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Vickers Hardness Conversion Chart

Vickers Hardness (HV)	Brinell Hardness 10mm Dia. Ball Load: 3000kgf (HB)		Rockwell Hardness[2]			Shore Hardness (HS)	Tensile Strength MPa[1]
	Standard Ball	Tungsten Carbide Ball	A Scale Load: 60kgf Diamond Point (HRA)	B Scale Load: 100kgf 1.60mm (1/16in) Ball (HRB)	C Scale Load: 150kgf Diamond Point (HRC)		
940	-	-	85.6	-	68.0	97	
920	-	-	85.3	-	67.5	96	
900	-	-	85.0	-	67.0	95	
880	-	(767)	84.7	-	66.4	93	
860	-	(757)	84.4	-	65.9	92	
840	-	(745)	84.1	-	65.3	91	
820	-	(733)	83.8	-	64.7	90	
800	-	(722)	83.4	-	64.0	88	
780	-	(710)	83.0	-	63.3	87	
760	-	(698)	82.6	-	62.5	86	
740	-	(684)	82.2	-	61.8	84	
720	-	(670)	81.8	-	61.0	83	
700	-	(656)	81.3	-	60.1	81	
690	-	(647)	81.1	-	59.7	-	
680	-	(638)	80.8	-	59.2	80	
670	-	630	80.6	-	58.8	-	
660	-	620	80.3	-	58.3	79	
650	-	611	80.0	-	57.8	-	
640	-	601	79.8	-	57.3	77	
630	-	591	79.5	-	56.8	-	
620	-	582	79.2	-	56.3	75	
610	-	573	78.9	-	55.7	-	
600	-	564	78.6	-	55.2	74	
590	-	554	78.4	-	54.7	-	2055
580	-	545	78.0	-	54.1	72	2020
570	-	535	77.8	-	53.6	-	1985
560	-	525	77.4	-	53.0	71	1950
550	505	517	77.0	-	52.3	-	1905
540	496	507	76.7	-	51.7	69	1860
530	488	497	76.4	-	51.1	-	1825
520	480	488	76.1	-	50.5	67	1795
510	473	479	75.7	-	49.8	-	1750
500	465	471	75.3	-	49.1	66	1705
490	456	460	74.9	-	48.4	-	1660
480	448	452	74.5	-	47.7	64	1620
470	441	442	74.1	-	46.9	-	1570
460	433	433	73.6	-	46.1	62	1530
450	425	425	73.3	-	45.3	-	1495
440	415	415	72.8	-	44.5	59	1460
430	405	405	72.3	-	43.6	-	1410
420	397	397	71.8	-	42.7	57	1370
410	388	388	71.4	-	41.8	-	1330
400	379	379	70.8	-	40.8	55	1290
390	369	369	70.3	-	39.8	-	1240
380	360	360	69.8	(110.0)	38.8	52	1205
370	350	350	69.2	-	37.7	-	1170
360	341	341	68.7	(109.0)	36.6	50	1130
350	331	331	68.1	-	35.5	-	1095
340	322	322	67.6	(108.0)	34.4	47	1070
330	313	313	67.0	-	33.3	-	1035
320	303	66.4	(107.0)	32.2	45	1005	
310	294	65.8	-	31.0	-	980	
300	284	65.2	(105.5)	29.8	42	950	
295	280	64.8	-	29.2	-	935	
290	275	64.5	(104.5)	28.5	41	915	
285	270	64.2	-	27.8	-	905	
280	265	63.8	(103.5)	27.1	40	890	
275	261	63.5	-	26.4	-	875	
270	256	63.1	(102.0)	25.6	38	855	
265	252	62.7	-	24.8	-	840	
260	247	62.4	(101.0)	24.0	37	825	
255	243	62.0	-	23.1	-	805	
250	238	61.6	99.5	22.2	36	795	
245	233	61.2	-	21.3	-	780	
240	228	60.7	98.1	20.3	34	765	
230	219	-	96.7	(18.0)	33	730	
220	209	-	95.0	(15.7)	32	695	
210	200	-	93.4	(13.4)	30	670	
200	190	-	91.5	(11.0)	29	635	
190	181	-	89.5	(8.5)	28	605	
180	171	-	87.1	(6.0)	26	580	
170	162	-	85.0	(3.0)	25	545	
160	152	-	81.7	(0.0)	24	515	
150	143	-	78.7	-	22	490	
140	133	-	75.0	-	21	455	
130	124	-	71.2	-	20	425	
120	114	-	66.7	-	-	390	
110	105	-	62.3	-	-	-	
100	95	-	56.2	-	-	-	
95	90	-	52.0	-	-	-	
90	86	-	48.0	-	-	-	
85	81	-	41.0	-	-	-	

- Extracted from JIS Handbook "Iron & Steel" (SAE J 417)

Note 1) 1MPa = 1N/mm²

2) Value in ( ) is not in practical use, but reference only

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