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

GB/T 12736-2021

**Conveyor belts - Determination of strength of mechanical
fastenings - Static test method**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB/T 12736-2009 "Static Test Method for the Determination of the Strength of Mechanical Joints of Conveyor Belts", and is in line with GB/T 12736-2009

Compared with.2009, the main technical changes are as follows.

---Updated normative references (see Chapter 2, Chapter 2 of the.2009 edition).

This standard uses the redrafting method to amend and adopt ISO 1120.2012

"Determination of the static test method for the strength of mechanical joints of conveyor belts"

law".

Compared with ISO 1120.2012, there are technical differences between this standard, and

the clauses related to these differences have been passed on the outer margins.

The vertical single line (|) of the setting is marked, and the technical differences and their reasons are as follows.

--- Regarding normative reference documents, this standard has made adjustments with technical differences to adapt to my country's technical conditions and adjustments.

The situation is collectively reflected in Chapter 2 "Normative Reference Documents", and the specific adjustments are as follows.

* Replace ISO 283 with GB/T 3690 which is equivalent to the international standard (see 5.2, Chapter 8).

This standard also made the following editorial changes.

---In accordance with the requirements of GB/T 1.1-2009, in the "Scope" chapter, "This standard applies to fabric core laminated conveyor belts and fabrics

The mechanical joint of the whole core conveyor belt";

---References are revised to Chinese documents.

This standard was proposed by the China Petroleum and Chemical Industry Federation.

This standard is under the jurisdiction of the National Belt Wheel and Belt Standardization Technical Committee Conveyor Belt Subcommittee (SAC/TC428/SC1).

Drafting organizations of this standard. Zhejiang Shuangjian Rubber Co., Ltd., Zhongnan Rubber Group Co., Ltd., Shandong Chenguang Adhesive Tape Co., Ltd.

Company, Zhejiang Sanwei Rubber Products Co., Ltd., Shandong Xiangtong Rubber and Plastic Group Co., Ltd., Baoding Huayue Tape Co., Ltd., Qingdao Technology

the University.

1 Scope

This standard specifies the static test method for the strength of mechanical joints of conveyor belts. The joint can be connected with a connecting shaft or not

Connect with connecting shaft.

This standard does not involve vulcanized joints.

This standard applies to the mechanical joints of fabric-core laminated conveyor belts and fabric-core conveyor belts.

This standard does not apply to the light conveyor belt specified in GB/T 39825 [1].

Note. This standard specifies that the purpose of this test is to prevent insufficient strength

of the static mechanical joints of the conveyor belt. The dynamic test method standards for the joints will be developed in the future.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article

Pieces. For undated reference documents, the latest version (including all amendments) is applicable to this document.

GB/T 3690 Fabric core conveyor belt full thickness tensile strength, elongation at break and reference force elongation test method

(GB/T 3690-2017, ISO 283.2015, IDT)

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

Joint width width of fastening

The number of joint units is multiplied by the pitch, or the number of hooks is multiplied by the pitch (see Figure 1).

3.2

Pitch

The distance from a point on a connecting unit or hook to the corresponding point on an adjacent unit or hook (see Figure 1).

4 Principle

Continuously increasing tensile force is applied to the specimen until the mechanical joint breaks and separates.

6.1 Cutting the sample

The sample should be taken at least 50mm away from the belt edge in a direction parallel to the longitudinal axis of the belt.

6.2.1 Using mechanical joints connecting shafts

The sample is a full-thickness belt cut along the longitudinal direction of the belt. The minimum length is 100mm plus the clamping length (see Figure 2), and the width is

150mm. Connect the sample to the mating board through a mechanical connector, and the width of the joint is not less than 100mm.

6.2.2 Do not use mechanical joints connecting shafts

The sample is composed of two belts, the minimum length of each belt is 100mm plus the clamping length (see Figure 2), and the width is 150mm. will

The two belts are connected by mechanical connectors, and the width of the joint is not less than 100mm.

6.2.3 Determination of the width of the total joint and the number of hooks

The total joint width is not less than 100mm, and the number of hooks is determined by the following formula.

100 divided by the pitch is equal to the number of hooks, rounded to an integer slightly larger than this value.

Total joint width. multiply the pitch by the number of hooks.

Example.

Hook pitch. 14mm.

Then the number of hooks= $100/14\text{mm}=7.1$, rounded to 8.

The total joint width= $14\text{mm}\times 8=112\text{mm}$.

6.3 Number of samples

Take 3 samples for testing.

6.4 Condition adjustment and test conditions

The test should be carried out at least 24h after the product is made, and this time includes the 8h required for state adjustment at the following specified temperature.

- a) Under general climatic conditions. (23 ± 2) degrees C or (20 ± 2) degrees C;
- b) Under hot climate conditions. (27 ± 2) degrees C.

The test should be carried out at the same temperature as the condition adjustment, and neither the test nor the condition adjustment need to control the humidity.

The temperature during the condition adjustment and the test shall be recorded in the test report.

In the case of dispute, the time for state adjustment should be 72h.