

Hardness Conversion Chart*

Comparison of Hardness Scales approx. ** and Tensile Stress Equivalents approx. (maximum value) in imperial and metric units.

Rockwell Scale	'C'	Diamond Pyramid Scale HV10 HV30	Brinell			Tensile Stress Equivalents				Scler Scope Hardness Number	Rockwell		Diamond Pyramid Scale HV10 HV30	
			Dia. Imp. for 10mm Ball	Carbide Ball	Standard Ball	Tons/in ²	1000lb/in ²	kg/mm ²	MPa (N/mm ²)		'A' scale	'C' scale		
67.7		900								96	85.6	67.7	900	
67.0		880								95	85.0	67.0	880	
66.3		860								93	84.7	66.3	860	
65.5		840								92	84.2	65.5	840	
64.8		820								90	83.8	64.8	820	
64.0		800								88	83.4	64.0	800	
63.3		780								87	83.0	63.3	780	
62.5		760								86	82.6	62.5	760	
61.7		740								84	82.2	61.7	740	
61.0		725	2.44	630	-	-	-	-	-	82	81.8	61.0	725	
60.5		710	2.45	627	-	-	-	-	-	-	81.5	60.5	710	
60.0		698	2.50	601	-	132	295	208	2039	81	81.2	60.0	698	
58.9		670	2.55	578	-	127	284	200	1961	78	80.6	58.9	670	
57.1		630	2.60	555	-	122	273	192	1884	75	79.6	57.1	630	
56.1		609	2.65	534	-	117	262	184	1807	73	79.0	56.1	609	
54.4		572	2.70	514	-	112	250	176	1729	71	78.2	54.4	572	
51.9		532	2.75	495	495	108	241	170	1668	68	76.9	51.9	532	
50.7		517	2.80	477	477	105	235	165	1621	66	76.3	50.7	517	
49.5		497	2.85	461	461	101	226	160	1559	64	75.5	49.5	497	
47.5		470	2.90	444	444	98	219	155	1513	62	74.2	47.5	470	
46.0		452	2.95	429	429	95	212	150	1467	60	73.5	46.0	452	
44.8		437	3.00	415	415	92	206	145	1420	58	73.0	44.8	437	
43.7		422	3.05	401	401	88	197	139	1359	56	72.5	43.7	422	
42.4		408	3.10	388	388	85	190	134	1312	54	71.5	42.4	408	
41.3		395	3.15	375	375	82	183	129	1266	52	71.0	41.3	395	
39.9		381	3.20	363	363	80	179	126	1235	51	70.3	39.9	381	
38.8		370	3.25	352	352	77	172	121	1189	49	69.8	38.8	370	
37.7		359	3.30	341	341	75	168	118	1158	48	69.2	37.7	359	
36.7		349	3.35	331	331	73	163	114	1127	46	68.8	36.7	349	
35.0		337	3.40	321	321	71	159	111	1096	45	68.0	35.0	337	
34.0		327	3.45	311	311	68	152	107	1050	43	67.5	34.0	327	
33.0		318	3.50	302	302	66	147	104	1019	42	66.8	33.0	318	
32.0		308	3.55	293	293	64	143	101	988	41	66.2	32.0	308	
30.9		300	3.60	285	285	63	141	99	973	40	65.7	30.9	300	
29.8		292	3.65	277	277	61	136	96	942	38	65.2	29.8	292	
29.0		284	3.70	269	269	59	132	93	911	37	64.6	29.0	284	
27.5		275	3.75	262	262	58	130	91	895	36	64.0	27.5	275	
26.6		269	3.80	255	255	56	125	89	865	35	63.6	26.6	269	
25.2		261	3.85	248	248	55	123	87	849	34	62.9	25.2	261	
24.3		255	3.90	241	241	53	118	84	818	33	62.6	24.3	255	
23.0		247	3.95	235	235	51	114	81	787	32	62.0	23.0	247	
22.0		241	4.00	229	229	50	112	79	772	31	61.6	22.0	241	
20.8		234	4.05	223	223	49	110	77	756	30	60.7	20.8	234	
		228	4.10	217	217	48	107	76	741	-	-	-	228	
Hardness 'B' Scale													Hardness 'B' Scale	
98		222	4.15	212	212	46	103	73	710	29	-	-	98	222
97		218	4.20	207	207	45	101	71	695	28	-	-	97	218
96		212	4.30	197	197	43	97	68	664	27	-	-	96	212
93		196	4.40	187	187	41	92	65	632	25	-	-	93	196
91		188	4.50	179	179	39	88	62	602	-	-	-	91	188
88.5		178	4.60	170	170	36	81	57	556	24	-	-	88.5	178
86		171	4.70	163	163	35	78	55	540	-	-	-	86	171
84.2		163	4.80	156	156	34	76	54	525	23	-	-	84.2	163
82		156	4.90	149	149	32	72	51	494	-	-	-	82	156
80		150	5.00	143	143	31	69	49	479	22	-	-	80	150
77		143	5.10	137	137	30	67	48	463	21	-	-	77	143
75		137	5.20	131	131	29.5	66	47	455	20.5	-	-	75	137
72.5		132	5.30	126	126	29	65	46	448	20	-	-	72.5	132
70		127	5.40	121	121	28	63	44	432	-	-	-	70	127
67		122	5.50	116	116	26	58	42	401	15	-	-	67	122

*These charts were prepared using information contained in B.S.860/1967. This standard differs significantly from the superseded standard B.S. 860/1939, and differs slightly from the conversion scales adopted by SAE and ASTM sources.

** Where hardness acceptance values are specified and a conversion from one scale to another is necessary the source of the conversion data should be stated and understood by the parties involved.