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

GB/T 1239.1-2009

Replacing GB/T 1239.1-1989

**Cold coiled helical springs - Technical specifications - Part 1:
Extension springs**

冷卷圆柱螺旋弹簧技术条件 第1部分：拉伸弹簧

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Quarantine;
Standardization Administration of the PRC**

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Foreword

GB/T 1239 "Cold coiled helical springs technical conditions" is divided into three parts.

--- Part 1. Tension springs;

--- Part 2. Compression spring;

--- Part 3. Torsion springs. This part of GB/T 1239 Part 1. This part is GB/T 1239.1-1989 "Cold coiled helical tension spring technical conditions" amendments. Remains revision GB/T 1239.1-1989 "Cold coiled helical tension spring technology" valid part, no longer suited to the contents of the re Amendments. This section was revised standard main technical differences are as follows:

--- According to the original standard GB/T

1.1 were editorial changes;

--- According to GB/T 1805-2001 "spring term" relates to the original standard load, stiffness, deformation and other symbols amended;

--- Standard reference material for a comprehensive new investigation, using the latest version has been revised to replace the original standards referenced in the old version;

--- Order a comprehensive chapter on adjustments to GB/T 1239.1 ~ 1239.3 chapters sequentially consistent. Appendix A of this section is an informative annex. This part is proposed by China Machinery Industry Federation. This part of the spring by the National Standardization Technical Committee (SAC/TC235) centralized. This section is responsible for drafting unit. Changzhou Ming Kam Spring Co., Ltd., the machine Productivity Promotion Center. Participated in the drafting of this section. Zhejiang Meili Spring Co., Ltd. Changzhou Spring Factory, Zhejiang Jinchang Spring Co., Ltd., Hangzhou Qianjiang Spring Co., Ltd., Tianjin Lizhou Hardware Spring Co., Ltd. Wuxi abundance of spring, Beijing University of Technology. The main drafters of this section. Jiang Xinrong, Jiang Ying, Zhang Bi Hong, Liang Quan, Wu Gang, Liu Cuiling, Miss Bacon, Wang Wei, Zhangyong Sen, You Weiming, Zhao Zhipeng, Zhang Ying will. This part of the standard replaces the previous editions are.

--- GB 1239-1976, GB/T 1239.1-1989. Cold coiled helical springs - Technical specifications
Part 1. Tension springs

1 Scope

Part 1 of China's technical specification for cold coiled helical springs, covering the extension spring - the coiled tension spring with hooks or loops at its ends, used in latches, linkages, brakes, valves, doors and thousands of mechanisms. It specifies the technical requirements, the test methods, the inspection rules and the packaging, marking, transport and storage of cold coiled cylindrical helical extension springs. What separates an extension spring from a compression spring, and what most of the difficulty lies in, is the ends. A compression spring is a plain helix and fails, if it fails, in the wire. An extension spring has to be attached at both ends, and the loop or hook that does that is formed by bending the last coil - which puts a sharp bend and a stress concentration exactly where the full load passes. The overwhelming majority of extension spring failures are at the hook, not in the body, and the standard is written accordingly: the forms of end permitted, their geometry and their relation to the body of the spring are specified alongside the load and deflection characteristics. The other property peculiar to the type is the initial tension - the force wound into the coils during manufacture, which holds them closed and which the applied load must overcome before the spring extends at all. It is set by the coiling process rather than by the geometry, it varies with the material and the wire diameter, and it has to be specified and measured because a spring with the wrong initial tension has the right rate and the wrong behaviour. To those are added the material and its condition, the dimensional tolerances, the permanent set, the fatigue life where it is specified, and the surface treatment. Issued on 16 March 2009 and in force since 1 November 2009, it replaces GB/T 1239.1-1989.

GB/T 1239 provisions of this part of the cold rolling cross-section helical tension spring of technical requirements, test methods, inspection rules and packet Equipment, signs, transportation, storage requirements. This section applies to cold rolling cross-section helical tension spring (hereinafter referred to as spring), is greater than the cross-sectional diameter of the spring material, etc. To 0.5mm. This section does not apply to the special requirements of the spring.

2 Normative references

The following documents contain provisions which, through reference to

GB/T 1239 to the present, constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section. GB/T 1805 spring term

GB/T 4357-1989 carbon spring steel wire (neqJISG3521. 1984)

GB/T 16947 coil spring fatigue testing standard

GB/T 18983 quenching oil - tempered spring steel wire (

GB/T 18983-2003, ISO /FDIS8458-3.1992, MOD)

GB/T 21652 Copper and copper alloy wire

JB/T 7944 sampling inspection helical springs YB (T) 11 stainless steel wire for springs

YB/T 5311 important use of carbon spring steel wire YS/T 571 beryllium copper wire

3 Terms and symbols

Terminology and symbols used in this part shall comply with GB/T 1805's.

4 Structure type

Spring structure type in Table 1. Table