BS EN ISO 6506-2:2014

BSI Standards Publication

Metallic materials — Brinell hardness test

Part 2: Verification and calibration of testing machines

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This British Standard is the UK implementation of EN ISO 6506-2:2014. It supersedes BS EN ISO 6506-2:2005 which is withdrawn.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.

ISBN 978 0 580 79050 8

ICS 77.040.10

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 September 2014.

Amendments/corrigenda issued since publication

Date	Text affected

EUROPÄISCHE NORM

September 2014

ICS 77.040.10

Supersedes EN ISO 6506-2:2005

English Version

Metallic materials - Brinell hardness test - Part 2: Verification and calibration of testing machines (ISO 6506-2:2014)

Matériaux métalliques - Essai de dureté Brinell - Partie 2: Vérification et étalonnage des machines d'essai (ISO 6506-2:2014)

Metallische Werkstoffe - Härteprüfung nach Brinell - Teil 2: Überprüfung und Kalibrierung der Prüfmaschinen (ISO 6506-2:2014)

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

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Foreword

This document (EN ISO 6506-2:2014) 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of an identical text or by endorsement, at the latest by March 2015, and conflicting national standards shall be withdrawn at the latest by March 2015.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 6506-2:2005.

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Endorsement notice

The text of ISO 6506-2:2014 has been approved by CEN as EN ISO 6506-2:2014 without any modification.

Contents

Page

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 6506-2:2005), 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: Table of hardness values*

INTERNATIONAL STANDARD ISO 6506-2:2014(E)

Metallic materials — Brinell hardness test —

Part 2:
Verification and calibration of testing machines

1 Scope

This part of ISO 6506 specifies methods of direct and indirect verification of testing machines used for determining Brinell hardness in accordance with ISO 6506-1, and also specifies when these two types of verification has to be performed.

The direct verification involves checking that individual machine performance parameters fall within specified limits whereas the indirect verification utilizes hardness measurements of reference blocks, calibrated in accordance with ISO 6506-3, to check the machine's overall performance.

If a testing machine is also to be used for other methods of hardness testing, it has to be verified independently for each method.

This part of ISO 6506 is applicable to both fixed location and portable hardness testing machines. For machines that are incapable of satisfying the specified force-time profile, the direct verification of force and testing cycle can be modified by the use of Annex B.

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 6506-3, *Metallic materials — Brinell hardness test — Part 3: Calibration of reference blocks*

ISO 6507-1, *Metallic materials — Vickers hardness test — Part 1: Test method*

3 General conditions

Before a Brinell hardness testing machine is verified, the machine shall be checked to ensure that it is properly set up in accordance with the manufacturer's instructions.

Especially, it should be checked that

a) the mount holding the ball-holder slides correctly in its guide,

b) every ball-holder with a ball used during the calibration is firmly held in the mount,

c) the test force is applied and removed without shock, vibration, or overrun and in such a manner that the readings are not influenced, and

d) if the indentation diameter measuring system is integrated into the machine,

   — the change from removing the test force to measuring mode does not influence the diameter measurements,