
**Metallic materials — Vickers hardness
test —**

**Part 4:
Tables of hardness values**

Matériaux métalliques — Essai de dureté Vickers —

Partie 4: Tableaux de valeurs de dureté

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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 second edition cancels and replaces the first edition (ISO 6507-4:2005), which has been technically revised.

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

Metallic materials — Vickers hardness test —

Part 4: Tables of hardness values

1 Scope

This document gives tables of Vickers hardness for use in tests carried out in accordance with ISO 6507-1.

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

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>

<https://standards.iteh.ai/catalog/standards/iso/e8d6dd11-ceb6-4cd6-8f43-826ebb9e0588/iso-6507-4-2018>

4 Tables of Vickers hardness values

The values given in [Tables 1, 2](#) and [3](#) were calculated from the Vickers hardness formula in accordance with ISO 6507-1.

See [Table 1](#) for range < HV 0,2.

See [Table 2](#) for range HV 0,2 to HV 3.

See [Table 3](#) for range HV 5 to HV 100.

Table 1 — Range < HV 0,2

Mean diagonal of indentation	Test force, <i>F</i>							
	N							
	0,009 807	0,019 61	0,049 03	0,098 07	0,196 12	0,245 2	0,490 3	0,980 7
<i>d</i> mm	Vickers hardness							
	HV 0,001	HV 0,002	HV 0,005	HV 0,01	HV 0,02	HV 0,025	HV 0,05	HV 0,1
0,020 0	4,64	9,27	23,18	46,36	92,72	115,9	231,8	463,6
0,020 2	4,54	9,09	22,72	45,45	90,89	113,6	227,2	454,5
0,020 4	4,46	8,91	22,28	44,56	89,12	111,4	222,8	445,6
0,020 6	4,37	8,74	21,85	43,70	87,39	109,3	218,5	437,0
0,020 8	4,29	8,57	21,43	42,86	85,72	107,2	214,3	428,6
0,021 0	4,21	8,41	21,02	42,05	84,10	105,1	210,2	420,5
0,021 2	4,13	8,25	20,63	41,26	82,52	103,2	206,3	412,6
0,021 4	4,05	8,10	20,25	40,49	80,98	101,2	202,5	404,9
0,021 6	3,97	7,95	19,87	39,75	79,49	99,38	198,7	397,5
0,021 8	3,90	7,80	19,51	39,02	78,04	97,57	195,1	390,2
0,022 0	3,83	7,66	19,16	38,32	76,62	95,80	191,6	383,2
0,022 2	3,76	7,52	18,81	37,63	75,25	94,08	188,1	376,3
0,022 4	3,70	7,39	18,48	36,96	73,91	92,41	184,8	369,6
0,022 6	3,63	7,26	18,15	36,31	72,61	90,78	181,5	363,1
0,022 8	3,57	7,13	17,84	35,67	71,34	89,20	178,4	356,7
0,023 0	3,51	7,01	17,53	35,06	70,11	87,65	175,3	350,6
0,023 2	3,45	6,89	17,23	34,45	68,90	86,15	172,3	344,5
0,023 4	3,39	6,77	16,93	33,87	67,73	84,68	169,3	338,7
0,023 6	3,33	6,66	16,65	33,30	66,59	83,25	166,5	333,0
0,023 8	3,27	6,55	16,37	32,74	65,47	81,86	163,7	327,4
0,024 0	3,22	6,44	16,10	32,20	64,39	80,50	161,0	322,0
0,024 2	3,17	6,33	15,83	31,67	63,33	79,17	158,3	316,7
0,024 4	3,11	6,23	15,57	31,15	62,29	77,88	155,7	311,5
0,024 6	3,06	6,13	15,32	30,64	61,28	76,62	153,2	306,4
0,024 8	3,02	6,03	15,07	30,15	60,30	75,39	150,7	301,5
0,025 0	2,97	5,93	14,83	29,67	59,34	74,19	148,3	296,7
0,025 2	2,92	5,84	14,60	29,20	58,40	73,01	146,0	292,0
0,025 4	2,87	5,75	14,37	28,74	57,48	71,87	143,7	287,4
0,025 6	2,83	5,66	14,15	28,30	56,59	70,75	141,5	283,0
0,025 8	2,79	5,57	13,93	27,86	55,72	69,66	139,3	278,6
0,026 0	2,74	5,49	13,72	27,43	54,86	68,59	137,2	274,3
0,026 2	2,70	5,40	13,51	27,02	54,03	67,55	135,1	270,2
0,026 4	2,66	5,32	13,30	26,61	53,21	66,53	133,0	266,1
0,026 6	2,62	5,24	13,10	26,21	52,41	65,53	131,0	262,1
0,026 8	2,58	5,16	12,91	25,82	51,63	64,56	129,1	258,2

