

ICS 61.060

QB

**LIGHT INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

QB/T 2224-2012

**Footwear. Performance requirement for uppers low-temperature
flexing resistance
(English Translation)**

Issued on: May 24, 2012

Implemented on: November 1, 2012

**Issued by: Ministry of Industry and Information Technology of the
People's Republic of China**

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1 Scope

This Standard specifies the performance requirements, test methods, and inspection rules for the low-temperature flexing resistance of footwear uppers.

This Standard applies to various upper materials.

2 Normative References

The following documents are essential to the application of this Document. For the dated documents, only the versions with the dates indicated are applicable to this Document; for the undated documents, only the latest version (including all the amendments) is applicable to this

Document.

GB/T 2703 Footwear - Vocabulary

GB/T 22049 Footwear - Standard atmospheres for conditioning and testing of footwear and components for footwear

QB/T 1187 Footwear - Principle of Inspection and Marking, Package, Transportation, and Storage

3 Terms and Definitions

For the purposes of this Document, the terms and definitions given in GB/T 2703 and the following apply.

3.1 Flexing resistance at low temperature

The upper material's resistance to repeated flexing under low temperature conditions.

4 Requirements

Conduct a flexing resistance test on upper materials at a temperature of $(-10 \pm 2)^\circ\text{C}$, requiring superior products to be flexed for no less than 60,000 times, and qualified products to be flexed for no less than 30,000 times. When various material components reach the specified flexing times, no visually observable cracks or ruptures (including pulp or surface cracks) shall appear on the specimens.

5 Cold Resistance Tester

5.1

The temperature control in the refrigeration chamber shall meet $(-10 \pm 2)^\circ\text{C}$ with an accuracy of 1.0°C .

5.2

The V-shaped clamps in the refrigeration chamber shall meet the following conditions.

5.2.1

The axes of each pair of clamps shall be collinear.

5.2.2

The clamps shall be installed in the refrigeration chamber (5.1) with an adjustable bending angle from $0^\circ \sim 90^\circ$, with an error of $\pm 2^\circ$.

5.2.3

Each pair of clamps shall consist of a fixed clamp and a movable clamp. When the cold resistance tester is in operation, the movable clamp reciprocates, causing the distance between the two clamps to repeatedly change, thereby repeatedly flexing the specimen.

5.2.4

When the two clamps are moving apart, they shall be (28.5 ± 1.0) mm apart; and when they are moving closely, they shall be (9.5 ± 1.5) mm apart, resulting in a stroke of (19.0 ± 2.5) mm.

6 Sampling and Environmental Conditioning

6.1

Number of specimens. When sampling, there shall be no fewer than 4 specimens (2 in the horizontal and 2 in vertical directions); the specimen is 70 mm long and 65 mm wide.

6.2

Specimens must not exhibit defects such as scratches, impurities, stains, or abrasions.

6.3

Specimen thickness must be the original material thickness. Specimens with a thickness of no more than 2.5 mm are recommended for testing.

7 Test Procedures

7.1

Adjust the clamps to the extended position and securely clamp the test pieces in the clamps.

Position the test pieces symmetrically with the outer layer facing outward, with the length of

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