



JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS B 2704-2 : 2009

(JSMA/JSA)

**Coil springs—Part 2: Expression
of the specification on helical
compression springs**

ICS 21.160

Reference number : JIS B 2704-2 : 2009 (E)

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Date of Establishment: 2009-10-20

Date of Public Notice in Official Gazette: 2009-10-20

Investigated by: Japanese Industrial Standards Committee
Standards Board

Technical Committee on Machine Elements

JIS B 2704-2:2009, First English edition published in 2010-09

Translated and published by: Japanese Standards Association
4-1-24, Akasaka, Minato-ku, Tokyo, 107-8440 JAPAN

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Printed in Japan

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Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal for establishment of Japanese Industrial Standard submitted by Japan Spring Manufacturers Association (JSMA)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law. Consequently **JIS B 2704**:2000 was withdrawn and partially replaced with this Standard.

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JIS B 2704 consists of the following 3 parts under the general title “*Coil springs*”:

Part 1: Basic calculation methods on helical compression and extension springs

Part 2: Expression of the specification on helical compression springs

Part 3: Expression of the specification on helical extension springs

Coil springs—Part 2: Expression of the specification on helical compression springs

1 Scope

This Japanese Industrial Standard specifies the expression of the specification on helical compression springs (hereafter referred to as “springs”), of matters such as material, configuration, spring characteristics and dimensions, in accordance with **JIS B 2704-1**.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS B 0004 *Technical representation of springs*

JIS B 0103 *Glossary of terms used in springs*

JIS B 2704-1 *Coil springs—Part 1: Basic calculation methods on helical compression and extension springs*

JIS G 0558 *Steels—Determination of depth of decarburization*

JIS Z 2243 *Brinell hardness test—Test method*

JIS Z 2320-1 *Non-destructive testing—Magnetic particle testing—Part 1: General principles*

JIS Z 2320-2 *Non-destructive testing—Magnetic particle testing—Part 2: Detection media*

JIS Z 2320-3 *Non-destructive testing—Magnetic particle testing—Part 3: Equipment*

JIS Z 8401 *Guide to the rounding of numbers*

3 Terms and definitions

For the purposes of this Standard, the terms and definitions given in **JIS B 0103** apply.

4 Material of springs and material diameter

Material of spring and material diameter shall be as specified in clause 4 of **JIS B 2704-1**.

5 Shape of springs

Examples of shapes of coil ends of springs are given in figure 1.

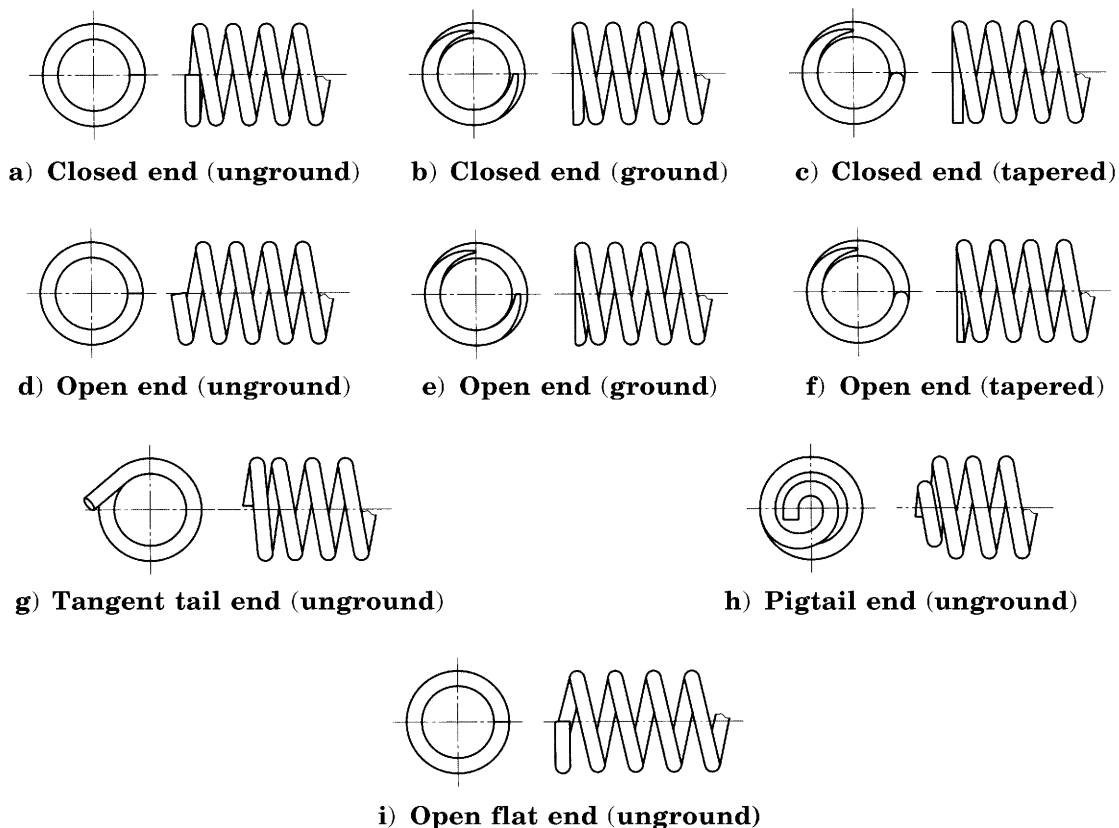


Figure 1 Shapes of coil ends (example)

6 Tolerances on spring characteristics and dimensions

6.1 Tolerance grades

The tolerance grades for the spring characteristics and dimensions shall be Grade 1 to Grade 3. The tolerance grade shall be selected independently for each item according to the using conditions.

6.2 Tolerances on spring characteristics

For the spring characteristics for hot formed springs, the height at the specified load (force) or load (force) at the specified height, and for cold formed springs, the load (force) at the specified height shall be specified by the purchaser.

In addition, when required in hot formed springs and/or cold formed springs, the spring constant shall be specified by the purchaser.

- a) **Tolerance on height at the specified load (force)** The tolerance on height at the specified load (force) shall apply to hot formed springs, and in accordance with table 1.

Further, the tolerances shall be the larger absolute value of the two conditions in each column in table 1. The values shall be rounded with the unit of 0.5 mm according to **JIS Z 8401**.