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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 1972.2-2023

Replacing GB/T 1972-2005

Disc springs - Part 2: Technical specifications

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foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules for Standardization Documents"

drafting:

This document is Part 2 of GB/T 1972 "Disc Springs": GB/T 1972 has released the following parts:

--- Part 1: Calculation;

--- Part 2: Technical conditions:

This document replaces GB/T 1972-2005 "Disc Spring": Compared with GB/T 1972-2005, except for structural adjustment and editorial changes

In addition, the main technical changes are as follows:

---Changed the scope (see Chapter 1, Chapter 1 of the:2005 edition), the outer diameter and thickness range of disc springs are specified;

--- Changed symbols, parameter names and units (see Chapter 4, Chapter 3 of the:2005 edition);

---Changed the structural type, grouping and dimension series (see Chapter 5, Chapter 4 of the:2005 edition);

--- Changed the material (see 6:1, 5:1 of the:2005 edition);

--- Changed the manufacturing process (see Table 4, Table 2 of the:2005 edition);

--- Changed the thickness limit deviation (see Table 5, Table 5 of the:2005 edition);

--- Added concentricity tolerance (see 6:3:3);

--- Changed the detection load limit deviation (see 6:3:5, 5:3:1 of the:2005 edition);

--- Deleted the surface roughness (see 5:4 of the:2005 edition);

--- Changed the surface quality (see 6:4, 5:5 of the:2005 edition);

--- Change the heat treatment (see 6:5, 5:6 of the:2005 edition);

--- Changed the standing (forced pressure) treatment (see 6:6, 5:7 of the:2005 edition);

--- Changed the surface treatment (see 6:7, 5:8 of the:2005 edition);

--- Changed shot peening (see 6:8, 5:9 of the:2005 edition);

---Changed the allowable stress under static load (see 6:9:1, C:5:2 of the:2005 edition);

--- Changed the allowable stress during dynamic load (see 6:9:2, C:5:3 of the:2005 edition);

---Changed creep and relaxation (see 6:10, C:6 of the:2005 edition);

--- Increased detection device (see 7:2);

--- Added standing (forced pressure) treatment (see 7:3);

--- Changed the thickness (see 7:4:1, 6:1:1 of the:2005 edition);

--- Changed the outer diameter and inner diameter (see 7:4:2, 6:1:2 of the:2005 edition);

--- Changed the free height (see 7:4:3, 6:1:3 of the:2005 edition);

--- Increased coaxiality (see 7:5);

--- Changed the detection load (see 7:6, 6:2:1 of the:2005 edition);

--- Changed the hardness (see 7:7, 6:2:3 of the:2005 edition);

--- Added shot peening (see 7:10);

--- Changed fatigue (see 7:11, 6:6 of the:2005 edition);

--- Added creep and relaxation (see 7:12);

--- Changed the defect classification (see 8:1, 7:1 of the:2005 edition);

--- Changed the sampling plan (see 8:4, 7:4 of the:2005 edition);

--- Changed the receiving quality limit (see 8:5, 7:5 of the:2005 edition);

--- Changed Appendix B (see Appendix B, Appendix B of the:2005 edition, C:7 of the:2005 edition):

This document is modified to adopt ISO 19690-2:2018 "Disc Springs Part 2: Technical Conditions":

Compared with ISO 19690-2:2018, this document has more structural adjustments, and the comparison list of structural number changes between the two documents

See Appendix A:

The technical differences between this document and ISO 19690-2:2018 and their reasons are as follows:

--- Changed the scope (see Chapter 1) to adapt to the technical conditions of our country;

---Delete the technical requirements of A-level disc springs in ISO 19690-2:2018 to adapt to the technical conditions of our country;

--- Deleted ISO 683-1 to adapt to my country's technical conditions;

--- Deleted ISO 683-2 to adapt to my country's technical conditions;

--- Deleted ISO 16249 to adapt to my country's technical conditions;

--- Delete EN1654 to adapt to the technical conditions of our country;

--- Delete EN10083-1 to adapt to the technical conditions of our country;

--- Delete EN10083-2 to adapt to the technical conditions of our country;

--- Delete EN10083-3 to adapt to the technical conditions of our country;

--- Delete EN10089 to adapt to the technical conditions of our country;

--- Deleted EN10132-4 to adapt to the technical conditions of our country;

--- Delete EN10151 to adapt to the technical conditions of our country;

--- JISG3311 was deleted to adapt to the technical conditions of our country;

--- JISG4801 was deleted to adapt to the technical conditions of our country;

--- JISG4802 was deleted to adapt to the technical conditions of our country;

--- Deleted ASTMA240 to adapt to the technical conditions of our country;

--- Deleted ASTMA332 to adapt to my country's technical conditions;

--- Deleted ASTMA506 to adapt to my country's technical conditions;

--- Deleted ASTMA568 to adapt to my country's technical conditions;

--- Deleted ASTMA666 to adapt to my country's technical conditions;

---Deleted ASTMA682 to adapt to the technical conditions of our country;

--- Deleted ASTMA684 to adapt to the technical conditions of our country;

--- Deleted ASTMA689 to adapt to the technical conditions of our country;

--- Deleted ASTMA693 to adapt to my country's technical conditions;

--- Deleted ASTMB103 to adapt to my country's technical conditions;

--- Deleted ASTMB194 to adapt to my country's technical conditions;

--- Deleted ASTMB196 to adapt to my country's technical conditions;

--- Deleted BS970-2 to adapt to the technical conditions of our country;

--- Replaced ISO 26909 (see Chapter 3) with the normatively quoted GB/T 1805 to adapt to the technical conditions of our country;

--- Changed the technical requirements (see Chapter 6) to adapt to domestic market applications;

--- Changed the material, added GB/T 1222, GB/T 3279 and YB/T 5058 (see 6:1) to adapt to my country's technical conditions and

Market demand;

--- Changed the limit deviation of outer diameter and inner diameter (see 6:3:2) into Class I and Class II to adapt to domestic market applications;

--- Replaced ISO 286-2:2010 (see 6:3:3) with the normatively quoted GB/T 1800:2 to adapt to the technical conditions of our country;

--- Changed the detection load limit deviation (see 6:3:5) into grade I and grade II to adapt to domestic market applications;

---Changed the depth of decarburization layer (6:5:2), which is more reasonable;

--- Replaced ISO 26910-1:2009 (see 6:8, 7:10) with the normatively quoted GB/T 31214:1 to adapt to my country's technology

condition;

--- Replaced ISO 19690-1:2017 with the normative reference GB/T 1972:1-2023 (see 6:9:1, Table B:1), two documents

The degree of consistency between them is modified to adapt to the technical conditions of our country;

---Changed the allowable stress under static load (see 6:9:1), more rigorous;

--- Added standing (forced pressure) treatment (see 7:3) to adapt to the technical conditions of our country;

--- Added measurement with a depth gauge (see 7:4:3:2) to adapt to the technical conditions of our country;

--- Increase the coaxiality (see 7:5) to adapt to the technical conditions of our country;

--- Increase the hardness (see 7:7) to adapt to the technical conditions of our country;

--- Replaced ISO 6507:2005 (see 7:7) with the normatively quoted GB/T 4340:1 to adapt to