



**NSAI**  
Standards

Irish Standard  
I.S. EN ISO 683-17:2014

# Heat-treated steels, alloy steels and free-cutting steels - Part 17: Ball and roller bearing steels (ISO 683-17:2014)

## I.S. EN ISO 683-17:2014

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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## Correction Notice

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- English
- French
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- PQ/UQ
- Enquiry
- 2nd Enquiry
- Parallel Enquiry
- 2<sup>nd</sup> Parallel Enquiry
- Formal Vote
- 2<sup>nd</sup> Formal Vote
- Parallel Formal Vote
- 2<sup>nd</sup> Parallel Formal Vote
- UAP
- TC Approval
- 2<sup>nd</sup> TC Approval
- Publication
- Parallel Publication

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It has been brought to our attention that this document, issued on 2014-10-29, requires modification.

ISO has published on 2015-01-15 a corrected version for ISO 683-17:2014 (French).

Please find enclosed the updated English and French versions.

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EUROPEAN STANDARD

EN ISO 683-17

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2014

ICS 77.140.10; 77.140.20

Supersedes EN ISO 683-17:1999

English Version

## Heat-treated steels, alloy steels and free-cutting steels - Part 17: Ball and roller bearing steels (ISO 683-17:2014)

Aciers pour traitement thermique, aciers alliés et aciers  
pour décolletage - Partie 17: Aciers pour roulements (ISO  
683-17:2014, Version corrigée 2015-01-15)

Für eine Wärmebehandlung bestimmte Stähle, legierte  
Stähle und Automatenstähle - Teil 17: Wälzlagerstähle (ISO  
683-17:2014)

This European Standard was approved by CEN on 20 September 2014.

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**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## **Foreword**

This document (EN ISO 683-17:2014) has been prepared by Technical Committee ISO/TC 17 “Steel” in collaboration with 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of an identical text or by endorsement, at the latest by April 2015, and conflicting national standards shall be withdrawn at the latest by April 2015.

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 ISO 683-17:1999.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## **Endorsement notice**

The text of ISO 683-17:2014 has been approved by CEN as EN ISO 683-17:2014 without any modification.

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# INTERNATIONAL STANDARD

**ISO  
683-17**

Third edition  
2014-10-15

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## **Heat-treated steels, alloy steels and free-cutting steels —**

### **Part 17: Ball and roller bearing steels**

*Aciers pour traitement thermique, aciers alliés et aciers pour  
décolletage —*

*Partie 17: Aciers pour roulements*



Reference number  
ISO 683-17:2014(E)

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**ISO 683-17:2014(E)**



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## ISO 683-17:2014(E)

### 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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. [www.iso.org/directives](http://www.iso.org/directives)

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received. [www.iso.org/patents](http://www.iso.org/patents)

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 17, *Steel*, Subcommittee SC 4, *Heat treatable and alloy steels*.

This third edition cancels and replaces the second edition (ISO 683-17:1999), which has been technically revised.

ISO 683 consists of the following parts, under the general title *Heat treatable, alloy steels and free-cutting steels*:

- *Part 1: Non-alloy steels for quenching and tempering*
- *Part 2: Alloy steels for quenching and tempering*
- *Part 3: Case-hardening steels*
- *Part 4: Free-cutting steels*
- *Part 5: Nitriding steels*
- *Part 14: Hot-rolled steels for quenched and tempered springs*
- *Part 15: Valve steels for internal combustion engines*
- *Part 17: Ball and roller bearing steels*
- *Part 18: Bright steel products*

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

## Part 17: Ball and roller bearing steels

### 1 Scope

**1.1** This part of ISO 683 specifies the technical delivery requirements for five groups of wrought ball and roller bearing steels as listed in [Table 3](#), namely

- through-hardening bearing steels (steels with about 1 % C and 1 % to 2 % Cr),
- case-hardening bearing steels,
- induction-hardening bearing steels (unalloyed and alloyed),
- stainless bearing steels, and
- high-temperature bearing steels.

**1.2** This part of ISO 683 applies to the products and heat-treatment conditions given in [Table 1](#) and the surface conditions given in [Table 2](#).

**1.3** 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 377, *Steel and steel products — Location and preparation of samples and test pieces for mechanical testing*

ISO 404, *Steel and steel products — General technical delivery requirements*

ISO 642, *Steel — Hardenability test by end quenching (Jominy test)*

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

ISO 3763, *Wrought steels — Macroscopic methods for assessing the content of non-metallic inclusions*

ISO 3887, *Steels — Determination of depth of decarburization*

ISO 4948-1, *Steels — Classification — Part 1: Classification of steels into unalloyed and alloy steels based on chemical composition*

ISO 4948-2, *Steels — Classification — Part 2: Classification of unalloyed and alloy steels according to main quality classes and main property or application characteristics*

ISO/TS 4949, *Steel names based on letter symbols*

ISO 4967, *Steel — Determination of content of non-metallic inclusions — Micrographic method using standard diagrams*

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