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BS EN ISO 6506-3:2014



BSI Standards Publication

Metallic materials — Brinell hardness test

Part 3: Calibration of reference blocks

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This British Standard is the UK implementation of EN ISO 6506-3:2014. It supersedes BS EN ISO 6506-3:2005 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee ISE/101/5, Indentation hardness testing.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Matériaux métalliques - Essai de dureté Brinell - Partie 3:
Étalonnage des blocs de référence (ISO 6506-3:2014)

Metallische Werkstoffe - Härteprüfung nach Brinell - Teil 3:
Kalibrierung von Härtevergleichsplatten (ISO 6506-3:2014)

This European Standard was approved by CEN on 30 August 2014.

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

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Foreword

This document (EN ISO 6506-3:2014) has been prepared by Technical Committee ISO/TC 164 "Mechanical testing of metals" in collaboration with Technical Committee ECISS/TC 101 "Test methods for steel (other than chemical analysis)" 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of an identical text or by endorsement, at the latest by March 2015, and conflicting national standards shall be withdrawn at the latest by March 2015.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 6506-3:2005.

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 6506-3:2014 has been approved by CEN as EN ISO 6506-3:2014 without any modification.

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Contents

	Page
Foreword	iv
1 Scope	1
2 Normative references	1
3 Manufacture of reference blocks	1
4 Calibration machine	2
5 Calibration procedure	3
6 Number of indentations	3
7 Non-uniformity of reference block	4
8 Marking	4
9 Validity	5
Annex A (informative) Uncertainty of the mean hardness value of reference blocks	6
Bibliography	10

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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.

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 (see www.iso.org/directives).

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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 164, *Mechanical testing of metals*, Subcommittee SC 3, *Hardness testing*.

This third edition cancels and replaces the second edition (ISO 6506-3:2005), which has been technically revised.

ISO 6506 consists of the following parts, under the general title *Metallic materials — Brinell hardness test*:

- *Part 1: Test method*
- *Part 2: Verification and calibration of testing machines*
- *Part 3: Calibration of reference blocks*
- *Part 4: Tables of hardness values*

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Metallic materials — Brinell hardness test —

Part 3: Calibration of reference blocks

1 Scope

This part of ISO 6506 specifies a method for the calibration of reference blocks to be used in the indirect verification of Brinell hardness testing machines as described in ISO 6506-2.

The procedures necessary to ensure metrological traceability of the calibration machine are also specified.

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 376, *Metallic materials — Calibration of force-proving instruments used for the verification of uniaxial testing machines*

ISO 6506-1:2014, *Metallic materials — Brinell hardness test — Part 1: Test method*

ISO 6506-2:2014, *Metallic materials — Brinell hardness test — Part 2: Verification and calibration of testing machines*

3 Manufacture of reference blocks

3.1 The block shall be specially manufactured for use as a reference block.

NOTE Attention is drawn to the need to use a manufacturing process which will give the necessary homogeneity, stability of structure, and uniformity of surface hardness.

3.2 Each metal block to be calibrated shall be of a thickness not less than

- 16 mm for 10 mm balls,
- 12 mm for 5 mm balls, or
- 6 mm for smaller balls.

NOTE 12 mm for 10 mm balls can be used only if the hardness of the reference block is greater than 150 HBW.

3.3 The reference blocks shall be free of magnetism. It is recommended that the manufacturer shall ensure that the blocks, if of steel, have been demagnetized at the end of the manufacturing process.

3.4 The flatness of the two surfaces and the parallelism of the reference block shall be in accordance with [Table 1](#).