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## Hot formed helical compression springs — Technical specifications

*Ressorts de compression hélicoïdaux formés à chaud —  
Spécifications techniques*





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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 11891 was prepared by Technical Committee ISO/TC 227, *Springs*.

# Hot formed helical compression springs — Technical specifications

## 1 Scope

This International Standard specifies the materials, shapes, spring characteristics, tolerances, manufacturing requirements and test methods for common helical compression springs, which are made from hot coiled round section steel bar, and then quenched and tempered (hereinafter simply “springs”).

The following limit values apply to springs conforming to this International Standard:

- free length:  $\leq 900$  mm;
- spring index: 3 to 12;
- slenderness ratio: 0,8 to 4;
- active coils:  $\geq 3$ ;
- spring pitch:  $< 0,5D$ ;
- wire diameter: 8 mm to 60 mm;
- mean diameter of coil:  $\leq 460$  mm.

This International Standard is not applicable to coil springs with special performance requirements, such as railway and automotive suspensions.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 643, *Steels — Micrographic determination of the apparent grain size*

ISO 7500-1, *Metallic materials — Verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Verification and calibration of the force-measuring system*

ISO 18265, *Metallic materials — Conversion of hardness values*

ISO 26909, *Springs — Vocabulary*

## 3 Terms, definitions and symbols

### 3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 26909 apply.

### 3.2 Symbols and units

For the purposes of this document, the symbols and units given in Table 1 apply.