Table 1 (continued)

Mean diagonal of indentation	Test force, F							
	N							
	0,009 807	0,019 61	0,049 03	0,098 07	0,196 12	0,245 2	0,490 3	0,980 7
d mm	Vickers hardness							
	HV 0,001	HV 0,002	HV 0,005	HV 0,01	HV 0,02	HV 0,025	HV 0,05	HV 0,1
0,027 0	2,54	5,09	12,72	25,44	50,87	63,60	127,2	254,4
0,027 2	2,51	5,01	12,53	25,07	50,13	62,67	125,3	250,7
0,027 4	2,47	4,94	12,35	24,70	49,40	61,76	123,5	247,0
0,027 6	2,43	4,87	12,17	24,34	48,69	60,87	121,7	243,4
0,027 8	2,40	4,80	12,00	24,00	47,99	60,00	120,0	240,0
0,028 0	2,37	4,73	11,83	23,65	47,30	59,14	118,3	236,5
0,028 2	2,33	4,66	11,66	23,32	46,64	58,31	116,6	233,2
0,028 4	2,30	4,60	11,50	22,99	45,98	57,49	115,0	229,9
0,028 6	2,27	4,53	11,33	22,67	45,34	56,69	113,3	226,7
0,028 8	2,24	4,47	11,18	22,36	44,71	55,90	111,8	223,6
0,029 0	2,21	4,41	11,02	22,05	44,10	55,13	110,2	220,5
0,029 2	2,18	4,35	10,87	21,75	43,50	54,38	108,7	217,5
0,029 4	2,15	4,29	10,73	21,46	42,91	53,64	107,3	214,6
0,029 6	2,12	4,23	10,58	21,17	42,33	52,92	105,8	211,7
0,029 8	2,09	4,18	10,44	20,88	41,76	52,21	104,4	208,8
0,030 0	2,06	4,12	10,30	20,61	41,21	51,52	103,0	206,1
0,030 2	2,03	4,07	10,17	20,33	40,66	50,84	101,7	203,3
0,030 4	2,01	4,01	10,03	20,07	40,13	50,17	100,3	200,7
0,030 6	1,98	3,96	9,90	19,81	39,61	49,52	99,02	198,1
0,030 8	1,95	3,91	9,77	19,55	39,09	48,88	97,74	195,5
0,031 0	1,93	3,86	9,65	19,30	38,59	48,25	96,48	193,0
0,031 2	1,91	3,81	9,52	19,05	38,10	47,63	95,25	190,5
0,031 4	1,88	3,76	9,40	18,81	37,61	47,03	94,04	188,1
0,031 6	1,86	3,71	9,28	18,57	37,14	46,43	92,85	185,7
0,031 8	1,83	3,67	9,17	18,34	36,67	45,85	91,69	183,4
0,032 0	1,81	3,62	9,05	18,11	36,22	45,28	90,54	181,1
0,032 2	1,79	3,58	8,94	17,89	35,77	44,72	89,42	178,9
0,032 4	1,77	3,53	8,83	17,67	35,33	44,17	88,32	176,7
0,032 6	1,74	3,49	8,72	17,45	34,90	43,63	87,24	174,5
0,032 8	1,72	3,45	8,62	17,24	34,47	43,10	86,18	172,4
0,033 0	1,70	3,41	8,51	17,03	34,06	42,58	85,14	170,3
0,033 2	1,68	3,36	8,41	16,82	33,65	42,07	84,12	168,2
0,033 4	1,66	3,32	8,31	16,62	33,24	41,56	83,11	166,2
0,033 6	1,64	3,28	8,21	16,43	32,85	41,07	82,12	164,3
0,033 8	1,62	3,25	8,12	16,23	32,46	40,59	81,16	162,3