changed. The phrase "sampling method" has been removed from the ISO 24281:2021 standard name because this document has added bar samples.

The technical content of the test is designed to adapt to domestic industry needs and improve the applicability of the standard;

---The description "This document specifies the use of a constant rate of elongation (CRE) coaxial testing apparatus" in Chapter 1 of ISO 24281:2021 has been deleted because...

The content pertains to equipment requirements and has already been clearly stated in section 6.1;

---Added note 9.2;

---Change areas "4-1", "4-3", "4-2", and "4-4" in section 9.3 of ISO 24281:2021 to "3a" of section 9.3.1, in accordance with Appendix B.

"3c", "3b" and "3d";

---Note 10.1 has been added to improve the applicability of the standard.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

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

This document is under the jurisdiction of the National Technical Committee on Standardization of Textiles (SAC/TC209).

1 Scope

This document describes the test method for determining the breaking strength and elongation at break of woven fabrics using a biaxial tensile testing apparatus.

This document applies to woven fabrics, including those endowed with elastic properties through elastic fibers, mechanical or chemical treatments, and also to other fabrics.

Fabrics produced using advanced technology.

This document does not apply to geotextiles, nonwovens, fiberglass woven fabrics, or fabrics made of carbon fiber or polyolefin flat yarns.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 3923.1-2013 Textiles - Tensile Properties of Fabrics - Part 1: Determination of Breaking Strength and Elongation at Break (Strip Samples) (ISO 13934-1:1999, MOD)
GB/T 3923.2-2013 Textiles-Tensile properties of fabrics-Part 2: Determination of breaking strength (sampling method) (ISO 13934-2:1999, MOD) Note. There are no technical differences between the content referenced in GB/T 3923.2-2013 and the content referenced in ISO 13934-2.

GB/T 6529 Standard atmosphere for conditioning and testing of textiles (GB/T 6529-2008, ISO 139:2005, MOD) Note. There are no technical differences between the content referenced in GB/T 6529-2008 and the content referenced in ISO 139:2005.

GB/T 16825.1 Inspection and calibration of static uniaxial testing machines for metallic materials - Part 1: Tensile and/or compressive testing machines Inspection and calibration of force measurement systems (GB/T 16825.1-2022, ISO 7500-1:2018, IDT) GB/T 19022 Measurement management systems - Requirements for measurement processes and measuring equipment (GB/T 19022-2003, ISO 10012) 2003, IDT)

3 Terms and Definitions

The terms and definitions defined in GB/T 3923.1-2013 and GB/T 3923.2-2013, as well as the following terms and definitions, apply to this document.

biaxial

Measurements or applications performed simultaneously along two mutually perpendicular axes.

Throughout the test, the four grippers holding the specimen moved independently and at a constant speed along two mutually perpendicular axes, causing the specimen to...

A tensile testing instrument in which the elongation is directly proportional to the time.

Grap test