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

GB/T 15107-2013

Replacing GB/T 15107-2005

Athletic shoes

旅游鞋

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1 Scope

China's national product standard for athletic shoes. It specifies the classification, the requirements, the test methods, the inspection rules, and the marking, packaging, transport and storage of athletic shoes. An athletic shoe is an assembly of dissimilar materials - textile and synthetic upper, foam midsole, rubber outsole, textile lining, adhesives - and it is worn hard, gets wet, and is expected to hold together for a season of use. Almost every failure is a failure of a joint rather than of a material: the sole separates from the upper, the outsole separates from the midsole, a seam opens, an eyelet pulls out. So the requirements are dominated by bond strength and by the tests that stress those joints. The peel strength of the sole-to-upper bond comes first, since a shoe that delaminates is finished whatever else it does. Then the flex resistance of the whole shoe, because the forefoot flexes at every step and a crack that starts there propagates through the sole; then the abrasion resistance of the outsole and the compression set of the midsole, which is what decides whether the cushioning is still there after a few hundred kilometres; then the tear and tensile strength of the upper and the lining, and the colour fastness and the resistance to rubbing wet and dry.

The physical and chemical safety requirements that apply to all footwear are included by reference, which is what the 2018 amendment carried into this edition. Issued on 10 October 2013 and in force since 1 June 2014, it replaces GB/T 15107-2005 and is read together with amendment XG1 of 2018.

This Standard specifies product classification, technical requirements, test methods, inspection rules as well as marking, packaging, transportation and storage of athletic shoes. This Standard is applicable to athletic footwear, trainer shoes, gym shoes, walking shoes and jogging shoes for general uses, excluding sports shoes.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, the dated edition applies to this document. For undated references, the latest edition of the normative document (including any amendments) applies.

GB/T 251 Textiles - Tests for Color Fastness Gray Scale for Assessing Staining

GB/T 2703 Footwear - Vocabulary

GB/T 2912.1-2009 Textiles - Determination of Formaldehyde - Part

3 Terms and Definitions

The definition in GB/T 2703 AND the following terms and definitions are applicable to this Standard.

3.1 Primary parts In general situation, they refer to outer side of upper, forepart, counter-heel and toe-puff parts.

3.3 Low upper footwear The shoes of which the upper is lower than tarsus.

4 Product Classification

4.1 By upper materials It is divided into the following four categories by upper materials.

4.2 By object in wearing It is divided into the following two categories by object in wearing.

5.1 General requirements

5.1.1 Shoe size shall meet requirements of GB/T 3293.1.

5.1.3 Marking shall meet requirements of QB/T 2673.

5.1.4 Material for shoes shall meet requirements of corresponding product standards. For example, leather and fur materials shall meet requirements of GB 20400, and accessories shall meet requirements of QB/T 4108-2010.

5.1.5 Athletic shoes shall be free from any defect inconvenient for wearing.

5.2 Sensory quality Sensory quality shall meet the requirements specified in Table

1. Items 1~4 and severe defect items are the major items, the rest are subsidiary items.

5.3.2 Flexing resistance of finished shoes

5.3.2.1 For shoes whose size is less than 230 mm and thickness of flexing position in sole is greater than 25mm, the flexing resistance is exempted from test.

5.3.3 Abrasion resistance of outsole Indexes of abrasion resistance are detailed in Table 4.

5.3.4 Adhesion strength between outsole and outside-insole Adhesion strength between outsole and outside-insole shall not be less than 20 N/cm. If the foaming material is torn and the bonding layer is not detached, then adhesion strength shall not be less than 15 N/cm.

5.3.5 Flexing index of upper material under low temperature Flexing index of upper material under low temperature shall meet requirements of QB/T 2224.

5.4 Indexes of limited substances

5.4.1 Content of decomposable harmful aromatic amine dyes It shall meet the requirements of Table 5.

5.4.2 Free or partially hydrolyzed formaldehyde content

5.4.2.1 Materials contacted with feet directly are deemed as Category B; materials not contacted with feet directly are deemed as Category C.

6 Test Methods

6.1 Sensory quality It is inspected according to GB/T 3903.5-2011.

6.2 Peel strength It is inspected according to GB/T 3903.3-2011, the width of knife-edge is 10 mm. During the test, the tip or heel is inspected. If the tip fails to be peeled away from the heel, the sides of the shoes are inspected instead. If neither is available, this item is exempted from inspection.

6.6 Flexing property under low temperature With the same material as that of upper, it is inspected according to the requirements of QB/T 2224-2012.

6.7 Color fastness to rubbing of linings and insocks It's inspected by wet rubbing for 50 times according to Method A in QB/T 2882-2007. Materials of lining and insock are sampled.

6.8 Content of decomposable harmful aromatic amine dyes in textiles

6.9 Content of decomposable harmful aromatic amine dyes in leather Sample preparation is the same as that in 6.8.1, and the decomposable harmful aromatic amine dyes in leather are inspected according to the requirements of GB/T 19942-2005, and the detection limit is 30 mg/kg.

6.10 Content of free or partially hydrolyzed formaldehyde in textiles Sample preparation is the same as that in 6.7.1; it is inspected according to GB/T 2912.1-2009.

7 Inspection Items and Qualification Evaluation

7.1 Inspection items shall be in accordance with those specified in Table 7.