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

GB/T 7986-2025

Replacing GB/T 7986-2013

**Conveyor belts - Drum friction testing
(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 replaces GB/T 7986-2013 "Conveyor Belt Drum Friction Test". Compared with GB/T 7986-2013, the only changes are structural adjustments.

Aside from editorial changes, the main technical changes are as follows.

- a) Added terms and definitions (see Chapter 3);
- b) The experimental principles were changed (see Chapter 4, Chapter 3 of the 2013 edition);
- c) The diameter tolerances for steel rollers have been modified (see 5.1, 4.1 in the 2013

edition);

d) Four new roller friction test methods have been added (see 7.2.2.3, 7.2.2.5, 7.2.3.3, and 7.2.3.5);

e) A list of test methods has been added (see Table 1);

f) An early termination clause has been added (see 7.3).

This document is modified to adopt ISO 20238:2018 "Conveyor belts - Drum friction test".

This document has undergone the following structural adjustments compared to ISO 20238:2018.

---Adjust Figure 3 to Figure 1.

The technical differences between this document and ISO 20238:2018, and the reasons therefor, are as follows.

---The terms and definitions defined in GB/T 5756 (see Chapter 3) have been added to adapt to my country's technical conditions;

---ISO 9329-1 and ISO 9330 have been replaced by the normatively referenced GB/T 3087-2022 and GB/T 5310-2023 (see GB/T 3087-2022 and GB/T 5310-2023).

5.1), to adapt to my country's technological conditions;

---EN60584-1 (see 5.2) has been replaced with the normatively referenced GB/T 16839.1-2018 to adapt to my country's technical requirements.

Increase operability;

---Added the requirement that airflow should be blown out through ducts conforming to GB/T 8163-2018 and GB/T 7306.1 (see...) 5.4), to adapt to my country's technological conditions and increase operability;

---ISO 7590 (see 7.3) has been replaced with the normatively referenced GB/T 5753 to adapt to my country's technical conditions and increase operability.

Actual nature;

---The guide rollers in Figures 1 and 2 have been removed, and the position of the fume hood has been adjusted to the top of the entire test apparatus, which is more in line with the requirements of Chinese equipment usage.

In accordance with environmental protection requirements.

The following editorial changes have been made to this document.

---The tension force F is supplemented in Figures 1 and 2 of ISO 20238:2018 (see Figures 2 and 3).

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).

Introduction

The purpose of this document is to provide a testing method that enables conveyor belt users to assess the hazard level of the following hazardous situations. when conveying...

When the conveyor belt stops rotating but the drive unit continues to operate, friction between the conveyor belt and the drive roller or other equipment causes localized heat generation.

Conveyor belt roller friction test

1 Scope

This document describes the friction between a stationary conveyor belt and a rotating steel drum under a given tension, testing the generation of flames on the conveyor belt.

The possibility of burning and flameless combustion.

This document also describes methods for changing the tension of the conveyor belt.

This document applies to all types of flame-retardant conveyor belts.

Note: For conveyor belts with steel wire reinforcement layers, since the conveyor belts do not meet the requirements of 7.2, comprehensive testing cannot be carried out. In this case, the requirements of 7.3 shall apply.

A preliminary termination test is necessary.

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 3087-2022 Seamless steel tubes for low and medium pressure boilers GB/T 5310-2023 Seamless steel tubes for high-pressure boilers GB/T 5753 Method for determination of total thickness and overlay thickness of steel wire rope conveyor belts

(GB/T 5753-2013, ISO 7590.

2009, IDT)

GB/T 5756 Conveyor Belt Terminology and Definitions (GB/T 5756-2009, ISO 5284:1986, NEQ) GB/T 7306.1 55° Sealing Pipe Threads Part 1: Cylindrical Internal Threads and Tapered External Threads (GB/T 7306.1-2000, eqv) ISO 7-1:1994) GB/T 8163-2018 Seamless steel pipes for conveying fluids GB/T 16839.1-2018 Thermocouples - Part 1: Electromotive Force Specifications and Tolerances (GB/T 16839.1-2018, IEC 60584-1) 2013, IDT)

3 Terms and Definitions

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

4 Principles

The conveyor belt sample is wrapped around the steel roller of the testing machine, with the middle section of the sample passing over the roller. A specified tension force is applied to the sample to simulate the conveyor belt operation.

With the conveyor belt stopped but the rollers rotating, the test is conducted for a specified time under a given tension, or until the specimen breaks. Record whether the test was performed correctly.

Whether flaming or flameless combustion occurs, measure and record the highest temperature on the drum surface. The test is conducted under windless and/or windy conditions.

The document outlines two options. a 180° wrap angle and a reduced wrap angle (135°). For the reduced wrap angle (135°) test, the initial load is increased.

The load can be considered to have the same testing effect as a 180° wrap angle.