



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 1805-2021

Spring - Vocabulary

Issued on: October 11, 2021

Implemented on: May 1, 2022

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

1 Scope	1
2 Normative references	1
3 Basic characteristics of spring terms	1
4 Application term of spring in machinery and engineering	3
5 Structural style terms	4
6 Technical requirements terms	9
7 Terminology for spring design and calculation	11
8 Manufacturing and process terms	22
9 Test and detection terms	25
Appendix A (informative) Legend of terms and definitions	28
Reference	44
Index	45

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 of Standardization Documents"

Drafting.

This document replaces GB/T 1805-2001 "Spring Terminology". Compared with GB/T 1805-2001, the main technology except for editorial changes

The changes are as follows.

- a) Modified the scope (see Chapter 1, Chapter 1 of the.2001 edition);
- b) The symbols and units of the.2001 edition have been deleted (see Chapter 3 of the.2001 edition);
- c) The following terms and definitions have been added.
 - Terms of the basic characteristics of some springs (see 3.5, 3.6, 3.11, 3.12, 3.19, 3.20);
 - Terms of application of some springs in machinery and engineering (see 4.1, 4.2, 4.9.3, 4.9.4);
 - Partial spring structure type terms (see 5.1.4~5.1.11, 5.2.8, 5.2.9, 5.2.11, 5.4.3, 5.6, 5.10);

---Terms of technical requirements for some springs (see 6.4~6.29);

d) Deleted some spring type terms in the.2001 edition (see 2.7.1~2.7.5, 2.8.1.1~2.8.1.3, 2.8.2.1, 2.8.2.2, 2.8.2.5), and some spring design and process terms (see 3.1~3.5, 3.7, 3.8, 3.12);

e) The following terms and definitions have been revised.

---Variable cross-section material spiral spring (see 3.16, 2.2.2.2 of the.2001 edition);

---Tightening spring (see 4.4, 2.13 of the.2001 edition);

---Multiple leaf springs (see 5.1.1, 2.3.1 of the.2001 edition);

---Variable cross-section leaf spring (see 5.1.2, 2.3.1.3 of the.2001 edition);

--- Constant force scroll spring (see 5.4.4, 2.5.1.3 of the.2001 edition);

---Spring design and calculation terms (see Chapter 7, 3.1~3.95 in.2001 edition);

---Manufacturing and process terms (see Chapter 8,.2001 version 3.96~3.106);

---Terms of test and detection (see Chapter 9,.2001 version 3.107~3.129).

The revision of this document adopts ISO 26909.2009 "Spring Terminology".

Compared with ISO 26909.2009, this document has made the following structural adjustments.

--- Chapter 1 corresponds to Chapter 0 in ISO 26909.2009;

---Chapter 2 normative reference documents have been added;

--- Chapter 3 corresponds to Chapter 1 in ISO 26909.2009;

--- Chapter 4 corresponds to Chapter 2 in ISO 26909.2009;

--- Chapter 5 corresponds to Chapter 3 in ISO 26909.2009;

--- Chapter 6 corresponds to Chapter 4 in ISO 26909.2009;

--- Chapter 7 corresponds to Chapter 5 in ISO 26909.2009;

--- Chapter 8 corresponds to Chapter 6 in ISO 26909.2009;

--- Chapter 9 corresponds to Chapter 7 in ISO 26909.2009.

The technical differences between this document and ISO 26909.2009 and the reasons are as follows.

a) Modified the scope, the national standard involves more spring types than ISO 26909.2009;

b) The following terms and definitions have been added to suit my country's technical conditions.

- Terms of the basic characteristics of some springs (see 3.9, 3.10 and 3.16);
- Some springs are used in terms of machinery and engineering (see 4.6, 4.7, 4.8 and 4.9);
- Part of the structural style terms (see 5.1.1, 5.1.2, 5.1.2.1, 5.1.3 and 5.6.1 to 5.6.3);
- Some technical requirements terms (see 6.4.1, 6.4.3, 6.4.4);
- Part of spring design and calculation terms (see 7.39, 7.46, 7.52, 7.59, 7.60.1, 7.60.2, 7.62~7.65, 7.85, 7.99~7.129);
- Some manufacturing and process terms (see 8.29);
- Part of the test and detection terms (see 9.1, 9.2, 9.11, 9.22~9.28).

c) Some terms and definitions in ISO 26909.2009 have been deleted to adapt to my country's technical conditions.

- Deleted some of the terms of fastening springs in ISO 26909.2009 (see 2.1~2.19, 2.21 in ISO 26909.2009);
- Deleted 3.19 conical coil spring and 3.41 wire mesh spring in ISO 26909.2009;
- Delete some spring design and calculation terms in ISO 26909.2009, see (5.51, 5.72 in ISO 26909.2009 5.73).

d) Modified "perpendicularity", "parallelism" and "permanent deformation" in terms of spring design and calculation to adapt to my country's technical conditions (see 7.43, 7.44, 7.54, 5.42, 5.43, 5.51 in ISO 26909.2009).

The following editorial changes have been made to this document.

- The Appendix B of ISO 26909.2009 is deleted because it is different from our country's terminology classification.

This document was proposed and managed by the National Spring Standardization Technical Committee (SAC/TC235).

Drafting organizations of this document. CMC Productivity Promotion Center, Dongfeng Motor Suspension Spring Co., Ltd., Changzhou Gas Spring Co., Ltd., Shanghai Zhong

National Spring Manufacturing Co., Ltd., Hangzhou Spring Co., Ltd., Zhejiang Meili Technology Co., Ltd., Jiangxi Changli Fangda Auto Parts Co., Ltd.

Company, Hangzhou Xingfa Spring Co., Ltd., Hangzhou Fuchun Spring Co., Ltd., Taifu Special Steel Suspension (Jinan) Co., Ltd., Zhejiang Funiu Steel Plate Bullet

Spring Co., Ltd., Zhejiang Jinchang Spring Co., Ltd., Huawei Technology Co., Ltd., CRRC Guiyang Vehicle Co., Ltd., Shandong Automobile Spring Factory

Zibo Co., Ltd., China FAW Co., Ltd. Technology Center, Tianjin Peiheng Hardware Spring Co., Ltd., Taizhou Yongzheng Automobile Parts Department

Piece Co., Ltd.

1 Scope

This document defines the terms and definitions of springs, and gives related illustrations.

This document applies to coil springs, scroll springs, disc springs, leaf springs, non-metal springs, gas springs, torsion bar springs, stabilizer bar springs

Springs and other types of elastic components.

Note. This document does not include material and spring equipment terminology to avoid duplication or conflict with related terms in other standards. But for the convenience of use, it contains part of the

The terms and definitions of heat treatment and surface treatment directly related to springs, and heat treatment and surface treatment terms and definitions related to springs.

2 Normative references

There are no normative references in this document.

3 Basic characteristics of spring terms

3.1

Spring

A mechanical part (or device) that stores and releases energy through deformation.

3.2

Compression spring

Withstand the axial pressure spring. See Figure A.1.

Note. Generally refers to helical compression springs.

3.3

Extension spring