

■ 硬度換算表

Vickers	Brinell (HB)		Rockwell (HR)			Rockwell Superficial			Shore	抗拉強度 TS	Vickers	Brinell (HB)		Rockwell (HR)			Rockwell Superficial			Shore	抗拉強度 TS	
	HV	標準球	硬質球	A	C	D	15N	30N				45N	HS	Mpa	HV	標準球	硬質球	A	B			C
940	-	-	85.6	68.0	76.9	93.2	84.4	75.4	97		420	397	397	71.8		42.7	57.5	81.8	61.9	46.4	57	1370
920	-	-	85.3	67.5	76.5	93.0	84.0	74.8	96		410	388	388	71.4		41.8	56.8	81.4	61.1	45.3	-	1330
900	-	-	85.0	67.0	76.1	92.9	83.6	74.2	95		400	379	379	70.8		40.8	56.0	81.0	60.2	44.1	55	1290
880	-	(767)	84.7	66.4	75.7	92.7	83.1	73.6	93		390	369	369	70.3		39.8	55.2	80.3	59.3	42.9	-	1240
860	-	(757)	84.4	65.9	75.3	92.5	82.7	73.1	92		380	360	360	69.8 (110.0)		38.8	54.4	79.8	58.4	41.7	52	1205
840	-	(745)	84.1	65.3	74.8	92.3	82.2	72.2	91		370	350	350	69.2	-	37.7	53.6	79.2	57.4	40.4	-	1170
820	-	(733)	83.8	64.7	74.3	92.1	81.7	71.8	90		360	341	341	68.7 (109.0)		36.6	52.8	78.6	56.4	39.1	50	1130
800	-	(722)	83.4	64.0	73.8	91.8	81.1	71.0	88		350	331	331	68.1	-	35.5	51.9	78.0	55.4	37.8	-	1095
780	-	(710)	83.0	63.3	73.3	91.5	80.4	70.2	87		340	322	322	67.6 (108.0)		34.4	51.1	77.4	54.4	36.5	47	1070
760	-	(698)	82.6	62.5	72.6	91.2	79.7	69.4	86		330	313	313	67.0	-	33.3	50.2	76.8	53.6	35.2	-	1035
740	-	(684)	82.2	61.8	72.1	91.0	79.1	68.6	84		320	303	303	66.4 (107.0)		32.2	49.4	76.2	52.3	33.9	45	1005
720	-	(670)	81.8	61.0	71.5	90.7	78.4	67.7	83		310	294	294	65.8	-	31.0	48.4	75.6	51.3	32.5	-	980
700	-	(656)	81.3	60.1	70.8	90.3	77.6	66.7	81		300	284	284	65.2 (105.5)		29.8	47.5	74.9	50.2	31.1	42	950
690	-	(647)	81.1	59.7	70.5	90.1	77.2	66.2	-		295	280	280	64.8	-	29.2	47.1	74.6	49.7	30.4	-	935
680	-	(638)	80.8	59.2	70.1	89.8	76.8	65.7	80		290	275	275	64.5 (104.5)		28.5	46.5	74.2	49.0	29.5	41	915
670	-	630	80.6	58.8	69.8	89.7	76.4	65.3	-		285	270	270	64.2	-	27.8	46.0	73.8	48.4	28.7	-	905
660	-	620	80.3	58.3	69.4	89.5	75.9	64.7	79		280	265	265	63.8 (103.5)		27.1	45.3	73.4	47.8	27.9	40	890
650	-	611	80.0	57.8	69.0	89.2	75.5	64.1	-		275	261	261	63.5	-	26.4	44.9	73.0	47.2	27.1	-	875
640	-	601	79.8	57.3	68.7	89.0	75.1	63.5	77		270	256	256	63.1 (102.0)		25.6	44.3	72.6	46.4	26.2	38	855
630	-	591	79.5	56.8	68.3	88.8	74.6	63.0	-		265	252	252	62.7	-	24.8	43.7	72.1	45.7	25.2	-	840
620	-	582	79.2	56.3	67.9	88.5	74.2	62.4	75		260	247	247	62.4 (101.0)		24.0	43.1	71.6	45.0	24.3	37	825
610	-	573	78.9	55.7	67.5	88.2	73.6	61.7	-		255	243	243	62.0	-	23.1	42.2	71.1	44.2	23.2	-	805
600	-	564	78.6	55.2	67.0	88.0	73.2	61.2	74		250	238	238	61.6	99.5	22.2	41.7	70.6	43.4	22.2	36-	795
590	-	554	78.4	54.7	66.7	87.8	72.7	60.5	-	2055	245	233	233	61.2	-	21.3	41.1	70.1	42.5	21.1	-	780
580	-	545	78.0	54.1	66.2	87.5	72.1	59.9	72	2020	240	228	228	60.7	98.1	20.3	40.3	69.6	41.7	19.9	34	765
570	-	535	77.8	53.6	65.8	87.2	71.7	59.3	-	1985	230	219	219	-	96.7 (18.0)	-	-	-	-	-	33	730
560	-	525	77.4	53.0	65.4	86.9	71.2	58.6	71	1950	220	209	209	-	96.0 (15.7)	-	-	-	-	-	32	695
550	(505)	517	77.0	52.3	64.8	86.6	70.5	57.8	-	1905	210	200	200	-	93.4 (13.4)	-	-	-	-	-	30	670
540	(496)	507	76.7	51.7	64.4	86.3	70.0	57.0	69	1860	200	190	190	-	91.5 (11.0)	-	-	-	-	-	29	635
530	(488)	497	76.4	51.1	63.9	86.0	69.5	56.2	-	1825	190	181	181	-	89.5 (8.5)	-	-	-	-	-	28	605
520	(480)	488	76.1	50.5	63.5	85.7	69.0	55.6	67	1795	180	171	171	-	87.1 (6.0)	-	-	-	-	-	26	580
510	(473)	479	75.7	49.8	62.9	85.4	68.3	54.7	-	1750	170	162	162	-	85.0 (3.0)	-	-	-	-	-	25	545

