AS 1817.3:2026
ISO 6507-3:2018

Australian STANDARD®

STANDARDS Australia

Metallic materials — Vickers hardness test

Part 3: Calibration of reference blocks (ISO 6507-3:2018, IDT)



AS 1817.3:2026

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Australian Pipelines and Gas Association
Bureau of Steel Manufacturers of Australia
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University of Technology Sydney
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How to read this Standard

This page explains the meaning of the language and structure of this Standard.

Refer to Standards Australia's Standardisation Guide 006 for more details about drafting rules.

Australian and Australian/New Zealand Standards are voluntary unless they are referenced in legislation or called up in contracts.

Requirements

To conform to a Standard, all requirements in the Standard need to be met.

A requirement is any statement in the Standard which uses the word "shall".

Recommendations, permissions and possibilities

The following words are commonly used in Standards, but statements using them do not have to be followed to conform to the Standard:

(a) "should" means that something is recommended.

(b) "may" means that something is permitted.

(c) "can" means that something is possible.

Structure of Standards

A Standard always has the following parts:

(i) The Preface states who developed the Standard, what the Standard is aiming to do, and how it relates to other documents.

(ii) The Scope states what the Standard is about, what it covers and what it does not cover.

(iii) The Normative references clause lists other documents that are referenced in the Standard as part of requirements.

(iv) The Terms and definitions clause defines important terms to help with understanding the Standard.

A Standard may also include other parts, such as the following:

(1) A normative appendix sets additional requirements that need to be conformed to.

(2) An informative appendix provides additional information or guidance. They usually do not contain requirements. If an informative appendix does contain requirements, the Standard will explain when those requirements apply.

(3) A Bibliography lists documents referenced in the Standard but not as part of requirements.

Many Standards include notes. Notes provide recommendations and/or guidance only. They never contain requirements.

Preface

This Standard was prepared by the Standards Australia Committee MT-006, Mechanical Testing Of Metals to supersede AS 1817.3:2002, *Metallic materials—Vickers hardness test, Method 3: Calibration of reference blocks*.

The objective of this document is to specify a method for the calibration of reference blocks to be used for the indirect verification of Vickers hardness testing machines, as specified in AS 1817.2.

The method is applicable only for indentations with diagonals ≥ 0,020 mm.

This document is identical to, and has been reproduced from, ISO 6507-3:2018, *Metallic materials — Vickers hardness test — Part 3: Calibration of reference blocks.*

As this document has been reproduced from an international document, a comma is to be read as a full point when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

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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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation on 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 the following URL: 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*.

This fourth edition cancels and replaces the third edition (ISO 6507-3:2005), which has been technically revised.

The main changes compared to the previous edition are as follows:

— requirements have been added for the maximum test surface area of the reference block;

— requirements have been revised for the maximum uncertainty of the line intervals on the stage micrometer;

— requirements for the calibration and verification of the measuring system have been revised per ISO 6507-2;

— requirements for the uniformity of the reference block hardness have been revised to account for different numbers of calibration indentations;

— the timing requirements for the approach velocity and the time duration at maximum test force have been revised to indicate a target time value;

— Annex A has been revised.

A list of all parts in the ISO 6507 series can be found on the ISO website.

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Metallic materials — Vickers hardness test

Part 3: Calibration of reference blocks (ISO 6507-3:2018, IDT)

1 Scope

This document 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 ≥0,020 mm.

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

ISO 6507-2, *Metallic materials — Vickers hardness test — Part 2: Verification and calibration of testing machines*

3 Terms and definitions

No terms and definitions are listed in this document.

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

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

4 Manufacture of reference blocks

4.1 General

The block shall be specially manufactured for use as a hardness-reference block using a manufacturing process that will give the necessary homogeneity, stability of structure, uniformity of surface hardness and time-dependent stability in hardness.

4.2 Thickness

The thickness of the reference block shall not be less than 5 mm.

4.3 Test surface area

The test surface area of the reference block shall not exceed 40 cm^2.

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