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GB/T 13487-2017

Replacing GB/T 13487-2002

Synchronous belts for general drive

一般传动用同步带

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Foreword

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

This standard replaces GB/T 13487-2002 “Synchronous belts for general drive”. Compared with GB/T 13487-2002, in addition to editorial changes, the main technical changes are as follows:

- MODIFY the scope description (SEE Chapter 1);
- ADD the standard in the normative references (SEE Chapter 2);
- MODIFY the product classification (SEE Chapter 3);
- MODIFY the synchronous belt structure and material description (SEE Chapter 4);
- ADD the double-sided tooth synchronous belt structure diagram (SEE Figure 1);
- MODIFY the synchronous belt marking method (SEE Chapter 5);
- ADD the physical performance of the synchronous belts MXL, XXL, T2.5, T5, T10, T20, S3M, S5M, S8M, S14M, S20M, H3M, H5M, H8M, H14M, H20M, R3M, R5M, R8M, R14M and R20M (SEE Table 1);
- MODIFY the physical performance requirements of the synchronous belt (SEE 6.2);
- MODIFY the belt back hardness requirements (SEE Table 1);
- MODIFY the appearance quality requirements (SEE 6.3);
- MODIFY the sampling rules (SEE Chapter 8);
- MODIFY the marking, packaging, and storage requirements (SEE Chapter 9).

This standard was proposed by the China Machinery Industry Federation.

This standard shall be under the jurisdiction of the National Roller and Standardized Technical Committee (SAC/TC 428).

The drafting organizations of this standard: Ningbo Kaichi Belt Co., Ltd., China Productivity Center for Machinery, Ningbo Jiebao Group Co., Ltd., Ningbo Jinmao Far East Rubber Co., Ltd., Henan Jinjiulong Industrial Co., Ltd., Jiangsu Pearl Testing Machinery Co., Ltd., Zhejiang Sante Technology Co., Ltd.

Synchronous belts for general drive

1 Scope

This standard specifies the product classification, structure and materials, identification, technical requirements, test methods, inspection rules and marking, packaging, transportation and storage of synchronous belts for general drive (hereinafter referred to as synchronous belts).

This standard applies to the synchronous belts for general industry.

This standard does not apply to automotive synchronous belts.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this Standard.

GB/T 10716 Synchronous belt drives - Automobile belts – Determination of physical properties

GB/T 11616 Synchronous belt drives – Belts with pitch codes - MXL, XXL, XL, L, H, XH and XXH - Synchronous belt dimensions

GB/T 24619 Curvilinear toothed synchronous belt drives

GB/T 28774 Synchronous belt drives – Metric pitch – Trapezoidal toothed synchronous belts

JB/T 7512.1 Circular tooth synchronous belt drive - Part 1: belt

3 Product classification

The type of the synchronous belt is divided into single-sided teeth and double-sided teeth based on the teeth distribution, and the double-sided teeth are further divided into symmetrical teeth and staggered teeth. AND the synchronous belt is divided into trapezoidal teeth, curvilinear teeth and circular teeth based on the tooth shape.

Trapezoidal tooth synchronous belt is divided into 11 models: T2.5, T5, T10, T20, MXL, XXL, XL, L, H, XH, and XXH.

Curvilinear tooth synchronous belt is divided into 3 types: H, S, R; AND it is divided into 5 pitches (totally 15 models): 3M, 5M, 8M, 14M, and 20M based on the tooth pitch.

4.2 Materials

4.2.1 Belt body

The belt body includes the belt back and the belt teeth, which shall use the corresponding rubber materials.

4.2.2 Core rope

Core rope uses high modulus skeleton material, AND core rope center line shall be located in the pitch line position.

4.2.3 Tooth cloth

Tooth cloth uses high abrasion resistance textures, the density of its warp and weft shall be uniform, AND its yarn shall be free from such defects as incompleteness or skewing.

5 Identification

Trapezoidal tooth synchronous belt shall be identified in accordance with the requirements of GB/T 11616 and GB/T 28774; the curvilinear tooth synchronous belt shall be identified in accordance with the requirements of GB/T 24619; AND the circular tooth synchronous belt shall be identified in accordance with the requirements of JB/T 7512.1.

6 Technical requirements

6.1 Dimensions

The dimensions and limit deviation of the trapezoidal tooth synchronous belt shall comply with the provisions of GB/T 11616 and GB/T 28774. The dimensions and limit deviation of the curvilinear tooth synchronous belt shall comply with the provisions of GB/T 24619. The dimensions and limit deviation of the circular tooth synchronous belt shall comply with the provisions of JB/T 7512.1.

6.2 Physical performances

6.2.1 The physical performances of single-tooth synchronous belt shall comply with the provisions of Table 1.

The test of the tensile strength, the hardness of the belt back, the bonding strength of the tooth cloth, the strength of the core rope, and the shear strength of the tooth body of the synchronous belt is in accordance with the methods of GB/T 10716.

7.3 Appearance quality

The appearance quality of the synchronous belt is visually inspected, AND the pinhole is measured by a 0.8 mm special measuring column.

8 Inspection rules

8.1 Each performance testing of the synchronous belt shall be carried out by the quality inspection department of the manufacturer.

8.2 The appearance quality of the synchronous belt shall be checked one by one, BUT the main dimensions may be spot checked.

8.3 The synchronous belt of the same model and same material shall be subjected to at least one physical performance test a month.

8.4 In the case of unqualified items in the test, double test samples shall be taken from the same batch of synchronous belts for the unqualified item test. If there is still one item fails in the re-test, this batch of products will be deemed as disqualified.

9 Marking, packaging, transportation and storage

9.1 Marking

There shall be a clear marking on the synchronous belt which is not erasable by water (and it may use hanging tag to substitute such marking if it cannot be made). The marking includes the following:

- a) Marking;
- b) Manufacturer or trademark;
- c) Production date or lot number;
- d) "No folding" or other words on the requirements of use.

9.2 Packaging

During packaging of the synchronous belt, it shall be careful to avoid the synchronous belt to be subjected to excessive bending, AND the allowable minimum diameter is as shown in Table 2. In accordance with the specifications, models, volumes, and dimensions of the synchronous belt, it shall respectively use the appropriate packaging box to package it, each external package shall be indicated of the manufacturer, trademark,

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