STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 1816.3—2007
Metallic materials—Brinell hardness test
Method 3: Calibration of reference blocks

RECONFIRMATION NOTICE

Technical Committee MT-009 has reviewed the content of this publication and, in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 20 March 2017.

The following are represented on Technical Committee MT-009:

Australasian Institute of Surface Finishing
Australian Chamber of Commerce and Industry
Australian Industry Group
Australian Steel Institute
Bureau of Steel Manufacturers of Australia
Galvanizers Association of Australia
Galvanizing Association of New Zealand
New Zealand Metal Roofing Manufacturers

NOTES

AS 1816.3—2007
ISO 6506-3:2005
Reconfirmed 2017

Australian Standard®

Metallic materials—Brinell hardness test

Method 3: Calibration of reference blocks

PREFACE

This Standard was prepared by the Standards Australia Committee MT-006, Mechanical Testing of Metals to supersede AS 1816.3—2002, *Metallic materials—Brinell hardness test,* Method 3: *Calibration of reference blocks.*

This Standard is identical with and has been reproduced from ISO 6506-3:2005, *Metallic materials—Brinell hardness test,* Part 3: *Calibration of reference blocks.*

The objective of this Standard is to specify the method for the calibration of reference blocks to be used in the indirect verification of Brinell hardness testing machines.

The objective of this edition is to adopt the current edition of ISO 6506-3 to revise the method for the calibration of reference blocks for Brinell hardness testing machines.

This Standard is one of a series of Standards covering the range of hardness testing methods. The series comprises of the follow:

AS
1815 Metallic materials—Rockwell hardness test
1815.1 Method 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T)
1815.2 Method 2: Verification and calibration of testing machines (scales A, B, C, D, E, F, G, H, K, N, T)
1815.3 Method 3: Calibration of reference blocks (scales A, B, C, D, E, F, G, H, K, N, T) (ISO 6508-3:2005, MOD)

1816 Metallic materials—Brinell hardness test
1816.1 Method 1: Test methods
1816.2 Method 2: Verification and calibration of testing machines
1816.3 Method 3: Calibration of reference blocks (this Standard)
1816.4 Method 4: Table of hardness values

1817 Metallic materials—Vickers hardness test
1817.1 Method 1: Test method (ISO 6507-1:1997, MOD)
1817.2 Method 2: Verification of testing machines
1817.3 Method 3: Calibration of reference blocks

1816.6 Metallic materials—Conversion of hardness values

As this Standard is reproduced from an international standard, the following applies:

(a) Its number appears on the cover and title page while the international standard number appears only on the cover.

(b) In the source text 'this part of ISO 6506' should read 'this Australian Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

STANDARDS Australia

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard ISO		*Australian Standard* AS	
376	Metallic materials—Calibration of force-proving instruments used for verification of uniaxial testing machines	2193	Calibration and classification of force measuring systems
4287	Geometrical production specifications (GPS)—Surface texture: Profile methods—Terms definitions and surface texture parameters	—	
6506	Metallic materials—Brinell hardness test	1816	Metallic materials—Brinell hardness test
6506-1	Part 1: Test method	1816.1	Part 1: Test method (ISO 6506-1:2005, MOD)
6506-2	Part 2: Verification and calibration of testing machines	1816.2	Part 2:Verification and calibration of testing machines

The term ‘informative’ has been used in this Standard to define the application of the annex to which it applies. An ‘informative’ annex is only for information and guidance

1 Scope

This part of ISO 6506 specifies a method for the calibration of reference blocks to be used in the indirect verification of Brinell hardness testing machines as described in ISO 6506-2.

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 verification of uniaxial testing machines*

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

ISO 6506-1:2005, *Metallic materials — Brinell hardness test — Part 1: Test method*

ISO 6506-2:2005, *Metallic materials — Brinell 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:

— 16 mm for 10 mm balls;

— 12 mm for 5 mm balls;

— 6 mm for smaller balls.

NOTE 12 mm for 10 mm balls may be used only if the hardness of the reference block is greater than 150 HBW.

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