

INTERNATIONAL STANDARD

**ISO
146-2**

First edition
1993-07-15

Metallic materials — Verification of Vickers hardness testing machines —

Part 2: Less than HV 0,2

*Matériaux métalliques — Contrôle des machines d'essai de dureté
Vickers —*

Partie 2: Inférieure à HV 0,2



Reference number
ISO 146-2:1993(E)



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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.

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.

International Standard ISO 146-2 was prepared by Technical Committee ISO/TC 164, *Mechanical testing of metals*, Sub-Committee SC 3, *Hardness testing*.

ISO 146 consists of the following parts, under the general title *Metallic materials — Verification of Vickers hardness testing machines*:

- Part 1: HV 0,2 to HV 100 (Actually published as ISO 146:1984)
- Part 2: Less than HV 0,2

Metallic materials — Verification of Vickers hardness testing machines —

Part 2: Less than HV 0,2

1 Scope

This part of ISO 146 specifies a method of verification of testing machines for determining Vickers hardness using test forces of less than 1,961 N (HV 0,2) in accordance with ISO 6507-3.

The method is applicable only for indentations with diagonals $\geq 20 \mu\text{m}$.

This part of ISO 146 describes a direct verification method for checking the main functions of the machine, and an indirect verification method suitable for the overall checking of the machine. The indirect verification method may be used on its own for periodic routine checking of the machine in service.

NOTE 1 If a testing machine is also to be used for other methods of hardness testing, it will have to be verified independently for each method.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 146. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 146 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 640-2:1993, *Metallic materials — Calibration of standardized blocks to be used for Vickers hardness testing machines — Part 2: Less than HV 0,2*.

ISO 6507-3:1989, *Metallic materials — Hardness test — Vickers test — Part 3: Less than HV 0,2*.

3 General conditions

Before a Vickers hardness testing machine is verified, it shall be checked to ensure that

- the machine is properly set up;
- the plunger holding the indenter is capable of sliding in its guide without any appreciable clearance;
- the indenter-holder is firmly mounted in the plunger;
- the test force can be applied and removed without shock or vibration, and in such a manner that the readings are not influenced;
- the change from removing the test force to measuring mode does not influence the readings;
- illumination does not affect the readings;
- the centre of the indentation is in the centre of the field of view.

The illumination device of the measuring microscope shall produce uniform lighting of the whole observed field and maximum contrast between the indentation and the surrounding surface.