
**Metallic materials — Vickers hardness
test —**

**Part 3:
Calibration of reference blocks**

Matériaux métalliques — Essai de dureté Vickers —

Partie 3: Étalonnage des blocs de référence



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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.....	4
6 Number of indentations.....	4
7 Uniformity of hardness.....	4
8 Marking	5
9 Validity	5
Annex A (informative) Uncertainty of the mean hardness value of hardness-reference blocks	6
Bibliography	9

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 2.

The main task of technical committees is to prepare International Standards. 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.

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

ISO 6507-3 was prepared by Technical Committee ISO/TC 164, *Mechanical testing of metals*, Subcommittee SC 3, *Hardness testing*.

This third edition cancels and replaces the second edition (ISO 6507-3:1997), which has been technically revised.

ISO 6507 consists of the following parts, under the general title *Metallic materials — Vickers 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*

Metallic materials — Vickers hardness test —

Part 3: Calibration of reference blocks

1 Scope

This part of ISO 6507 specifies a method for the calibration of reference blocks to be used for the indirect verification of Vickers hardness testing machines, as specified in ISO 6507-2.

The method is applicable only for indentations with diagonals $\geq 0,020$ mm.

2 Normative references

The following referenced documents are indispensable for the application 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 376:2004, *Metallic materials — Calibration of force-proving instruments used for the verification of uniaxial testing machines*

ISO 4287:1997, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters*

ISO 6507-1:2005, *Metallic materials — Vickers hardness test — Part 1: Test method*

ISO 6507-2:2005, *Metallic materials — Vickers 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 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 metal block to be calibrated shall be of a thickness not less than 5 mm.

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

3.4 The maximum deviation in flatness of the test and support surfaces shall not exceed 0,005 mm. The maximum error in parallelism shall not exceed 0,010 mm in 50 mm.

3.5 The test surface shall be free from scratches which interfere with the measurement of the indentations. The surface roughness R_a shall not exceed 0,000 05 mm for the test surface and 0,000 8 mm for the bottom surface. The sampling length l shall be 0,80 mm (see ISO 4287:1997, 3.1.9).