STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 1816.4—2007
Metallic materials—Brinell hardness test
Method 4: Table of hardness values

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 1816.4—2007
ISO 6506-4:2005
Reconfirmed 2017

Australian Standard®

Metallic materials—Brinell hardness test

Method 4: Table of hardness values

PREFACE

This Standard was prepared by the Standards Australia Committee MT-006, Mechanical Testing of Metals.

This Standard is identical with, and has been reproduced from ISO 6506-4:2005, *Metallic materials—Brinell hardness test*, Part 4: *Table of hardness values.*

The objective of this Standard is to specify the hardness values for Brinell hardness testing machines.

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

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 method (ISO 6506-1:1999, MOD)
1816.2 Method 2: Verification and calibration of testing machines
1816.3 Method 3: Calibration of reference blocks
1816.4 Method 4: Table of hardness values (this Standard)

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

5016 Metallic materials—Conversion of hardness values

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

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

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

(c) A full point should be substituted for a comma when referring to a decimal marker.

STANDARDS Australia

1 Scope

This part of ISO 6506 gives a table of the Brinell hardness values for use in tests on flat surfaces.

2 Determination of the Brinell hardness for testing on flat surfaces

See Table 1.

Table 1

Ball indenter, D mm				**Force-diameter ratio,** $0{,}102 \times F/D^2$					
				30	15	10	5	2,5	1
				Test force, F					
10				29,42 kN	14,71 kN	9,807 kN	4,903 kN	2,452 kN	980,7 N
	5			7,355 kN	—	2,452 kN	1,226 kN	612,9 N	245,2 N
		2,5		1,839 kN	—	612,9 N	306,5 N	153,2 N	61,29 N
			1	294,2 N	—	98,07 N	49,03 N	24,52 N	9,807 N
Mean diameter of the indentation, d mm				**Brinell hardness,** HBW					
2,40	1,200	0,600 0	0,240	653	327	218	109	54,5	21,8
2,41	1,205	0,602 4	0,241	648	324	216	108	54,0	21,6
2,42	1,210	0,605 0	0,242	643	321	214	107	53,5	21,4
2,43	1,215	0,607 5	0,243	637	319	212	106	53,1	21,2
2,44	1,220	0,610 0	0,244	632	316	211	105	52,7	21,1
2,45	1,225	0,612 5	0,245	627	313	209	104	52,2	20,9
2,46	1,230	0,615 0	0,246	621	311	207	104	51,8	20,7
2,47	1,235	0,617 5	0,247	616	308	205	103	51,4	20,5
2,48	1,240	0,620 0	0,248	611	306	204	102	50,9	20,4
2,49	1,245	0,622 5	0,249	606	303	202	101	50,5	20,2
2,50	1,250	0,625 0	0,250	601	301	200	100	50,1	20,0
2,51	1,255	0,627 5	0,251	597	298	199	99,4	49,7	19,9