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

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Test methods for steel cord

钢帘线试验方法

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Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009. This standard is proposed by China Iron and Steel Industry Association. This standard is under the jurisdiction of the National Steel Standardization Technical Committee (SAC/TC183). The drafting unit of this standard. Anshan Iron and Steel Co., Ltd. Bekaert tire (Chongqing) Co., Ltd., the national wire rope product quality supervision and inspection center, Gold Industry Information Standards Institute, Triangle Tire Co., Ltd., Shandong Shengtong Steel Cord Co., Ltd. The main drafters of this standard. Cao Min, Chen Lu, Kuang Yihua, Wang Lingjun, Ren Cuiying, Wang Peibin, Chen Jianhao, Yao Shulin, Li Chunxia, Wang Jifeng, Wang Bo. Steel cord test method

1 Scope

China's national standard for testing steel cord for radial tyres. It specifies the test principle, the equipment, the specimen preparation, the procedure and the test report for each property, covering the appearance quality, the dimensional properties, the processing properties, the mechanical properties, the chemical properties of the coating and the adhesion properties, with informative annexes on the vulcanisation mould and cover and on the vulcanisation pull-out clamps. Steel cord is the wire rope that reinforces a radial tyre: fine brass-plated steel filaments, each a fraction of a millimetre across, twisted into strands and cords that form the belt and, in truck tyres, the carcass. It is one of the most demanding wire products made. The filament is drawn to tensile strengths approaching three thousand megapascals - among the strongest steel produced in quantity - and then must be flexible enough to be twisted, straight enough to lie flat in a calendered sheet, and clean enough to bond chemically to rubber. That last requirement is what makes the adhesion tests the heart of this document. A tyre works because the cord and the rubber act as one material, and the bond between them is formed during vulcanisation by a sulfide layer growing at the brass surface. Testing it means building a specimen the way a tyre is built - embedding

cords in rubber, curing them in a mould, and pulling them out - which is why two of the annexes are devoted to the mould and the clamps. Issued on 13 October 2016 and in force since 1 September 2017.

This standard specifies the test principle, test equipment, sample preparation, test procedure for the performance test method of the steel cord for radial tire, Test report and so on. This standard is applicable to the test of steel cord for radial tire (hereinafter referred to as "steel cord"), including appearance quality, size performance, process Mechanical properties, coating chemical properties and adhesive properties of the test.

2 Specimen General

For test steel cord samples, need to use the fuse from the finished product wheel, and to ensure that the sample without loose, bending, damage, etc. Trap, outside the wire around the structure of the sample should ensure that both ends of the fuse around the wire and the core strand is not well connected between the loose. For chemical performance testing and bonding The test specimen of the performance test shall ensure that the surface of the specimen is free of contamination. If necessary, pull out a certain length of steel cord discarded and then take the test sample.

3 Appearance quality

Visual inspection of steel cord appearance whether there are back wire (back), as the core, flip, blister, coil, wave, hard bend and other defects.

4.1.1 Micrometer measuring steel cord diameter

4.1.1.1 Test equipment The test equipment is as follows:

a) Public micrometer, recommended non-rotating mandrel micrometer, see Figure 1. Measuring range. 0mm ~ 25mm, accuracy. 0.001mm. Measuring end face. rounded face diameter greater than the measured sample a twist; measuring force range. < 10N, recommended 3N ~ 5N. Recommended use. Flatness Tolerance range. 0.002mm; Parallelism Tolerance range. 0.015mm. Figure 1 male normal micrometer diagram