

硬度換算表

HARDNESS CONVERSION TABLE FOR METALS

Steel (鋼)									
Rockwell				Rockwell Superfical			Vickers	Brinell	Shore
HRA	HRB	HRC	HRD	15N	30N	45N	HV	HB	HS
▽60kgf	○100kgf	▽150kgf	▽100kgf	▽15kgf	▽30kgf	▽45kgf		○300kgf	JIS
85.6		68.0	76.9	93.2	84.4	75.4	940		97.6
85.3		67.5	76.5	93.0	84.0	74.3	920		96.4
85.0		67	76.1	92.9	83.6	74.2	900		95.2
84.7		66.4	75.7	92.7	83.1	73.6	880		94.0
84.4		65.9	75.3	92.5	82.7	73.1	860		92.8
84.1		65.3	74.8	92.3	82.2	72.2	840		91.5
83.8		64.7	74.3	92.1	81.7	71.8	820		90.2
83.4		64.0	73.8	91.8	81.1	71.0	800		88.9
83.0		63.3	73.3	91.5	80.4	70.2	780		87.5
82.6		62.5	72.6	91.2	79.7	69.4	760		86.2
82.2		61.8	72.1	91.0	79.1	68.6	740		84.8
81.8		61.0	71.5	90.7	78.4	67.7	720		83.3
81.3		60.1	70.8	90.3	77.6	66.7	700		81.8
81.1		59.7	70.5	90.1	77.2	66.2	690		81.1
80.8		59.2	70.1	89.8	76.8	65.7	680		80.3
80.6		58.8	69.8	89.7	76.4	65.3	670		79.6
80.3		58.3	69.4	89.5	75.9	64.7	660		78.8
80.8		57.8	69.0	89.2	75.5	64.1	650		78.0
79.8		57.3	68.7	89.0	75.1	63.5	640		77.2
79.5		56.8	68.3	88.8	74.6	63.0	630		76.4
79.2		56.3	67.9	88.5	74.2	62.4	620		75.6
78.9		55.7	67.5	88.2	73.6	61.7	610		74.7
78.6		55.2	67.0	88.0	73.2	61.2	600		73.9
78.4		54.7	66.7	87.8	72.7	60.5	590		73.1
78.0		54.1	66.2	87.5	72.1	59.9	580		72.2
77.8		53.6	65.8	87.2	71.7	59.3	570		71.3
77.4		53.0	65.4	86.9	71.2	58.6	560		70.4
77.0		52.3	64.8	86.6	70.5	57.8	550	505	69.6
76.7		51.7	64.4	86.3	70.0	57.0	540	496	68.7
76.4		51.1	63.9	86.0	69.5	56.2	530	488	67.7
76.1		50.5	63.5	85.7	69.0	55.6	520	480	66.8
75.7		49.8	62.9	85.4	68.3	54.7	510	473	65.9
75.3		49.1	62.2	85.0	67.7	53.9	500	465	64.9
74.9		48.4	61.6	84.7	67.1	53.1	490	456	64.0
74.5		47.7	61.3	84.3	66.4	52.2	480	448	63.0
74.1		46.9	60.7	83.9	65.7	51.3	470	441	62.0
73.6		46.1	60.1	83.6	64.9	50.4	460	433	61.0
73.3		45.3	59.4	83.2	64.3	49.4	450	425	60.0
72.8		44.5	58.8	82.8	63.5	48.4	440	415	59.0
72.3		43.6	58.2	82.3	62.7	47.4	430	405	58.0
71.8		42.7	57.5	81.8	61.9	46.4	420	397	56.9
71.4		41.8	56.8	81.4	61.1	45.3	410	388	55.9
70.8		40.8	56.0	81.0	60.2	44.1	400	379	54.8
70.3		39.8	55.2	80.3	59.3	42.9	390	369	53.7
69.8	110.0	38.8	54.4	79.8	58.4	41.7	380	360	52.6
69.2		37.7	53.6	79.2	57.4	40.4	370	350	51.5
68.7	109.0	36.6	52.8	78.6	56.4	39.1	360	341	50.4
68.1		35.5	51.9	78.0	55.4	37.8	350	331	49.3
67.6	108.0	34.4	51.1	77.4	54.4	36.5	340	322	48.1
67.0		33.3	50.2	76.8	53.6	35.2	330	313	47
66.4	107.0	32.2	49.4	76.2	52.3	33.9	320	303	45.8
65.8		31.0	48.4	75.6	51.3	32.5	310	294	44.6
65.2	105.5	29.8	47.5	74.9	50.2	31.1	300	284	43.4
64.8		29.2	47.1	74.6	49.7	30.4	295	280	42.8
64.5	104.5	28.5	46.5	74.2	49.0	29.5	290	275	42.2
64.2		27.8	46.0	73.8	48.4	28.7	285	270	41.6
63.8	103.5	27.1	45.3	73.4	47.8	27.9	280	265	40.9
63.5		26.4	44.9	73.0	47.2	27.1	275	261	40.3
63.1	102.0	25.6	44.3	72.6	46.4	26.2	270	256	39.7
62.7		24.8	43.7	72.1	45.7	25.2	265	252	39.1
62.4	101.0	24	43.1	71.6	45.0	24.3	260	247	38.4
62.0		23.1	42.2	71.1	44.2	23.2	255	243	37.8
61.6	99.5	22.2	41.7	70.6	43.4	22.2	250	238	37.2
61.2		21.3	41.1	70.1	42.5	21.1	245	233	36.5
60.7	98.1	20.3	40.3	69.6	41.7	19.9	240	228	35.9
	96.7	18.0					230	219	34.1
	95.0	15.7					220	209	33.2
	93.4	13.4					210	200	31.8
	91.5	11.0					200	190	30.4
	89.5	8.5					190	181	29.0
	87.1	6.0					180	171	27.7
	85.0	3.0					170	162	26.5
	81.7	0.0					160	152	25.0
	78.7						150	143	23.7
	75.0						140	133	22.1
	71.2						130	124	20.6
	66.7						120	114	19.1
	62.3						10	105	17.6
	56.2						100	95	16.1

