

Cylindrical helical springs made from round wire and bar - Calculation and design - Part 3: Torsion springs

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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| <p>Käesolev Eesti standard EVS-EN 13906-3:2002 sisaldab Euroopa standardi EN 13906-3:2001 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 19.06.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p> | <p>This Estonian standard EVS-EN 13906-3:2002 consists of the English text of the European standard EN 13906-3:2001.</p> <p>This document is endorsed on 19.06.2002 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p> |
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| <p>Käsitlusala:</p> <p>This standard specifies the calculation and design of cold coiled cylindrical helical torsion springs with a linear characteristic, made from round wire and bar of constant diameter with values according to Table 1.</p> | <p>Scope:</p> <p>This standard specifies the calculation and design of cold coiled cylindrical helical torsion springs with a linear characteristic, made from round wire and bar of constant diameter with values according to Table 1.</p> |
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ICS 21.160

Võtmesõnad: circular form, dimensions, dynamic loading, helical springs, hot-worked, hot-working, initial stressing, mathematical calculations, metal bars, ratings, springs, static loading, steels, stress, stress coefficient, stresses, torsional springs, wires

ICS 21.160

English version

Cylindrical helical springs made from round wire and bar - Calculation and design - Part 3: Torsion springs

Ressorts hélicoïdaux cylindriques fabriqués à partir de fils
ronds et de barres - Calcul et conception - Partie 3:
Ressorts de torsion

Zylindrische Schraubenfedern aus runden Drähten und
Stäben - Berechnung und Konstruktion - Teil 3: Drehfedern

This European Standard was approved by CEN on 5 January 2001.

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Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This European Standard has been prepared by CMC.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2002, and conflicting national standards shall be withdrawn at the latest by June 2002.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

This European Standard has been prepared by the initiative of the Association of the European Spring Federation ESF and is based on the German Standard DIN 2088 - "Helical springs made of round wire and rod; cold coiled torsional springs (leg springs); calculation and design" edition 1992-11, which is known and used in many European countries.

1 Scope

This standard specifies the calculation and design of cold coiled cylindrical helical torsion springs with a linear characteristic, made from round wire and bar of constant diameter with values according to Table 1.

Table 1

| Characteristic | Cold coiled torsion spring |
|------------------------|------------------------------|
| Wire or bar diameter | $d \leq 17 \text{ mm}$ |
| Coil diameter | $D \leq 340 \text{ mm}$ |
| Length of active coils | $L_{K0} \leq 630 \text{ mm}$ |
| Number of active coils | $n \geq 2$ |
| Spring index | $4 \leq w \leq 20$ |

NOTE Quality Standards for cold coiled torsion springs will be developed later.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 10270-1:2001, *Steel wire for mechanical springs – Part 1: Patented cold drawn unalloyed spring steel wire.*

EN 10270-2:2001, *Steel wire for mechanical springs - Part 2: Oil hardened and tempered spring steel wire.*

EN 10270-3:2001, *Steel wire for mechanical springs - Part 3: Stainless spring steel wire.*

EN 12166, *Copper and copper alloys - Wire for general purposes.*

EN ISO 2162-1:1996, *Technical product documentation - Springs - Part 1: Simplified representation (ISO 2162-1:1993).*

EN ISO 2162-3:1996, *Technical product documentation - Springs - Part 3: Vocabulary (ISO 2162-3:1993).*

3 Terms and definitions, symbols, units and abbreviated terms

3.1 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply.

3.1.1 spring

mechanical device designed to store energy when deflected and to return the equivalent amount of energy when released [2.1 from EN ISO 2162-3:1996]