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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 Huafon New Materials Corp., Ltd., Putian Haixi Footwear Industry R & D Centre.

Football Shoes

1 Application Scope

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 ± 1)°; 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 5.2 of GB/T 9867-2008; the number of times of repeated friction at the same position is not more than 1 200. Abrasive cloth is fixed on the surface of anvil and moves back and forth along with anvil at the speed of (100 ± 10) mm/s along the direction of pivot.

A.2.5 Balance

Accurate to 1 mg.

A.3 Specimen conditioning

3 specimens are stored in the standard controlled environment as specified in GB/T 2941 for 4 h at least before testing.

A.4 Test procedure

A.4.1 Weigh specimens on balance.

A.4.2 Fix specimen weighed on the fixture at the lower end of hammer.

A.4.3 Fix abrasive cloth on anvil surface and adjust the movement and speed of anvil surface.

A.4.4 Rotate hoisting mechanism until hammer is at the highest position.

A.4.5 Adjust the height of anvil to make the vertical distance from the top of specimen to the abrasive cloth on anvil surface (75 ± 2) mm.

A.4.6 Turn on the switch to start the movement of hammer and abrasive cloth.

A.4.7 Stop test if spike cracks or breaks during test; or else, repeat impact for 1 200 times in test.

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