

ICS 77.140.65

CCS H 49



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

GB/T 11181-2016

Replacing GB/T 11181-2003

Steel cord for radial tyres

子午线轮胎用钢帘线

Issued on: October 13, 2016

Implemented on: September 1, 2017

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of the PRC**

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Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009. This standard replaces GB/T 11181-2003 "steel cord for radial tire", compared with GB/T 11181-2003, the main technology The change is as follows: Added six terms and definitions;

--- increase the ST, UT, HI100 kinds of structural types of product categories;

--- increased the HI structure type and ST, UT tensile strength grade; - delete normative appendix A, appendix B, appendix C and informative appendix D. 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 of this standard. Jiangsu Xingda Steel Cord Co., Ltd., Anshan Iron and Steel Co., Ltd. Bekaert tire (Chongqing) Co., Industry Information Standards Institute, Triangle Tire Co., Ltd., Shandong Shengtong Steel Cord Co., Ltd. The main drafters of this standard. Liu Jinlan, Liu Xiang, Miao Weigang, Luo Yiwen, Hu Ziming, Zhang Yubin, Jiang Riqin, Wang Lingjun, Ren Cuiying, Wang Peibin, Huang Tao, Tang Jianzhong, Cao Min, Zuo Baohua. This standard replaced the previous version of the standard release. GB/T 11181-1989, GB/T 11181-2003. Steel cord for radial tire

1 Scope

China's national standard for steel cord for radial tyres - the brass-coated steel filaments, twisted into cords and laid in rubber, that form the belt and the carcass of every radial tyre. The cord is what makes a radial tyre radial: it carries the load and contains the inflation pressure while allowing the sidewall to flex, and it is the component whose failure is the one no driver survives at speed. It specifies the terminology and definitions, the classification, the code and marking method, the content of the order, the dimensions, the weight and their permissible tolerances, the technical requirements, the test methods, the inspection rules, and the packaging, marking, storage and quality certificate for steel cord for radial tyres. Two properties dominate the requirements, and they are not the ones a general steel standard would emphasise. The first is the tensile strength and elongation of the cord as a construction, not of the wire in it - the twist geometry determines how the load is shared between the filaments and how the cord behaves in bending, and a cord is bought on the

finished construction. The second is the adhesion to rubber, which is the property the whole tyre depends on and which is delivered by the thin brass coating on the filaments: the copper in the brass reacts with the sulfur in the rubber during vulcanisation to form the bond, so the composition and mass of that coating are specified as tightly as the steel beneath it, and the adhesion is tested directly by pulling the cord out of cured rubber. To those are added the dimensional tolerances, the straightness and residual torsion that decide whether the cord lies flat in the calender, the fatigue resistance, and the corrosion behaviour - since a cord that corrodes where moisture reaches it through a cut loses its bond long before it loses its section. Issued on 13 October 2016 and in force since 1 September 2017, it replaces GB/T 11181-2003.

This standard specifies the terminology and definition, classification, code, marking method, order content, size, weight, and allowable of the steel cord for radial tire Tolerances, technical requirements, test methods, inspection rules, packaging, marking, storage and quality certificates. This standard applies to steel cord for radial tires (hereinafter referred to as "steel cord").

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

GB/T 2104 Wire rope packaging, marking and quality of the general requirements of the certificate

GB/T 27691 steel cord wire rod Test method for steel cords GB/T 33159

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Filament filament A single steel wire with brass plating in steel cord.

3.2 Wrap around the wire A monofilament wound in a spiral form on a steel cord.

3.3 Shares strand Made by a group of monofilament twisting, for the subsequent twisting of a single element.

3.4 Core core As the twisted axis allows the other elements to be wound on one or several monofilaments or strands.

3.5 Steel cord From a number of monofilaments, or by the core or the unit with the monofilament, or by the shares and shares twisted from the various structures of the product.

3.5.1 Open steel cord opencord Monofilament between the periodic gap, easy to rubber

into one of the steel cord.

3.5.2 Dense steel cord compactcord A steel cord which is twisted by a group of monofilaments in the same twist direction and the same twist, and has a minimum cross-sectional area.

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