Soft Metal (黃銅)						
Rockwell		Rockwell - vell Superfical			Vickers	
HRB	HRF	15T	30T	45T	HV	
○100kgf	○60kgf	○15kgf	○30kgf	○45kgf	▽	
93.5	110.0	90.0	77.5	66.0	196	
	109.5			65.5	194	
93.0			77.0	65.0	192	
92.5	109.0		76.5	64.5	190	
92.0		89.5		64.0	188	
91.5	108.5		76.0	63.5	186	
91.0			75.5	63.0	184	
90.5	108.0	89.0		62.5	182	
90.0	107.5		75.0	62.0	180	
89.0			74.5	61.5	178	
88.5	107.0			61.0	176	
88.0		88.5	74.0	60.5	174	
87.5	106.5		73.5	60.0	172	
87.0				59.5	170	
86.0	106.0	88.0	73.0	59.0	168	
85.5			72.5	58.5	166	
85.0	105.5		72.0	58.0	164	
84.0	105.0	87.5		57.5	162	
83.5			71.5	56.5	160	
83.0	104.5		71.0	56.0	158	
82.0	104.0	87.0	70.5	55.5	156	
81.5	103.5		70.0	54.5	154	
80.5	103.0			54.0	152	
80.0		86.5	69.5	53.5	150	
79.0	102.5		69.0	53.0	148	
78.0	102.0		68.5	52.5	146	
77.5	101.5	86.0	68.0	51.5	144	
77.0	101.0		67.5	51.0	142	
76.0	100.5	85.5	67.0	50.0	140	
75.0	100.0		66.5	49.0	138	
74.5	99.5	85.0	66.0	48.0	136	
73.5	99.0		65.5	47.5	134	
73.0	98.5	84.5	65.0	46.5	132	
72.0	98.0	84.0	64.5	45.5	130	
71.0	97.5		63.5	45.0	128	
70.0	97.0	83.5	63.0	44.0	126	
69.0	96.5		62.5	43.0	124	
68.0	96.0	83.0	62.0	42.0	122	
67.0	95.5		61.0	41.0	120	
66.0	95.0	82.5	60.5	40.0	118	
65.0	94.5	82.0	60.0	39.0	116	
64.0	94.0	81.5	59.5	38.0	114	
63.0	93.0	81.0	58.5	37.0	112	
62.0	92.6	80.5	58.0	35.5	110	
61.0	92.0		57.0	34.5	108	
59.5	91.2	80.0	56.0	33.0	106	
58.0	90.5	79.5	55.0	32.0	104	
57.0	89.8	79.0	54.5	30.5	102	
56.0	89.0	78.5	53.5	29.5	100	
54.0	88.0	78.0	52.5	28.0	98	
53.0	87.2	77.5	51.5	26.5	96	
51.0	86.3	77.0	50.5	24.5	94	
49.5	85.4	76.5	49.0	23.0	92	
47.5	84.4	75.5	48.0	21.0	90	
46.0	83.5	75.0	47.0	19.0	88	
44.0	82.3	74.5	45.5	17.0	86	
42.0	81.2	73.5	44.0	14.5	84	
40.0	80.0	73.0	43.0	12.5	82	
37.5	78.6	72.0	41.0	10.0	80	
35.0	77.4	71.5	39.5	7.5	78	
32.5	76.0	70.5	38.0	4.5	76	
30.0	74.8	70.0	36.0	1.0	74	
27.5	73.2	69.0	34.0		72	
24.5	71.6	68.0	32.0		70	
21.5	70.0	67.0	30.0		68	
18.5	68.5	66.0	28.0		66	
15.5	66.8	65.0	25.5		64	
12.5	65.0	63.5	23.0		62	
10.0	63.0	62.5	20.5		60	
	61.0	61.0	18.0		58	
	58.8	60.0	15.0		56	
	56.5	58.5	12.0		54	
	53.5	57.0			52	
	50.5	55.5			50	
	49.0	54.5			49	
	47.0	53.5			48	
	45.0				47	
	43.0				46	
	40.0				45	