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GB/T 13552-2023

Replacing GB/T 13552-2008

Automotive V-ribbed belts

汽车多楔带

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1 Scope

GB/T 13552-2023 is the Chinese national standard on automotive v-ribbed belts, in the field of mechanical systems and components. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 7 September 2023 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 April 2024. Classification: ICS 21.220.10, CCS G42. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the structure, model and marking, cross-sectional dimensions, requirements, test methods, inspection rules, signs, labels, packaging, storage and transportation of automotive V-ribbed belts (hereinafter referred to as "V-ribbed belts"). This document applies to V-ribbed belts for transmission of fans, motors, water pumps,

compressors, power steering pumps, superchargers, etc. of automobile internal combustion engines. This document does not apply to elastic V-ribbed belts.

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 3686, V-belts -- Tensile strength and elongation test method

GB/T 6931.1, Belt drives -- Vocabulary -- Part 1: Basic vocabulary

GB/T 6931.2, Belt drives -- Vocabulary -- Part 2: V-belts and V-ribbed belt drives

GB/T 10715, Belt drives -- V-ribbed belts, joined V-belts and V-belts including wide section belts and hexagonal belts -- Electrical conductivity of antistatic belts: Characteristics and methods of test

GB/T 17516.2, V-and ribbed belts drive. Dynamic test to determine pitch zone location. Part 2: V-ribbed belts

GB/T 33513, Belt drives -- Pulleys and V-ribbed belts for the automotive industry - - PK profile: Dimensions

GB/T 41947, Belt drives -- V-ribbed belts for the automotive industry -- Fatigue test

3 Terms and definitions

For the purposes of this document, the terms and definitions defined in GB/T 6931.1, GB/T 6931.2 apply.

7.6 Antistatic properties The antistatic properties of V-ribbed belts with antistatic requirements shall comply with the requirements of GB/T 10715.

8 Test methods

8.1 Appearance Check the appearance of the V-ribbed belt by visual inspection.

8.2 Size The effective line difference of V-ribbed belt is measured according to the provisions of GB/T 17516.2. The exposed height and effective length limit deviation of the V-ribbed belt are measured in accordance with the provisions of GB/T 33513.

8.3 Tensile property test The tensile strength and reference force elongation of V-ribbed belts are tested in accordance with the provisions of GB/T 3686.

8.4 Low temperature resistance performance test

8.4.1 Specimen The number of specimens is 3. Taken from the same sample tape. Cut a strip with a length of not less than 250 mm as a specimen. If 3 specimens cannot be taken from one sample belt, 3 specimens can be taken from the same model and batch of products, but this shall be noted in the test report.

8.4.2 Test procedures For ordinary V-ribbed belts, the specimens are pretreated at a temperature of (100±2)°C for . The specimen is then cooled to room temperature and kept at (-30±1)°C for . For heat-resistant V-ribbed belts, pretreat the specimens for at a temperature of (120±2)°C. The specimen is then cooled to room temperature and kept at a temperature of (-40±1)°C for . After taking it out, immediately conduct bending tests on the corresponding cylinders according to the requirements of Condition A and Condition B in Table 2. The bending arc must be at least 90°.

8.5 Fatigue life test The length of the V-ribbed belt is based on the actual usage conditions or as agreed between the supplier and the purchaser. Use a two-wheel, three-wheel or four-wheel fatigue testing machine to conduct fatigue life testing in accordance with the provisions of GB/T 41947.

8.6 Antistatic performance test The antistatic performance of V-ribbed belts is tested in accordance with the provisions of GB/T 10715.

9.1 Exit-factory inspection

9.1.1 V-ribbed belts must be inspected by the manufacturer's quality inspection department and issued with a certificate before leaving the factory.

9.1.2 The exit-factory inspection items of V-ribbed belts include appearance, size and tensile properties.

9.1.3 V-ribbed belts shall be visually inspected one by one.

9.1.4 For the size of the V-ribbed belt, at least 3 shall be measured for each mold, and 1 shall be taken from the head, middle and tail. If one of them is unqualified, the molded V-ribbed belt shall be fully inspected.

9.1.5 The number of V-ribbed belts of the same material shall not exceed 50,000 in one batch. Sufficient samples shall be taken from each batch of products for tensile property testing. If the monthly output is less than 50,000 pieces, inspection will be conducted once a month. If the party has special requirements, relevant inspections can be decided through negotiation between the supplier and the purchaser.

9.2 Type inspection

9.2.1 V-ribbed belts shall undergo type inspection at least once every six months. When one of the following conditions occurs, type inspection shall be carried out.

a) During the trial production of new products or the finalization and appraisal of old

products for production transfer;

b) When the product is resumed after 2 years of discontinuation;

c) After the product is officially produced, if there are major changes in structure, materials, and processes, it may affect product performance;

d) When the national market supervision and administration department puts forward requirements for type inspection.

9.2.2 The type inspection items of V-ribbed belts shall include all items in Chapter 7.

9.3.1 Exit-factory inspection

9.3.1.1 If one or both of the appearance and dimensions of the V-ribbed belt do not meet the requirements of this document, the product will be judged as unqualified.

9.3.1.2 If the tensile properties of the V-ribbed belt do not meet the requirements of this document, double the number of specimens from the batch of V-ribbed belt products shall be taken for re-inspection. If the re-inspection result is still unqualified, the batch of products will be judged as unqualified products.

9.3.2 Type inspection

9.3.2.1 The appearance and size determination of V-ribbed belts shall be carried out in accordance with 9.3.1.1.

9.3.2.2 If the tensile properties, low temperature resistance, fatigue life and antistatic properties of the V-ribbed belt do not meet the requirements of this document, double the number of specimens will be taken from the batch of V-ribbed belt products, and the unqualified items and related items will be reinspected. If one or more of the re- inspection results are still unqualified, the batch of products will be judged as unqualified.

10 Signs, labels, packaging, storage and transportation

10.1 Signs Each V-ribbed belt shall be clearly marked and shall at least include the following:

b) Manufacturer's name or trademark or supplier code;

c) Year and month of manufacture or batch number.