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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

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Springs - Symbols

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1.Structure and Drafting Rules of Standardization Documents"

Drafting.

This document is modified to adopt ISO 16249.2013 "Spring Symbol".

Compared with ISO 16249.2013, this document has made the following structural adjustments.

---Appendix A corresponds to Appendix B of ISO 16249.2013.

The technical differences between this document and ISO 16249.2013 and their reasons are as follows.

---Changed the scope (see Chapter 1) to adapt to my country's technological development;

---Replaced ISO 26909 (see Chapter 3) with the normatively quoted GB/T 1805 to adapt to my country's technical conditions;

---Changed (phi, K, i, OM, P, V, W, nu) in the basic character list (Table 1) (see 6.1) to adapt to my country's technological development;

---Changed (b, f, G, r, s) in the subscript list (Table 2) (see 6.2) to adapt to my country's technological development;

---Changed the symbols (b, C, Fs, K, Ls, nz, ss, alpha, tauh and taus) in the symbol application list (Table 3) of the cylindrical helical compression spring,

Footnote a and Figure 1 in Table 3 (see Chapter 7) have been removed to adapt to my country's technological development;

---Changed the symbol application list (Table 4) (C, Fs, K, Ls, ss, tauh, taus) and Figure 3 (see Chapter 8) of cylindrical spiral tension springs,

To adapt to my country's technological development;

---Changed the symbol application list (Table 5) of cylindrical spiral torsion springs (alphah, alphan, alphas, alpha0, alpha1, alpha2,, sigmah, sigmas) and Figure 5 (see Chapter 5

Chapter 9), to adapt to my country's technological development;

---Changed the symbol application list of leaf springs (Table 7) (bA, bE, Cd, dA, di, Fd, Hd, lST,A, sd, sd,j, smax,t, delta, sigma,

sigmad) and Figure 8 (see Chapter 11) to adapt to my country's technological development;

---Added the symbol of wave spring (see Chapter 12) to adapt to the technological development of our country;

---Added the symbol of disc spring (see Chapter 13) to adapt to my country's technological development;

---Added the symbol of planar scroll spring (see Chapter 14) to adapt to my country's technological development;

---Deleted Appendix A of ISO 16249.2013 to adapt to my country's technology application environment.

Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents.

Introduction

This document provides general principles for the symbols of physical quantities, coefficients and parameters associated with springs for the convenience of designers, manufacturers and spring users.

side for use. The symbols provided in this document are applicable to spring technical documents.

This document is only the spring symbol part and does not include the spring technical terminology part. For ease of reference, a symbol index is given in the form of an appendix.

See Appendix A.

This document adds the symbols for wave springs, disc springs and flat scroll springs used in my country.

This document does not include material symbols and spring equipment symbols to avoid duplication or conflict with related symbols in other standards.

spring symbol

1 Scope

This document establishes general principles for creating quantities, coefficients, and parameter symbols for springs. Specifies technical documents for products in process, especially for describing

The basic characters, subscripts and application symbols used for springs in the product technical documents described and ordered.

This document applies to cylindrical coil springs, leaf springs, leaf springs, wave springs, disc springs and flat scroll springs, and other springs.

Symbols are used for reference.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations

For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to

this document.

GB/T 1805 spring terminology (GB/T 1805-2021, ISO 26909.2009, MOD)

ISO 80000-1 Quantities and units-Part 1.General (ISO 80000-1, Quantities and units-Part 1.General)

ISO 80000-4, Quantities and units-Part 4.Mechanics (ISO 80000-4, Quantities and units-Part 4.Mechan-

ics)

3 Terms and definitions

The terms and definitions defined in GB/T 1805 and the following apply to this document.

3.1

basiccharacterbasiccharacter

The main part of the spring symbol represents the physical quantities, coefficients and parameters of the spring.

3.2

subscriptsubscript

The second part of the spring symbol, after the basic characters, makes the spring symbol more suitable for physical quantities and coefficients related to performance, characteristics, numbers, etc.

and parameters.

3.3

application symbol applicationsymbol

A combination of basic characters and subscripts.

Example. Application Symbols

basic characters

subscript

4.1 Overview

Simple spring symbols consist of only basic characters. Subscripts can be added after basic characters to create more complex symbols. Amount used