Steel wire for mechanical springs - Part 2: Oil hardened and tempered spring steel wire

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NATIONAL FOREWORD

See Eesti standard EVS-EN 10270-2:2011 sisaldab Euroopa standardi EN 10270-2:2011 ingliskeelset teksti.	This Estonian standard EVS-EN 10270-2:2011 consists of the English text of the European standard EN 10270-2:2011.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 26.10.2011.	Date of Availability of the European standard is 26.10.2011.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 77.140.25

Võtmesõnad: designations, dimensions, iron, products, specifications, spring steel wires, steel wires, steels, testing, tests, wires,

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 10270-2

October 2011

ICS 77.140.25

Supersedes EN 10270-2:2001

English Version

Steel wire for mechanical springs - Part 2: Oil hardened and tempered spring steel wire

Fils en acier pour ressorts mécaniques - Partie 2: Fils en acier trempés à l'huile et revenus

Stahldraht für Federn - Teil 2: Ölschlussvergüteter Federstahldraht

This European Standard was approved by CEN on 10 September 2011.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. EN 10270-2:2011: E

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Foreword

This document (EN 10270-2:2011) has been prepared by Technical Committee ECISS/TC 106 “Wire rod and wires”, the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by April 2012, and conflicting national standards shall be withdrawn at the latest by April 2012.

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

This document supersedes EN 10270-2:2001.

This European Standard for steel wire for mechanical springs is composed of the following parts:

— *Part 1: Patented cold drawn unalloyed spring steel wire*;

— *Part 2: Oil hardened and tempered spring steel wire*;

— *Part 3: Stainless spring steel wire*.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

1.1 This European Standard applies to oil hardened and tempered spring steel wire made from unalloyed or alloyed steels. They are primarily subject to torsional stresses such as in coil springs for compression and extension and in special cases also for applications where the spring wire is subject to bending stresses such as lever springs.

As a rule unalloyed steels are used for applications at room temperature whereas alloyed steels are generally used at a temperature above room temperature. Alloyed steels may also be chosen for above average tensile strengths.

1.2 In addition to this European Standard, the general technical delivery requirements of EN 10021 are applicable.

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.

EN 10021, *General technical delivery conditions for steel products*

EN 10204:2004, *Metallic products — Types of inspection documents*

EN 10218-1:2011, *Steel wire and wire products — General — Part 1: Test methods*

EN 10218-2, *Steel wire and wire products — General — Part 2: Wire dimensions and tolerances*

EN 10247, *Micrographic examination of the non-metallic inclusion content of steels using standard pictures*

CEN/TR 10261, *Iron and steel — Review of available methods of chemical analysis*

EN ISO 377, *Steel and steel products — Location and preparation of samples and test pieces for mechanical testing (ISO 377:1997)*

EN ISO 3887, *Steels — Determination of depth of decarburization (ISO 3887:2003)*

EN ISO 6892-1, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature (ISO 6892-1:2009)*

EN ISO 14284, *Steel and iron — Sampling and preparation of samples for the determination of chemical composition (ISO 14284:1996)*

ISO 7800, *Metallic materials — Wire — Simple torsion test*

3 Terms and definitions

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

3.1
oil hardened and tempered spring steel wire
wire that is heat treated in line in the following way: it is first transformed into austenite, quenched in oil or similar quenching medium, followed immediately by tempering by heating to the appropriate temperature