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

GB/T 19844-2018

Replacing GB/T 19844-2005

Leaf springs -- Technical specifications

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1 End width b_A mm Width of spring roll or slide

2 Assembly width b_E mm Width of spring assembly within U-bolt clamping range

3 arc height C mm

4 Free arc height C_0 mm Arc height of the spring in free state or no load

5 Design arc height C_d mm spring arc height when subjected to design (nominal) load

7 bushing inner diameter d_i mm inner diameter of spring bushing

8 Load F_N springs bear the total force

9 Design load F_d N The nominal load given by the spring design

10 Maximum test load F_{max} , t N Maximum load given by the spring during performance test

11 height H mm overall height of the spring

12 Free height H_0 mm Spring free or height without load

13 Design height H_d mm The height at which the spring is subjected to the design load

14 chord length l mm distance between spring two load points

15 free chord length l_0 mm chord length of spring in free state or no load

16 Fixed end length l_A mm Distance from spring fixed end to mounting center

19 Spring Stiffness R_N/mm Spring produces load when unit is deformed

20 deformation s mm spring changes in arc height under load

21 Design deformation s_d mm Spring deformation under design load

22 Clamping deformation s_d, j mm Design deformation of the spring under clamping

23 Maximum test deformation s_{max} , t mm Deformation of the spring under maximum test load

24 Side bending δ mm The amount of bending of the side of the spring reed (see Figure 11)

25 design stress σ_{mad} MPa

5 spring type

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7 All in Appendix C, but in the form of a normative appendix

9 Regulation of product identification, packaging and storage is more operability

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB/T 19844-2005 "Sheet Spring". Compared with GB/T 19844-2005, the main technical changes are as follows.

--- Revised scope (see Chapter 1, Chapter 1 of the.2005 edition);

--- Revised the normative reference document (see Chapter 2, Chapter 2 of the.2005 edition);

--- Added parameter names, symbols and units (see Chapter 4);

--- Increased spring type (see Chapter 5);

--- Modified the material and increased the selection of GB/T 33164.1 (see 6.1, version 4.1 of.2005);

--- Modified length, assembly width, ear aperture and bushing inner diameter, side bend, curl verticality and parallelism (see 6.2,.2005)

Version 4.2);

---Modified spring stiffness (see 6.3.2; 4.3.2 of the.2005 edition);

---Modified fatigue life (see 6.3.4; 4.6 of the.2005 edition);

- Modified hardness, decarburization, shot peening, lubrication and surface preservation, surface quality (see 6.4; 2005 editions 4.4, 4.5 and 4.7);
- Increased design arc height (see 6.3.3);
- Increased preload (see 6.4.4);
- Modified test methods (see Chapter 7);
- Revised the acceptance rules (see Chapter 8);
- Added Appendix A (see Appendix A);
- Added Appendix B (see Appendix B);
- Revised the normative appendix "Test methods for leaf springs" (see Appendix C, Appendix A of the 2005 edition).

This standard uses the redrafting method to modify the use of ISO 18137:2015 "plate spring technical conditions."

This standard has more structural adjustments than ISO 18137:2015. This standard and ISO 18137:2015 are listed in Appendix A.

The chapter number is compared to the list.

There are technical differences between this standard and ISO 18137:2015, and the terms involved in these differences have been passed through the margins on the outer side of the page.

The vertical single line (|) is marked, and a list of the corresponding technical differences and their causes is given in Appendix B.

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

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1 Scope

This standard specifies the technical requirements and test methods for leaf springs.

This standard applies to leaf springs used in road vehicles (hereinafter referred to as "springs"). Other vehicle springs can be used as reference.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

Detachment layer depth determination method for GB/T 224 steel (GB/T 224-2008, ISO 3887.2003, MOD)

GB/T 230.1 Rockwell hardness test for metallic materials - Part 1. Test methods (A, B, C, D, E, F, G, H, K, N, T

Ruler) (GB/T 230.1-2009, ISO 6508-1.2005, MOD)

GB/T 231.1 Brinell hardness test for metallic materials - Part 1. Test methods (GB/T 231.1-2009, ISO 6506-1.

2005, MOD)

GB/T 1805 spring terminology

GB/T 2828.1. Sampling and sampling procedures - Part 1 . Batch-to-batch sampling plan searched by the acceptance quality limit (AQL)

(GB/T 2828.1-2012, ISO 2859-1..1999, IDT)

GB/T 31214.1 Spring shot peening Part 1. General (GB/T 31214.1-2014, ISO 26910-1.2009, IDT)

GB/T 33164.1 Spring steel for automotive suspension systems - Part 1. Hot rolled flat steel

JB/T 10802 spring shot peening technical specification

ISO 683-14 heat-treated steel, alloy steel and free-cut steel - Part 14. Hot-rolled steel for quenching and tempering springs (Heat-treatable

Steels, alloy steels and free-cutting steels - Part 14. Hot-rolled steels for quenched and tempered Springs)