BS EN ISO 6508-3:2015

BSI Standards Publication

Metallic materials — Rockwell hardness test

Part 3: Calibration of reference blocks

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National foreword

This British Standard is the UK implementation of EN ISO 6508-3:2015. It supersedes BS EN ISO 6508-3:2005 which is withdrawn.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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English Version

Metallic materials - Rockwell hardness test - Part 3: Calibration of reference blocks (ISO 6508-3:2015)

Matériaux métalliques - Essai de dureté Rockwell - Partie 3: Étalonnage des blocs de référence (ISO 6508-3:2015)

Metallische Werkstoffe - Härteprüfung nach Rockwell - Teil 3: Kalibrierung von Härtevergleichsplatten (ISO 6508-3:2015)

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN ISO 6508-3:2015) 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of an identical text or by endorsement, at the latest by September 2015, and conflicting national standards shall be withdrawn at the latest by September 2015.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 6508-3:2005.

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Endorsement notice

The text of ISO 6508-3:2015 has been approved by CEN as EN ISO 6508-3:2015 without any modification.

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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 6508-3:2005), which has been technically revised.

ISO 6508 consists of the following parts, under the general title *Metallic materials — Rockwell hardness test*:

— *Part 1: Test method*

— *Part 2: Verification and calibration of testing machines and indenters*

— *Part 3: Calibration of reference blocks*

INTERNATIONAL STANDARD **ISO 6508-3:2015(E)**

Metallic materials — Rockwell hardness test —

Part 3: Calibration of reference blocks

1 Scope

This part of ISO 6508 specifies a method for the calibration of reference blocks to be used for the indirect and daily verification of Rockwell hardness testing machines, as specified in ISO 6508-2:2015.

Attention is drawn to the fact that the use of hard metal for ball indenters is considered to be the standard type of Rockwell indenter ball. Steel indenter balls can be used only when complying with ISO 6508-1:2015, Annex A.

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 6508-1:2015, *Metallic materials — Rockwell hardness test — Part 1: Test method*

ISO 6508-2:2015, *Metallic materials — Rockwell hardness test — Part 2: Verification and calibration of testing machines and indenters*

3 Manufacture of reference blocks

3.1 The block shall be specially manufactured for use as a hardness-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 hardness reference block shall be of a thickness not less than 6 mm. To minimize the effect of hardness change with increasing number of indents, thicker blocks should be used.

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

3.4 The deviation from surface flatness of the top and bottom surfaces shall be ≤0,01 mm. The bottom of the blocks shall not be convex. The deviation from parallelism of the top and bottom surfaces shall be ≤0,02 mm per 50 mm.

3.5 The test surface and lower surface shall be free from damage, such as notches, scratches, oxide layers, etc., which can interfere with the measurement of the indentations. The surface roughness, *Ra*, shall not exceed 0,000 3 mm for the test surface and 0,000 8 mm for the bottom surface. Sampling length is l = 0,8 mm (see ISO 4287:1997, 3.1.9).