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

GB/T 31547-2023

Replacing GB/T 31547-2015

Electric bicycle inner tubes

电动自行车内胎

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Foreword

This document was drafted in accordance with the rules provided in GB/T 1.1-2020 Directives for Standardization - Part 1: Rules for the Structure and Drafting of Standardizing Documents.

This document serves as a replacement of GB/T 31547-2015 Electric Bicycle Inner Tubes. In comparison with GB/T 31547-2015, apart from structural adjustments and editorial modifications, the main technical changes are as follows:

- a) The special description of the bonding strength index between the rubber base valve and the tyre body is modified (see Table 1; Table 1 and 5.4 of Version 2015);
- b) The test conditions for the air tightness test are modified (see 6.1.1; 5.1.1 of Version 2015);
- c) The type of tensile test cutter is modified (see 6.2; 5.2 of Version 2015);
- d) The type of joint tensile strength test cutter is modified (see 6.3; 5.3 of Version 2015).

Please be noted that certain content of this document may involve patents. The institution issuing this document does not undertake the responsibility of identifying these patents.

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

This document shall be under the jurisdiction of National Technical Committee on Tyres and Rims of Standardization Administration of China (SAC/TC 19).

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This document was firstly issued in 2015. This is the first revision. Electric Bicycle Inner Tubes

1 Scope

This document specifies the types and requirements of electric bicycle inner tubes, describes the corresponding test methods, and specifies the content of marks.

This document is applicable to model vulcanized inner tubes for the assembly of electric bicycle tyres.

2 Normative References

GB/T 528

GB/T 1796.1

GB/T 1796.2

GB/T 31546

GB/T 31548

GB/T 31549

3 Terms and Definitions

This document does not have terms or definitions that need to be defined.

4 Types

In accordance with the materials used in manufacture, inner tubes are classified into two types:

- Natural rubber inner tubes and inner tubes based on natural rubber are Type A;
- Butyl rubber inner tubes and inner tubes based on butyl rubber are Type B.

6.1 Air Tightness Test

6.1.1 Inflate the inner tube, until the cross-sectional circumference of the inner tube directly

opposite the valve is 130% of the double flat-folded cross-sectional width of the inner tube, and let it stand at room temperature for 12 hours.

6.1.2 Check whether there is any gas leakage. If there is no obvious gas leakage, it is deemed as a qualified product.

6.1.3 If there is obvious gas leakage, it shall be re-inflated in accordance with the same conditions described above and immersed in water for 1 minute. If more than one bubble emerges, it is deemed as a disqualified product. However, after repair, it is allowed to test the valve part again in accordance with the method described above.

6.2 Tensile Test

The tensile test is carried out in accordance with the stipulations of GB/T 528. When using a Type 2 cutter to determine the elongation at break, respectively take one specimen (as shown in Figure 1) along the circumferential direction of the tyre body at the center of the crown, the center of the base, the center of the upper mold and the center of the lower mold in the same non-joint section of the inner tube to respectively determine the elongation at break. The values are recorded as x_1 , x_2 , x_3 and x_4 in the order from large to small. The test results, which have the maximum value x_1 and the minimum value x_4 removed, shall be calculated in accordance with Formula (1): Where, TE---the elongation at break, expressed in (%);

x_2 , x_3 ---the determined value of specimen elongation at break used for calculation, expressed in (%).