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Cellular material for shoes -

Determination of resilience

鞋用微孔材料回弹性试验方法

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Foreword

This Standard is drafted in accordance with the rules given in GB/T 1.1-2009.

This Standard was proposed by China Petroleum and Chemical Industry Federation.

This Standard shall be under the jurisdiction of Subcommittee on Rubber Shoes, China National Standardization Technical Committee on Rubber and Rubber Products (SAC/TC35/SC9).

Drafting organizations of this Standard: Fujian Putian Xinda Shoes Co., Ltd., Taizhou Baolite Shoes Co., Ltd., Jinjiang Hualong Shoes Co., Ltd., Quanzhou Baofeng Shoes Co., Ltd., Comprehensive Technical Service Center of Putian Entry-Exit Inspection and Quarantine Bureau, Shanghai Warrior Shoes Co., Ltd., HengYu Instrument (China) Limited.

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Cellular material for shoes - Determination of resilience

1 Scope

The Standard specifies the test method for resilience of cellular material for shoes.

This Standard applies to the testing of cellular material for shoes.

2 Normative references

The following documents are indispensable for the application of this document. For the dated references, only the editions with the dates indicated are applicable to this document. For the undated references, the latest edition (including all the amendments) are applicable to this document.

GB/T 2941 Rubber - General procedures for preparing and conditioning test pieces for physical test methods

3 Principles

A pendulum of a certain mass and size falls from a fixed height to the surface of test piece. The height at which the pendulum bounces is measured. The percentage of the ratio of the bounce height of the pendulum to the falling height is calculated.

4 Test devices

4.1 Resilience testing machine

It includes the base, test piece holder (as shown in Figure 1), impact pendulum (as shown in Figure 2), resilience angle dial. The mass of the entire equipment is at least 100 times the mass of pendulum.

4.2 Test piece holder

It can hold the test piece firmly; but cannot deform the test piece (See Figure 1).

3 - Impact head;

4 - Impact hammer;

5 - Pendulum rod.

Note: The impact energy of the impact pendulum applied to the test piece is 0.2 J. The impact rate is 2 m/s.

Figure 2 -- Schematic diagram of impact pendulum

4.4 Resilience angle dial

The dial is 1/4 of a circle, evenly divided into 90 divisions, 1° per division.

4.5 Horizontal deviation of pendulum rod

Less than 0.45 mm per 100 mm length.

4.6 Damped oscillation of pendulum

For free oscillation without the pointer, the number of times shall be no less than 300 times. For oscillation with the pointer, the number of times shall be no less than 35 times.

4.7 Resilience indication error

The resilience indication error is $\pm 0.5\%$.

4.8 Pendulum vertical suspension

The pendulum vertical suspension is $90^\circ \pm 10'$.

5 Test pieces

5.1 The test piece shall have upper and lower parallel and flat surfaces.

5.2 The test piece size shall be at least 80 mm×80 mm. The thickness shall not be less than 50 mm.

5.3 If the thickness of test piece is less than 50 mm, it shall be superimposed to 50 mm. Adhesives can be used; but shall not be used in the center, shall be applied to the four sides of test piece to bond them. The bonding width shall be no more than 5 mm. For molded products, the upper skin shall be removed.

5.4 The number of test pieces is 3.

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