Rockwell C Scale[1]	Brinell Hardness[2]	Vickers Hardness	Tensile Strength (approx.)[3]		Rockwell C Scale[1]	Brinell Hardness[2]	Vickers Hardness	Tensile Strength (approx.)[3]	
Brale Penetrator	10mm Tungsten Carbide Ball	Pyramidic Diamond			Brale Penetrator	10mm Tungsten Carbide Ball	Pyramidic Diamond		
150kgf	3,000kgf	10kgf	ksi	kg/mm²	150kgf	3,000kgf	10kgf	ksi	kg/mm²
67	-	900	-	-	43	400	423	201	141
66	-	865	-	-	42	390	412	196	138
65	739	832	-	-	41	381	402	191	134
64	722	800	-	-	40	371	392	186	131
63	705	772	-	-	39	362	382	181	127
62	688	746	-	-	38	353	372	176	124
61	670	720	-	-	37	344	363	172	121
60	654	697	-	-	36	336	354	167	118
59	634	674	329	232	35	327	345	163	114
58	615	653	319	224	34	319	336	159	112
57	595	633	307	216	33	311	327	154	109
56	577	613	297	209	32	301	318	149	105
55	560	595	288	202	31	294	310	146	102
54	543	577	279	196	30	286	302	142	99
53	525	560	269	189	29	279	294	138	97
52	512	544	262	184	28	271	286	134	94
51	496	528	253	178	27	264	279	130	92
50	481	513	245	172	26	258	272	127	89
49	469	498	238	167	25	253	266	125	88
48	455	484	231	162	24	247	260	122	85
47	443	471	224	158	23	243	254	120	84
46	432	458	218	153	22	237	248	116	82
45	421	446	212	149	21	231	243	113	80
44	409	434	206	145	20	226	238	111	78

Footnotes

1. Rockwell Hardness Test. Valid ranges for the C scale are from 20 units to 70 units. Other scales used different penetrators and/or different loads.
2. Brinell Hardness Test. Not as accurate as the Rockwell scale but widely used during World War Two; most data from that period is given in units of BHN. As the BHN goes above 650 the tungsten

carbide ball begins to flatten out and the BHN values indicate a greater difference in hardness than there actually is, while above 739 the ball flattens out so badly that it cannot be used.
3. Tensile Strength. The units of tensile strength are in terms of pull against a cross-sectional area. BHN and other hardness measures are actually pressure against an area, therefore these are actually different attributes of the material. There are many slightly different estimates for tensile strength so the figures presented are based on an average of those published. The variation is about ±1%.
4. Source: The hardness values in this table correspond to those shown in the American Society for Testing and Materials Specification E140-67, except for the estimates of tensile strength which is discussed in footnote 3 above. Each type of test measures resistance to deformation of material in slightly different ways, so conversions between different hardness scales are therefore only approximate. BHN measurement in any case is not an exact procedure and different operators of the test equipment will come up with differing values on the same piece of plate. A difference of 30 BHN points may not mean anything. A difference of 10 means absolutely nothing.