500	(465)	471	75.3	49.1	62.2	85.0	67.7	53.9	66	1705	160	152	152	-	81.7	(0.0)	-	-	-	-	24	515
490	(456)	460	74.9	48.4	61.6	84.7	67.1	53.1	-	1660	150	143	143	-	78.7	-	-	-	-	-	22	490
480	448	452	74.5	47.7	61.3	84.3	66.4	52.2	64	1620	140	133	133	-	75.0	-	-	-	-	-	21	455
470	441	442	74.1	46.9	60.7	83.9	65.7	51.3	-	1570	130	124	124	-	71.2	-	-	-	-	-	20	425
460	433	433	73.6	46.1	60.1	83.6	64.9	50.4	62	1530	120	114	114	-	66.7	-	-	-	-	-	-	390
450	425	425	73.3	45.3	59.4	83.2	64.3	49.4	-	1495	110	105	105	-	62.3	-	-	-	-	-	-	-
440	415	415	72.8	44.5	58.8	82.8	63.5	48.4	59	1460	100	95	95	-	56.2	-	-	-	-	-	-	-
430	405	405	72.3	43.6	58.2	82.3	62.7	47.4	-	1410	95	90	90	-	52.0	-	-	-	-	-	-	-
											90	86	86	-	48.0	-	-	-	-	-	-	-
											85	81	81	-	41.0	-	-	-	-	-	-	-

**備註：**

1. 換算表依據 SAE J 417 編輯，粗體字同 ASTM E 140，為 SAE-ASM-ASTM 共同調整結果。
2. 表中括弧( )數值為通常不太可能使用的範圍，僅提供參考用。
3. 抗拉強度 (Tensile Strength) 近似值，依據 JIS Z 8413 與 JIS Z 8438 (已廢止) 換算。使用上需注意質量效果、鋼材成份與熱處理方法等影響。

單位換算：1 MPa = 1 N/mm<sup>2</sup>、1kgf/mm<sup>2</sup> = 9.8 MPa = 9.8 N/mm<sup>2</sup>

1 Ksi = 1000 psi = 0.7037 kgf/mm<sup>2</sup> = 6.89626 Mpa