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

GB/T 19706-2015

Replacing GB/T 19706-2005

Football shoes

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Foreword

This Standard was drafted in accordance with the rules given in GB/T 1.1-2009. This Standard replaces GB/T 19706-2005, Football Shoes. Compared with GB/T 19706-2005, Football Shoes, the major changes of this Standard are as follows: -- it adds the classification of football shoes (see Article 3); -- it modifies the requirements for appearance quality (see 4.2;

4.2 of edition 2005); -- it deletes the requirements for upper sole peeling strength and adhesion strength of outer sole and middle sole (see 4.4.1,

4.4.4 of edition 2005); -- it adds the requirements for upper sole adhesion strength (see Table 2); -- it deletes the requirements for abrasion mark (see

4.4.2 of edition 2005); -- it adds the requirements for outer sole abrasion resistance (see Table 2); -- it adds the requirements for spike impact abrasion resistance (see Table 2); -- it modifies the requirements for whole shoe flexural property, outer sole hardness and outer sole slip resistance (see Table 2; 4.4.3, 4.4.8,

4.4.10 of edition 2005); -- it adds the requirements for outer sole density (see Table 2); -- it adds the requirements for yellowing resistance (see Table 2); -- it deletes the requirements for upper sole tensile strength of sewn football shoes (see

4.4.11 of edition 2005); -- it adds the requirements for healthy and safe properties (see 4.4); -- it modifies inspection rules, marking, packaging, transportation, storage (see Article 7; Article 7 of edition 2005). This Standard was proposed by China Petroleum and Chemical Industry Federation. This Standard shall be under the jurisdiction of Subcommittee on

Rubber Shoes of National Standardization Technical Committee on Rubber and Rubber Products (SAC/TC 35/SC 9). The drafting organizations of this Standard. Sems Industry Co., Ltd., Shanghai Warrior Shoes Co., Ltd., Fujian Province Footwear Products Quality Supervision and Inspection Centre, Fujian Quanzhou Peak Sports Products Co., Ltd., Fujian XPD Sports Products Co., Ltd., Yeli Sports (China) Co., Ltd., Nike Sports (China) Co., Ltd., Jihua 3537 Shoe-making Co., Ltd., Xtep (China) Co., Ltd., Fujian Huaфон New Materials Corp., Ltd., Putian Haixi Footwear Industry R & D Centre. Football Shoes

1 Application Scope

China's national product standard for football boots. It specifies the classification, the requirements, the test methods, the inspection rules, and the marking, packaging, transport and storage, with a normative annex giving the test method for the impact and abrasion resistance of the studs. A football boot is one of the few items of ordinary footwear that is genuinely a piece of sports equipment, and the reason is the outsole. The studs have to give traction on grass or on artificial turf under loads that the wearer applies deliberately and violently - accelerating, stopping, turning under load - and the whole boot is then judged by how the sole behaves. A stud that shears off during play is a hazard as well as a failure; a stud that is too well retained transfers the load to the knee instead. So the standard's distinctive requirement, and the reason it has its own annex, is stud performance: the impact and abrasion resistance of the studs and, for moulded soles, the strength with which the studs are attached. Around that sit the requirements common to sports footwear: the peel strength of the sole-to-upper bond, which is the commonest failure of any glued shoe; the flex resistance of the outsole, since a boot flexes at the forefoot thousands of times a match; the tear strength and the colour fastness of the upper; the abrasion resistance of the lining and insole, which is what determines whether the inside of a boot survives; and the dimensional and appearance requirements. The chemical safety requirements that apply to all footwear are included by reference. Issued on 31 December 2015 and in force since 1 January 2017, it replaces GB/T 19706-2005.

This Standard specifies the classification, requirements, test methods, inspection rules and marking, packaging, transportation and storage of football shoes. This Standard applies to football shoes worn by athletes during contest and training.

2 Normative References

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

GB/T 528-2009, Rubber, Vulcanized or Thermoplastic - Determination of Tensile Stress-Strain Properties

GB/T 532-2008, Rubber, Vulcanized or Thermoplastic - Determination of Adhesion to Textile Fabric

GB/T 533-2008, Rubber, Vulcanized or Thermoplastic - Determination of Density

GB/T 1689-1998, Rubber Vulcanized - Determination of Abrasion Resistance (Akron Machine)

GB/T 2912.1-2009, Textiles - Determination of Formaldehyde - Part 1. Free and Hydrolyzed Formaldehyde (Water Extraction Method)

GB/T 2941, Rubber - General Procedures for Preparing and Conditioning Test Pieces for Physical Test Methods

GB/T 3903.4-2008, Footwear - General Test Methods - Hardness

GB/T 3293, Chinese Last Systems GB/T 3293.1, Shoes Sizes

GB/T 9867-2008, Rubber, Vulcanized or Thermoplastic - Determination of Abrasion Resistance Using a Rotating Cylindrical Drum Device

GB/T 17592-2011, Textiles - Determination of the Banned Azo Colourants

GB/T 21396-2008, Footwear - Test Methods for Whole Shoe - Upper Sole Adhesion

GB 25038-2010, Rubber Shoes Healthy and Safe Specification As specified in GB/T 1689-1998.

5.10 Vulcanized foxing tape and upper adhesion strength As specified in

GB/T 532-2008. Two test pieces are cut from both sides of each shoe as test specimens, whose effective width is (10 ± 0.2) mm and effective length 80 mm. 4 specimens in total are taken from a pair of shoes, whose result is expressed with the mean value.

5.11 Vulcanized outer sole tensile strength, vulcanized outer sole elongation at break As specified in

GB/T 528-2009. The shape of specimens is specified to be type 1 dumbbell cut-off knife.

5.12 Outer sole slip resistance As specified in Method 2 of

HG/T 3780-2005. Apply dry method for test.

5.13 Yellowing resistance As specified in Method A of

HG/T 3689-2001. Test duration is 6 h; test position is white or light-coloured material.

5.14 Free formaldehyde As specified in GB/T 2912.1-2009.

5.15 Decomposable aromatic amine dyes As specified in GB/T 17592-2011.

6 Inspection Rules

6.1 Inspection lot and lot size As specified in HG/T 2403-2007.

6.2 Ex-factory inspection

6.2.1 Ex-factory inspection items include appearance quality and physical property (spike impact abrasion resistance is an optional item).

6.2.2 Appearance quality inspection shall be carried out one by one; for a defect for which one shoe is not representative, it shall be inspected by pairing.

6.2.3 Physical property inspection. in each inspection lot, take specimens randomly for physical property inspection. Take 5 pairs or the minimum sample number required by test from each lot for physical inspection. A.2.2 Impact parameters The spike impact height is (75 ± 2) mm and the frequency (60 ± 5) times/min; the effective distance of abrasion between abrasive cloth and spike is (45 ± 5) mm. A.2.3 Anvil When hammer descends to hit the surface, the edge of spike is the farthest from the pivot of hammer; the included angle of the axis of spike and abrasive cloth surface during impact is $(75 \pm 1)^\circ$; anvil is capable of moving vertically in order to adjust the height range of spike vibration. NOTE In order to avoid the vertical movement distance of anvil after impact, place anvil on a spring damper to ensure the vertical movement distance of anvil during test is not more than 5 mm. A.2.4 Abrasive cloth Abrasive cloth is composed of aluminium oxide of grain size no. 60; its specifications shall be as specified in