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GB/T 5014-2017

Replacing GB/T 5014-2003

Pin coupling elastomer

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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 5014-2003 “Pin coupling elastomer”. Compared with GB/T 5014-2003, except for editorial revision, the main technical changes are as follows:

- Modified the allowable rotate speed 3870 in Table 1 to 3850 and the allowable rotate speed 1080 in Table 1 and Table 2 to 1060;
- Unified the long cylindrical shaft holes and short cylindrical axis holes to Y axis holes;
- Changed the material for brake wheel from ZG 270-500 to ZG 310-570;
- Added examples of marking;
- Delete Chapter 7 marking, packing and storage.

This Standard was proposed by and shall be under the jurisdiction of the National Technical Committee for Standardization of Machine shafts and Accessories (SAC/TC 109).

Drafting organizations of this Standard: Deyang Lida Basic Parts Co., Ltd., China Machinery Productivity Promotion Center, Taiyuan Heavy Industry Co., Ltd., Zhejiang Xipuli Seal Technology Co., Ltd., Wuhan Zhengtong Transmission Technology Co., Ltd.

Main drafters of this Standard: Liu Xueguang, Ming Cuixin, Wang Xiaoling, Xi Weimin, Yu Xiaosuo, Deng Gaojian.

The previous releases of the standards replaced by this standard are:

- GB/T 5014-1985, GB/T 5014-2003.

Pin coupling elastomer

1 Scope

This Standard specifies the types, basic parameters, main dimensions, marking method, technical requirements and inspection rules of the LX type and LXZ type elastic pin coupling (hereinafter referred to as the coupling).

This Standard is applicable to the driving shaft system connecting the two coaxial lines with transmission nominal torque of $250\text{N} \cdot \text{m} \sim 1800\text{N} \cdot \text{m}$ at working temperature of $-20^{\circ}\text{C} \sim +70^{\circ}\text{C}$, and has the function of compensating the relative displacement of the two axes and buffering the axes.

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 699 Quality carbon structure steels

GB/T 3852 Types and dimensions for coupling bores and their connection

GB/T 5783 Hexagon head bolts. Full thread

GB/T 11352 Carbon steel castings for general engineering purpose

3 Type, basic parameters and main dimensions

3.1 The basic parameters and main dimensions of the LX type elastic pin coupling (basic type) shall conform to the requirements of Figure 1 and Table 1.

Note 2: the compensation listed in the table refers to the biaxial relative deviation due to installation error, shock, vibration, deformation, temperature change, etc. The installation deviation should be less than the value in the table.

4 Marking method

4.1 The marking method of coupling shall be as per GB/T 3852.

4.2 Examples of marking:

Example 1: LX6 elastic pin coupling

Drive end: type Y shaft hole, type A keyslot, $d_1=65\text{mm}$, $L=142\text{mm}$;

Follow end: type Y shaft hole, type A keyslot, $d_2=65\text{mm}$, $L=142\text{mm}$:

LX6 Coupling : 65×142 GB/T 5014—2017

Example 2: LX7 elastic pin coupling

Drive end: type Z shaft hole, type C keyslot, $d_z=75\text{mm}$, $L=107\text{mm}$;

Follow end: type J shaft hole, type B keyslot, $d_2=70\text{mm}$, $L=107\text{mm}$:

LX7 Coupling $\frac{ZC75 \times 107}{JB70 \times 107}$ GB/T 5014—2017

Example 3: LXZ5 elastic pin coupling with brake wheel

Half coupling end: type J shaft hole, type B keyslot, $d_2=60\text{mm}$, $L=107\text{mm}$;

Brake wheel end: type J shaft hole, type B keyslot, $d_1=55\text{mm}$, $L=84\text{mm}$:

LXZ5 Coupling $\frac{JB60 \times 107}{JB55 \times 84}$ GB/T 5014—2017

5 Technical requirements

5.1 The material for the main parts of the coupling shall comply with Table 4.

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