JIS

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(JSMA/JSA)

Leaf springs—Part 2: Design method

B 2710-2 : 2020

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

Contents

Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Spring Manufacturers Association (JSMA)/Japanese Standards Association (JSA) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act. This edition replaces the previous edition (**JIS B 2710-2** : 2008), which has been technically revised.

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JIS B 2710 series consists of the following 4 parts under the general title *Leaf springs*:

  Part 1: Vocabulary
  Part 2: Design method
  Part 3: Method of testing
  Part 4: Specification of products

Leaf springs—Part 2: Design method

1 Scope

This Japanese Industrial Standard specifies the design method of the leaf springs mainly used for automobiles, railway rolling stocks and industrial machines.

This Standard covers the leaf springs composed of only a single leaf.

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 0103   *Springs—Vocabulary*

JIS B 0156   *Springs—Symbols*

JIS B 2710-1   *Leaf springs—Part 1: Vocabulary*

JIS B 2710-3   *Leaf springs—Part 3: Method of testing*

JIS B 2710-4   *Leaf springs—Part 4: Specification of products*

3 Terms and definitions

For the purpose of this Standard, the terms and definitions given in **JIS B 0103** and **JIS B 2710-1** apply.

4 Symbols

For the purpose of this Standard, the symbols and definitions shall be as given in Table 1 based on the requirements specified in **JIS B 0156**.

Table 1   Symbols and definitions

Symbol	Definition	Unit
b	Leaf width	mm
C	Camber	mm
E	Young's modulus, $E = 206 \times 10^3$	N/mm^2
e	Radius of eye	mm
$2F$	Working force on leaf spring	N
I	Geometrical moment of inertia of leaf	mm^4
l	Half span of leaf spring (span: $2l$)	mm
l_A	Half span of fixed side of unsymmetrical leaf spring	mm
l_B	Half span of shackle or slide side of unsymmetrical leaf spring	mm
l_{ST}	Half straight span (straight span: $2l_{ST}$)	mm
$l_{ST,A}$	Half straight span of fixed side of unsymmetrical leaf spring	mm
$l_{ST,B}$	Half straight span of shackle or slide side of unsymmetrical leaf spring	mm