

Metallic materials - Rockwell hardness test - Part 3:
Calibration of reference blocks (ISO 6508-3:2023)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN ISO 6508-3:2023 sisaldab Euroopa standardi EN ISO 6508-3:2023 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 20.12.2023.</p> <p>Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN ISO 6508-3:2023 consists of the English text of the European standard EN ISO 6508-3:2023.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 20.12.2023.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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English Version

**Metallic materials - Rockwell hardness test - Part 3:
Calibration of reference blocks (ISO 6508-3:2023)**

Matériaux métalliques - Essai de dureté Rockwell -
Partie 3: Étalonnage des blocs de référence (ISO 6508-
3:2023)

Metallische Werkstoffe - Härteprüfung nach Rockwell -
Teil 3: Kalibrierung von Härtevergleichsplatten (ISO
6508-3:2023)

This European Standard was approved by CEN on 13 November 2023.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

This document (EN ISO 6508-3:2023) has been prepared by Technical Committee ISO/TC 164 "Mechanical testing of metals" in collaboration with Technical Committee CEN/TC 459/SC 1 "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of an identical text or by endorsement, at the latest by June 2024, and conflicting national standards shall be withdrawn at the latest by June 2024.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 6508-3:2015.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 6508-3:2023 has been approved by CEN as EN ISO 6508-3:2023 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 document 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 of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 164, *Mechanical testing of metals*, Subcommittee SC 3, *Hardness testing*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 459, *ECISS - European Committee for Iron and Steel Standardization*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fourth edition cancels and replaces the third edition (ISO 6508-3:2015), which has been technically revised.

The main changes are as follows:

- removed all statements of requirements, permissions, and recommendations from the Scope of the document ([Clause 1](#));
- addition of [Clause 3](#), Terms and definitions;
- modification of the requirements for the calibration and verification of the machine and indenter ([Clause 5](#));
- added a performance verification for the calibration machine and indenter ([Clause 5](#));
- added a requirement to conduct a control verification prior to the calibration of reference blocks ([Clause 6](#));
- added a normative [Annex D](#) for the control verification of the calibration machine ([Annex D](#)).

A list of all parts in the ISO 6508 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html

Metallic materials — Rockwell hardness test —

Part 3: Calibration of reference blocks

1 Scope

This document specifies a method for the calibration of reference blocks to be used for the indirect and daily verification of Rockwell hardness testing machines and indenters, as specified in ISO 6508-2. This document also specifies requirements for Rockwell machines and indenters used for calibrating reference blocks and specifies methods for their calibration and verification.

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.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. 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 6508-1:2023, *Metallic materials — Rockwell hardness test — Part 1: Test method*

ISO 6508-2:2023, *Metallic materials — Rockwell hardness test — Part 2: Verification and calibration of testing machines and indenters*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

4 Manufacture of reference blocks

4.1 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.

4.2 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.

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