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

GB/T 32024-2015

Footwear - Test methods for whole shoes - Torsion performance

鞋类 整鞋试验方法 扭转性能

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Foreword

This Standard was drafted as per the rules specified in GB/T 1.1-2009. Please note that some contents of this document may involve the patents, the issuing organization of this document shall assume no responsibility to identify these patents. This Standard was proposed by China Light Industry Council. This Standard shall be under the jurisdiction of National Technical Committee for Standardization of Footwear (SAC/TC 305). Drafting organizations of this Standard. Anta (China) Limited, China Leather & Footwear Industry Institute, Golden Monkey Group Weihai Footwear Company Limited, and Dongguan Qisheng Footwear Co., Ltd.. Chief drafting staffs of this Standard. Li Su, Zhang Weijuan, Gao Ming, Yin Jiqi, Huang Penghui, and Tian Wang. Footwear - Test Methods for Whole Shoes - Torsion Performance

1 Scope

China's national test method for the torsion performance of whole shoes. It specifies the principle, the test apparatus and materials, the specimen and environmental conditioning, the test method, the test results and the test report, and it applies to finished shoes for general wear. It does not apply to finished shoes whose sole is more than 25 mm thick at the flexion region, nor to shoes fitted with a steel shank. Torsional stiffness is the property that decides how a shoe behaves when the foot twists, and the human foot twists constantly: the heel and the forefoot rotate relative to one another at every step, and far more sharply when changing direction. A shoe that is too stiff in torsion fights that movement and transfers the load into the ankle and the knee; a shoe that is too soft gives the foot no support when it lands on an uneven surface or when the wearer pivots. Sports

footwear design has treated the balance between the two as central for decades, and this method is what allows it to be measured on a finished shoe rather than inferred from the sole. The test fixes the toe area of the shoe, lifts the heel through a set angle about the flexion line of the sole, and then rotates the heel about the longitudinal axis at a controlled speed, inward and outward to defined angles, measuring the maximum twisting torque required in each direction. The exclusions matter as much as the method: a very thick sole and a steel shank both make a shoe torsionally rigid by construction, and testing them would measure the fixture rather than the shoe. Issued on 11 September 2015 and in force since 1 April 2016.

This Standard specifies the test methods for the whole shoes - torsion performance. This Standard is applicable to the general wear of finished shoes; while it is not applicable to the finished shoes with thickness of flexion part on the sole more than 25mm, or finished shoes with steel shank.

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) are applicable to this document.

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

3 Terms and Definitions

The following terms and definitions are applicable to this document.

3.1 Torsion performance Fix the specimen's toecap part, after lifting a certain angle of the heel along the bending line of the sole, move relatively with certain speed around the longitudinal axis; measure the maximum twist torque required by the inward and outward rotation to the setting angles.

3.2 Twist torque It is referred to as torque for short, indicates the product between vertical force and the distance of rotation center, unit is N · m. specification, goods number, materials, factory, submission organization and etc.;

- c) Test results (implemented as per Chapter 8);
- d) Specimen environment adjustment and test conditions;
- e) Test personnel and date;