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

GB/T 3690-2026

Replacing GB/T 3690-2017

**Textile conveyor belts - Full thickness tensile strength,
elongation at break and elongation at the reference load - Test
method**

织物芯输送带 全厚度拉伸强度、拉断伸长率和参考力伸长率 试验方法
(English Translation)

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Foreword

This document is in accordance with GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting is scheduled.

This document replaces GB/T 3690-2017 "Tensile strength, elongation at break and elongation at reference force of fabric core conveyor belts of full thickness".

Compared with GB/T 3690-2017, the main technical changes in the "Test Methods" are as follows, except for structural adjustments and editorial modifications.

- a) The gripper has been modified, and a gripper with a nail-like design has been added (see 5.3, 2017 version 5.3);
- b) The method for cutting the specimen has been changed, and cutting devices such as high-pressure water jets have been added (see 6.2, 2017 version 6.2);
- c) The sample preparation method has been modified, expanding the scope of the area where the capping layer is thinned or removed (see 6.3, 2017 version of 6.3);
- d) The requirements for the conditioning environment of the specimens have been changed (see 6.5, 2017 edition of 6.5).

This document is modified to adopt ISO 283:2023 "Tensile strength, elongation at break and elongation at reference force of fabric-core conveyor belts of full thickness".

Test methods.

The technical differences between this document and ISO 283:2023, and the reasons therefor, are as follows.

---Added normative reference GB/T 5756 (see Chapter 3) to adapt to my country's technical conditions and enhance compatibility with existing standards.

Tone and applicability;

---Terms and definitions from ISO 283:2023 have been removed to adapt to my country's technical conditions and enhance harmonization with existing standards.

Use of sex;

Operability;

---The gripper has been modified by adding a pin-shaped gripper (see 5.3) to prevent slippage and improve gripping stability.

Qualitative;

---The sample cutting method was changed, and a high-pressure water jet cutting device was added for sample preparation (see 6.2) to address the shortcomings of traditional cutting methods in sample preparation.

This technology addresses the problems of thermal damage, mechanical stress, and insufficient machining precision that can easily occur during sample preparation, without altering the material properties.

Under the premise of feasibility, prepare samples with more precise dimensions and higher surface quality;

---ISO 18573 (see 6.5) has been replaced with the normatively referenced GB/T 30691 to adapt to my country's technical conditions and increase operability.

Acting.

The following editorial changes have been made to this document.

---ISO 21183-1 has been replaced by GB/T 39825 (see Chapter 1), which is cited in the informational reference.

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 Petroleum and Chemical Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Pulleys and Belts (SAC/TC428).

1 Scope

This document describes the test methods for the longitudinal tensile strength, elongation at break, and elongation at reference force of fabric-core conveyor belts with full thickness.

Used to determine transverse tensile strength and elongation at break of full thickness.

This document applies to fabric core conveyor belts.

This document does not apply to light-duty conveyor belts as specified in GB/T 39825.

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 5756 Conveyor Belt Terminology and Definitions GB/T 30691 Test environment and conditioning time for conveyor belts (GB/T 30691-2014, ISO 18573:2012, IDT) 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)

3 Terms and Definitions

The terms and definitions defined in GB/T 5756 apply to this document.

4 Principles

Full-thickness specimens are cut along the longitudinal direction of the conveyor belt and subjected to tensile testing under specified conditions until the specimen breaks.

5 Devices

CRE or CRT type testing machine, conforming to the Class 1 accuracy requirements in GB/T 16825.1, and capable of constant speed of (100 ± 10) mm/min Continuous tensile testing at a constant rate.

5.2 Measuring Device

An extensometer is used to measure the elongation of a specimen's gauge length. It should have a gauge length of at least 100 mm and an accuracy of 0.1 mm or higher. It can be

used in...

A device that can generate graphical records during the testing process.

5.3 Clamping Device

The clamps should effectively prevent any slippage of the specimen during the test. It is advisable to select the type shown in Figure 1 with a transverse serrated shape or the type shown in Figure 2.