

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

Part 17: Ball and roller bearing steels

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British Standard

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee ISE/31, Wrought steels, which has the responsibility to:

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- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
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Attention is drawn to the fact that CEN and CENELEC Standards normally include an annex which lists normative references to international publications with their corresponding European publications. The British Standards which implement these international or European publications may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

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Summary of pages

This document comprises a front cover, an inside front cover, the EN ISO title page, the EN ISO foreword page, the ISO title page, pages ii and iii, a blank page, pages 1 to 20, the annex ZA page and a back cover.

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English version

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Ball and roller bearing steels (ISO 683-17:1999)

Aciers pour traitement thermique, aciers alliés et aciers
pour décolletage - Partie 17: Aciers pour roulements (ISO
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Für eine Wärmebehandlung bestimmte Stähle, legierte
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This European Standard was approved by CEN on 5 September 1999.

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Foreword

The text of the International Standard ISO 683-17:1999 has been prepared by Technical Committee ISO/TC 17 "Steel" in collaboration with Technical Committee ECISS/TC 23 "Steels for heat treatment, alloy steels and free-cutting steels - Qualities and dimensions", 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 2000, and conflicting national standards shall be withdrawn at the latest by April 2000.

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.

Endorsement notice

The text of the International Standard ISO 683-17:1999 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

INTERNATIONAL STANDARD

EN ISO 683-17:1999

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Second edition
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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*



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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 3.

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.

International Standard ISO 683-17 was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 4, *Heat treatable and alloy steels*. This second edition cancels and replaces the first edition (ISO 683-17:1976), which has been technically revised.

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

- $\frac{3}{4}$ *Part 1: Direct-hardening unalloyed and low-alloyed wrought steels in form of different black products*
- $\frac{3}{4}$ *Part 9: Wrought free-cutting steels*
- $\frac{3}{4}$ *Part 10: Wrought nitriding steels*
- $\frac{3}{4}$ *Part 11: Wrought case-hardening steels*
- $\frac{3}{4}$ *Part 14: Hot-rolled steels for quenched and tempered springs*
- $\frac{3}{4}$ *Part 15: Valve steels for internal combustion engines*
- $\frac{3}{4}$ *Part 17: Ball and roller bearing steels*
- $\frac{3}{4}$ *Part 18: Bright products of unalloyed and low-alloy steels*

Annex A forms a normative part of this part of ISO 683. Annexes B and C are for information only.

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 applies to the products and heat-treatment conditions given in Table 1 and the surface conditions given in Table 2.

1.2 This part of ISO 683 gives the technical delivery requirements for five groups of wrought ball and roller bearing steels as listed in Table 3, namely:

- a) through-hardening bearing steels (steels with about 1 % C and 1 % to 2 % Cr);
- b) case-hardening bearing steels;
- c) induction-hardening bearing steels (unalloyed and alloyed);
- d) stainless bearing steels;
- e) high temperature bearing steels.

1.3 In special cases variations in these technical delivery requirements or additions to them may form the subject of an agreement at the time of inquiry and order (see annex A).

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

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 683. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 683 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

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

ISO 404:1992, *Steel and steel products — General technical delivery requirements*.

ISO 642:1999, *Steels — Hardenability test by end quenching (Jominy test)*.

ISO 643:1983, *Steels — Micrographic determination of the ferritic or austenitic grain size*.

ISO 1035-1:1980, *Hot-rolled steel bars — Part 1: Dimensions of round bars*.

ISO 1035-4:1982, *Hot-rolled steel bars — Part 4: Tolerances*.

ISO 3763:1976, *Wrought steels — Macroscopic methods for assessing the content of non-metallic inclusions*.

ISO 3887:1976, *Steel, non-alloy and low-alloy — Determination of depth of decarburization*.