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# GB

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

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### GB/T 9743-2015

Replacing GB 9743-2007

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## Passenger car tyres

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## Foreword

Clause 4.2, 4.6, 4.7 and Clause 6 of this Standard are mandatory; the rest are recommendatory.

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

This Standard replaces GB 9743-2007 "Passenger car tyres"; the main technical changes are as follows:

- In "Normative references", merge GB/T 4502, GB/T 4503, GB/T 4504 and GB/T 7034 into GB/T 4502; delete GB 7036.1 (shown in Clause 2, Clause 2 of Edition 2007);
- Add safety performance requirements for low tyre pressure;
- Delete provisions related to inner tube (refer to Clause 4.8, Edition 2007);
- Add provisions related to arctic tyre's durability and low air pressure test speed performance (shown in 5.2);
- Delete instructions on radial tyre and carving Chinese characters mark on tubeless tyre sidewall mold (shown in 6.2, Edition 2007);
- Add requirements for carving mark on sidewall for those tyres and arctic tyres with requirements for inside and outside (shown in 6.4 and 6.6).

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

This Standard shall be under the jurisdiction of National Technical Committee for Standardization of Tyres and Rims (SAC/TC 19).

The drafting organizations of this Standard: Beijing Rubber Industry Research and Design Institute, Zhongce Rubber Group Co., Ltd., Guangzhou South China Rubber Tyre Co. Ltd., Triangle Tyre Co., Ltd., Sailun Group Co., Ltd., Shandong Linglong Tyre Co., Ltd., Anhui GITI Tyres Company, Beijing Capital Tyre Co., Ltd., Aeolus Tyre Co., Ltd., Double Star Group Co., Ltd., Sichuan Haida Rubber Group Co., Ltd., Cooper Chengshan (Shandong) Tyre Co., Ltd., Michelin (China) Investment Co., Ltd., Bridgestone (China) Investment Co., Ltd., Goodyear Dalian Tyre Co., Ltd., and Hankook Tyre Co., Ltd..

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# Passenger car tyres

## 1 Scope

This Standard specifies passenger car tyre's terms and definitions, requirements, test methods and marks.

This Standard is applicable to new passenger car's air-filled tyre.

## 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 521 Test method of measuring peripheral dimensions for tyres

GB/T 2978 Size designation dimensions inflation pressure and load capacity for passenger car tyres

GB/T 4502 Laboratory test methods for passenger car tyres capabilities

GB/T 6326 Tyre terms and definitions

HG/T 2177 Appearance quality of tyres

## 3 Terms and definitions

Terms and definitions defined in GB/T 6326 apply to this document.

## 4 Requirements

### 4.1 Tyre size, load index or ply-rating, measuring rim, load capacity, inflation pressure, allowable rim for use

They shall comply with the provisions in GB/T 2978.

### 4.2 New tyre peripheral dimensions

They shall comply with the provisions in Appendix A.

#### **4.6.3 Tyre durability**

After tyre goes through durability test, the tyre pressure shall not be less than 95% of stipulated initial pressure. After the test, there shall not be (tread, sidewall, tread ply, belted breaker or buffer layer, tyre bead) delamination, ply crack, cord separation, cord breaking, chunking, joint crack, chap as well as abnormal deformation of carcass and other defects in visual inspection. If tyre is damaged, it shall check airtight layer.

#### **4.6.4 Tyre low pressure performance (not including T-type temporary-use spare tyre)**

After tyre goes through low pressure performance test, the tyre pressure shall not be less than 95% of stipulated initial pressure. After the test, there shall not have (tread, sidewall, tread ply, belted breaker or buffer layer, tyre bead) delamination, ply crack, cord separation, cord breaking, chunking, joint crack, chap as well as abnormal deformation of carcass and other defects in visual inspection.

#### **4.6.5 Tyre high speed performance**

After tyre goes through high speed performance test, the tyre pressure shall not be less than 95% of initial pressure. After the test, there shall not have (tread, sidewall, tread ply, belted breaker or buffer layer, tyre bead) delamination, ply crack, cord separation, cord breaking, chunking, joint crack, chap and other defects in visual inspection.

#### **4.7 Tread wear indicator**

**4.7.1** There shall have at least 4 normally observed tread wear indicators on each tyre casing along with circumference equidistantly. The height shall not be less than 1.6 mm.

**4.7.2** Marks indicating tread wear indicator positions shall be on tyre shoulders of both sides.

#### **4.8 Appearance quality**

**4.8.1** There shall not have serious appearance defects that may seriously affect operation life, such as delamination between components, spongy, bead fracture, bead wire's serious pumping, multiple cord breakage, stunned womb cord, crown with plastic edge cord and other defects. If protecting band is used, there shall not have any defects or body cracks.

**4.8.2** Tyre casing and protecting band's other appearance quality shall comply with the provisions in HG/T 2177.

#### **4.9 Inner tube and protecting band**

Inner tube and protecting band shall comply with matching requirements for tyre cover.

### **5 Test methods**

**5.1** Total width and external diameter as well as the height of the tread wear indicator of new inflated tyre shall be determined according to GB/T 521.

**5.2** Tyre strength, tubeless tyre unseating resistance, durability, low pressure performance and high speed performance shall be inspected according to GB/T 4502. Arctic tyre's durability and low pressure performance test speed is 110 km/h.

**5.3** Tyre appearance quality shall be inspected according to HG/T 2177.

### **6 Marks**

**6.1** Each tyre sidewall shall have the following marks:

- a) Specification;
- b) Trademark, manufacturer name or origin of place;
- c) Load index or ply-rating, load capacity, inflation pressure;
- d) Speed symbol;
- e) Radial tyre crown, skeleton material's name for sidewall, number of layers, and skeleton material's name for diagonal tyre;
- f) Mark of tread wear indicator position;
- g) Production code;
- h) Factory inspection mark.

In which, a) ~ f) are carving marks, g) is a permanent mark, and h) is the mark that shall not be washed away by water.

**6.2** "RADIAL" shall be carved on radial tyre and "TUBELESS" shall be carved on tubeless tyre.

**6.3** Driving direction shall be marked on the tyre of which tread pattern has driving direction.

## Appendix A

(Normative)

### Requirements for new tyre peripheral dimensions

#### **A.1 Other requirements for tyre peripheral dimensions, except T-type temporary-use spare diagonal tyre**

Total maximum width of new tyre = new tyre section width  $\times$  1.04; when there is rim protector line design, the total width shall not be greater than 104% + 8 mm of new tyre section width.

Total minimum width of new tyre = new tyre section width  $\times$  0.96;

Maximum external diameter of new tyre = 2  $\times$  section height  $\times$  1.03 + nominal rim diameter;

Minimum external diameter of new tyre = 2  $\times$  section height  $\times$  0.97 + nominal rim diameter.

Maximum external diameter of arctic tyre, ground grip tyre and special tyre's new tyre shall be increased by 1%.

#### **A.2 Requirements for T-type temporary-use spare tyre's diagonal tyre peripheral dimensions**

Total maximum width of new tyre = new tyre's designed section width  $\times$  1.07, or total maximum width of new tyre = new tyre's designed section width + 10 mm, taking the greater value.

New tyre's maximum external diameter = 2  $\times$  designed section height  $\times$  1.07 + nominal rim diameter, or new tyre's maximum external diameter = 2  $\times$  (designed section height + 8 mm) + nominal rim diameter, taking the greater value.

Maximum external diameter of arctic tyre, ground grip tyre and special tyre's new tyre shall be increased by 1%.

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