NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

GB/T 3903.34-2019

Footwear - Test methods for shanks - Longitudinal stiffness

Issued on: August 30, 2019 **Implemented on: March 1, 2020**

Issued by: SAMR; SAC

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Foreword

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB/T 3903.34-2008 "Longitudinal Stiffness of Footwear Test Method", and GB/T 3903.34-2008

The main technical changes are as follows.

--- Revised the normative reference document (see Chapter 2, Chapter 2 of the.2008 edition);

--- Revised test results (see Chapter 7, Chapter 7 of the.2008 edition);

--- Revised the test report (see Chapter 8, Chapter 8 of the.2008 edition).

This part uses the translation method equivalent to ISO 18896.2018 "Shoes Hook Test Method Longitudinal Stiffness".

The documents of our country that have a consistent correspondence with the international documents referenced in this part are as follows.

---GB/T 22049-2019 Standard environment for environmental conditioning and testing of footwear footwear and footwear components (ISO 18454.2018,

IDT)

1 Scope

This part of GB/T 3903 specifies the longitudinal stiffness test method for evaluating steel hooks used to reinforce the lumbar region of footwear.

This section applies to all kinds of footwear with a hook.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

ISO 18454 Standard environment for environmental conditioning and testing of footwear footwear and footwear components (Footwear-Standard

Atmospheresforconditioningandtestingoffootwearandcomponentsforfootwear)

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

Longitudinal stiffness longitudinalstiffness

Determine the shape of the hook under a certain load and specified conditions.

4 instruments and materials

The following equipment and materials should be used.

4.1 Test apparatus for determining the longitudinal stiffness of the hook, including.

a) The rear clamp can firmly hold the rear end of the ribbed rib without damaging the rib, and the clamping length is 32mm+/-1mm. Adjustment clamp

The angle of the heart is kept at the level of the force applied;

b) parts that can apply a downward force at the front end of the hook, the force values are 2N, 4N, 6N and 8N, respectively, with a tolerance of +/- 5%;

c) The part that measures the longitudinal displacement of the strut-applied part, the tolerance is +/-0.025mm.

5 Sampling and environmental conditioning

The sample should be completely closed.

Each type of hook should require at least three specimens.

The environment adjustment shall be carried out under the environmental conditions specified in ISO 18454 before the test for 48 hours.

The test shall be carried out under the environmental conditions specified in ISO 18454. When this is not possible, the test shall be taken within 15 minutes of the standard environment.

experimenting.

6 Test methods

6.1 Hold the back end of the hook and apply pressure on the front end of the hook to make the hook bend like a cantilever. Calculated by measuring the degree of bending

The bending stiffness of the hook, this value is used as the hook stiffness, which depends on the metal material and the cross section rather than the length.

6.2 The back of the hook is up (usually the side with the ribs), and the back end of the hook is placed at the center of the clamp [4.1a)].

32mm, the end of the hook is aligned with the end of the clamp, and the longitudinal axis of the hook is perpendicular to the edge of the clamp. Tighten the clamp

Intimate.

6.3 Adjust the angle of the clamp to keep the front end of the hook at the level.

6.4 Place the displacement measuring device [4.1b)] in the appropriate position and adjust if necessary.

6.5 Apply a 2N downward force evenly to the front end of the hook. The center point of the applied force is about 6 mm from the front end of the hook.

Note. For the hook of the high heel, the center point of the applied force can be about 11mm from the front end of the hook.

6.6 After 5s, measure the longitudinal displacement of the hook at the point of application [4.1c)], recorded as a1, accurate to 0.01mm.

6.7 Remove the 2N force and apply a force of 4N. The interval between the application of

the first force and the second force is 10 s.

6.8 Measure the displacement after 5 s, denoted as a2, the same as 6.6.

6.9 Repeat steps 6.7 and 6.8 to apply 6N and 8N forces, respectively, and record the results as a3 and a4, respectively. By checking a4-a3,

The values of a3-a2 and a2-a1 are approximately the same to determine the accuracy of the data.

6.10 Remove the force from the hook and use a 4.3 instrument to measure the force arm from the front end point of the clamp to the center of the force application, in millimeters.

7.1 Calculate the longitudinal stiffness according to equation (1).

S=

FL3

3a x 10

-3 (1)

In the formula.

S---longitudinal stiffness in kilohertz square millimeters (kN.mm2);

F---force value, the unit is cattle (N);

L---force arm, in millimeters (mm);

a --- Displacement size in millimeters (mm).

When F is 2N, the most accurate value of a is obtained according to formula (2).

a=

(3a4 a3-a2-3a1) (2)

In the formula.

a --- The displacement produced by each 2N gravity, in millimeters (mm);

A4 - the magnitude of the displacement produced when a force of 8 N is applied, in millimeters (mm);

A3 - the magnitude of the displacement produced when a force of 6 N is applied, in millimeters (mm);

A2---The displacement generated when a force of 4N is applied, in millimeters (mm);

A1---The magnitude of the displacement produced when a force of 2 N is applied, in millimeters (mm).