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

GB/T 45269-2025

**Footwear - Test methods for whole shoe - Flexing durability
(English Translation)**

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Foreword

This document was drafted in accordance with the rules provided in GB/T 1.1-2020 Directives

for Standardization - Part 1.Rules for the Structure and Drafting of Standardizing Documents.

This document modifies and adopts ISO 24266.2020 Footwear - Test Methods for Whole Shoe

- Flexing Durability.

In comparison with ISO 24266.2020, this document makes the following structural adjustment.

---7.1.7 ~ 7.1.10 corresponds to 7.1.6 ~ 7.1.9 of ISO 24266.2020.

The technical differences between this document and ISO 24266.2020 and the causes for these

differences are as follows.

---The scope of the Standard is modified (see Chapter 1) to adapt to the technical conditions of China and improve the operability;

---The normative reference GB/T 20991-2007 is used to replace ISO 17707.2005 (see Chapter 1) to adapt to the technical conditions of China and improve the operability;

---The requirements for the flexing frequency of the flexing durability test machine in Method A are modified (see 5.1.1.2) to satisfy the technical conditions of China and improve the operability;

---The requirements for the flexing durability test machine in Method B are modified (see 5.2.1). Method B of ISO 24266.2020 is based on GB/T 3903.1-2017, and the requirements for the flexing durability test machine are consistent with GB/T 3903.1-

2017 to eliminate ambiguity and reflect that the international standard is derived from

the national standard of China;

---The requirements for the completion time of the specimens used for testing are added (see 6.1) to ensure the stability of the test sample state and the testing effectiveness;

---The normative reference GB/T 22049 is used to replace ISO 18454 (see 6.2) to adapt to the technical conditions of China and improve the operability;

---The method for determining the center line of the specimen is modified (see 7.1.2) to eliminate ambiguity and improve the operability;

---Another method for determining the flexing line for footwear products sold in China is added (see 7.1.6);

---The content of adjusting the flexing frequency and flexing angle in accordance with customer requirements in Method A is added (7.1.10; 7.1.9 of ISO 24266.2020) to satisfy various testing demands and improve the operability;

Footwear - Test Methods for Whole Shoe - Flexing

Durability

1 Scope

This document describes two test methods for determining the flexing durability of whole shoes.

The two methods may not give comparable results.

NOTE 1: the test method selected depends on the agreement between the parties using this test method or the requirements of the product standard that references this test method.

This document is applicable to the determination of the flexing durability of whole shoes of various materials.

This document is not applicable to whole shoes with a heel height greater than 50 mm (Method

A) or 70 mm (Method B), or a sole flexing part thickness greater than 25 mm, or a bending angle less than 45° after testing in accordance with the provisions of 8.4.1 in GB/T 20991-2007.

NOTE 2: the thickness of the sole flexing part includes the thickness of the insole.

The flexing durability of the sole is determined with reference to this document.

2 Normative References

The contents of the following documents constitute indispensable clauses of this document through the normative references in the text. In terms of references with a specified date, only

versions with a specified date are applicable to this document. In terms of references without a

specified date, the latest version (including all the modifications) is applicable to this document.

GB/T 2703 Footwear - Vocabulary

GB/T 3903.1-2017 Footwear - Test Methods for Whole Shoe - Flexing Resistance

GB/T 20991-2007 Personal Protective Equipment - Test Methods for Footwear

GB/T 22049 Footwear - Standard Atmospheres for Conditioning and Testing of Footwear and

Components for Footwear (GB/T 22049-2019, ISO 18454.2018, IDT)

3 Terms and Definitions

The terms and definitions defined in GB/T 2703 are applicable to this document.

7.1.5 Through point C in the width direction of the insole or innersole (without insole), draw a

perpendicular line to line A, i.e., the flexing line of the shoe, see Figure 5.

7.1.6 7.1.2 ~ 7.1.5 describe a method for determining the flexing line of the shoe in accordance

with the world footwear sizing / European footwear sizing. For products sold in the Chinese market, the following method may also be used to determine the folding resistance line. mark

the longitudinal axis on the insole (innersole), and on the longitudinal axis, draw a perpendicular

line to the longitudinal axis at 1/3 of the length from the front end point of the insole (innersole),

i.e., the flexing line of the shoe.

7.1.7 Set the flexing angle of the flexing durability test machine to $(30 \pm 1)^\circ$ to simulate the

angle of normal walking.

7.1.8 Fix the shoe in the machine, so that the flexing line of the shoe (see Figure 5) coincides

with the center line of the flexing axis of the equipment.

7.1.9 Start the flexing durability test machine. After flexing about 500 times, check to ensure

that the shoe is still firmly clamped, and run the machine again.

7.1.10 When the shoe flexes 50,000 times (the flexing frequency is 140 times/min), terminate

the test. It is also possible to stop the machine for inspection during the test in accordance with

the customer requirements. In addition, based on the customer requirements, different flexing

times, flexing frequencies and flexing angles can be set.

7.2 Method B

In accordance with the provisions of 7.2 ~ 7.12 in GB/T 3903.1-2017, perform the test.

8.1 Record the number of new cracks and the length of the longest new crack; the length of the

debonding at the joint of the upper and sole (including the foxing and the bottom wall). The