

# SVENSK STANDARD

## SS-EN ISO 683-2:2018

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### **Stål för värmebehandling, legerade stål och automatstål – Del 2: Legerade seghärdningsstål (ISO 683-2:2016)**

### **Heat-treatable steels, alloy steels and free-cutting steels – Part 2: Alloy steels for quenching and tempering (ISO 683-2:2016)**

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Europastandarden EN ISO 683-2:2018 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN ISO 683-2:2018.

Denna standard ersätter SS-EN 10083-3:2006/AC:2008, utgåva 1 och SS-EN 10083-3:2006, utgåva 2 och SS-EN 10083-1:2006, utgåva 3

The European Standard EN ISO 683-2:2018 has the status of a Swedish Standard. This document contains the official version of EN ISO 683-2:2018.

This standard supersedes the SS-EN 10083-3:2006/AC:2008, edition 1 and SS-EN 10083-3:2006, edition 2 and SS-EN 10083-1:2006, edition 3

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EUROPEAN STANDARD

EN ISO 683-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2018

ICS 77.140.10; 77.140.20; 77.140.45

Supersedes EN 10083-3:2006, EN 10083-1:2006

English Version

Heat-treatable steels, alloy steels and free-cutting  
steels - Part 2: Alloy steels for quenching and tempering  
(ISO 683-2:2016)

Aciers pour traitement thermique, aciers alliés  
et aciers pour décolletage - Partie 2: Aciers alliés  
pour trempe et revenu (ISO 683-2:2016)

Für eine Wärmebehandlung bestimmte Stähle,  
legierte Stähle und Automatenstähle - Teil 2:  
Legierte Vergütungsstähle (ISO 683-2:2016)

This European Standard was approved by CEN on 18 May 2018.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## European foreword

The text of ISO 683-2:2016 has been prepared by Technical Committee ISO/TC 17 “Steel” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 683-2:2018 by Technical Committee ECISS/TC 105 “Steels for heat treatment, alloy steels, free-cutting steels and stainless steels” the secretariat of which is held by DIN.

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 December 2018, and conflicting national standards shall be withdrawn at the latest by December 2018.

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

This document supersedes EN 10083-1:2006, EN 10083-3:2006.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Endorsement notice

The text of ISO 683-2:2016 has been approved by CEN as EN ISO 683-2:2018 without any modification.

The European steel numbers to the steel grades are to be found in informative Annex C.

The references to following European standards are given for information:

EN 10017, *Steel rod for drawing and/or cold rolling - Dimensions and tolerances*

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

EN 10029, *Hot-rolled steel plates 3 mm thick or above - Tolerances on dimensions and shape*

EN 10048, *Hot rolled narrow steel strip - Tolerances on dimensions and shape*

EN 10051, *Continuously hot-rolled strip and plate/sheet cut from wide strip of non-alloy and alloy steels - Tolerances on dimensions and shape*

EN 10058, *Hot rolled flat steel bars for general purposes - Dimensions and tolerances on shape and dimensions*

EN 10059, *Hot rolled square steel bars for general purposes - Dimensions and tolerances on shape and dimensions*

EN 10060, *Hot rolled round steel bars for general purposes - Dimensions and tolerances on shape and dimensions*



EN 10061, *Hot rolled hexagon steel bars for general purposes - Dimensions and tolerances on shape and dimensions*

EN 10108, *Round steel rod for cold heading and cold extrusion - Dimensions and tolerances*

EN 10160, *Ultrasonic testing of steel flat product of thickness equal or greater than 6 mm (reflection method)*

EN 10204, *Metallic products - Types of inspection documents*

EN 10308, *Non destructive testing - Ultrasonic testing of steel bars*



# Heat-treatable steels, alloy steels and free-cutting steels —

## Part 2: Alloy steels for quenching and tempering

### 1 Scope

This part of ISO 683 specifies the technical delivery requirements for

- semi-finished products, hot formed, e.g. blooms, billets, slabs (see Note 1),
- bars (see Note 1),
- wire rod,
- finished flat products, and
- hammer or drop forgings (see Note 1)

manufactured from the direct hardening alloy steels and the alloy flame- and induction-hardening steels listed in [Table 3](#) and supplied in one of the heat-treatment conditions given for the different types of products in [Table 1](#) and in one of the surface conditions given in [Table 2](#).

The steels are, in general, intended for the manufacture of quenched and tempered or austempered (see [3.2](#) and Note 2) and flame- or induction-hardened machine parts (see [Tables 8](#) and [9](#)).

The requirements for mechanical properties given in this part of ISO 683 are restricted to the sizes given in the relevant [Table 8](#).

NOTE 1 Hammer-forged semi-finished products (blooms, billets, slabs, etc.), seamless rolled rings and hammer-forged bars are in the following covered under semi-finished products or bars and not under the term “hammer and drop forgings”.

NOTE 2 For the purposes of simplification, the term “quenched and tempered” is, unless otherwise indicated, used in the following also for the austempered condition.

NOTE 3 For International Standards relating to steels complying with the requirements for the chemical composition in [Table 3](#), however, supplied in other product forms or treatment conditions than given above or intended for special applications, and for other related International Standards, see the Bibliography.

NOTE 4 This part of ISO 683 does not apply to bright products and bars and wire rod for cold heading. For such products, see ISO 683-18 and ISO 4954.

In special cases, variations in these technical delivery requirements or additions to them can form the subject of an agreement at the time of enquiry and order (see [5.2](#) and [Annex B](#)).

In addition to this part of ISO 683, the general technical delivery requirements of ISO 404 are applicable.

### 2 Normative references

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

ISO 148-1, *Metallic materials — Charpy pendulum impact test — Part 1: Test method*

ISO 377, *Steel and steel products — Location and preparation of samples and test pieces for mechanical testing*