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**JIS B 2704** : 2000

(JSMA/JSA)

**Helical compression  
and extension springs—  
Requirements for design,  
performance test method**

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ICS 21.160

**Descriptors** : spring-balances, helical springs, compression loading, tensile loading,  
design calculations

**Reference number** : JIS B 2704 : 2000 (E)

## Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at the Japanese Industrial Standards Committee, as the result of proposal for revision of Japanese Industrial Standard submitted by the Japan Spring Manufacturers Association (JSMA)/the 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**JIS B 2704 : 1994** was revised, and **JIS B 2702 : 1994**, **JIS B 2707 : 1994** and **JIS B 2708 : 1994** were withdrawn and replaced with this Standard.

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In the event of any doubts arising as to the contents,  
the original JIS is to be the final authority.

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## Helical compression and extension springs—Requirements for design, performance test method

**Introduction** This Japanese Industrial Standard has been made by unifying **JIS B 2702 : 1994**, **JIS B 2704 : 1994**, **JIS B 2707 : 1994** and **JIS B 2708 : 1994**, forming the body which has specified the performance and the informative items based on **JIS B 2702**, **JIS B 2707** and **JIS B 2708** have been annexed to it.

**1 Scope** This Standard specifies the requirements for design and performance test method of cylindrical helical springs which are hot formed or cold formed using the material with circular cross section (hereafter referred to as “springs”), among the helical compression springs and extension springs for general use.

**2 Normative references** The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. The most recent editions of the standards shall be applied.

JIS B 0004 *Technical drawings—Representation of springs*

JIS B 0103 *Springs’ vocabulary*

JIS G 0558 *Methods of measuring decarburized depth for steel*

JIS G 0565 *Method for magnetic particle testing of ferromagnetic materials and classification of magnetic particle indication*

JIS G 3521 *Hard drawn steel wires*

JIS G 3522 *Piano wires*

JIS G 3560 *Oil tempered wire for mechanical springs*

JIS G 3561 *Oil tempered wire for valve springs*

JIS G 4314 *Stainless steel wires for springs*

JIS G 4801 *Spring steels*

JIS H 3260 *Copper and copper alloy wires*

JIS H 3270 *Copper beryllium alloy, Phosphor bronze and nickel silver rods, bars and wires*

JIS Z 2243 *Brinell hardness test—Test method*

JIS Z 8401 *Guide to the rounding of numbers*

**3 Definitions** For the main terms used in this Standard, the definitions in **JIS B 0103** apply.

**4 Materials** The materials used for the springs shall be as given in Table 1, and materials other than those shall be subject to the agreement between the interested parties.

The minimum values of the tensile strength in principal materials are given in Informative reference Table 1.