

# ROCKWELL REFERENCE CHARTS

Rockwell Charts courtesy of WILSON INSTRUMENT DIVISION of ACCO, 929 Connecticut Ave., Bridgeport, Conn. 06602

C	A	15-N	30-N	O.F.H.	Knoop	Brinell	Tensile Strength
150 Kg. "Brake"	60 Kg. "Brake"	15 Kg. N "Brake"	30 Kg. N "Brake"	10 Kg. 136° Diamond	500 Gr. & Over	3000 Kg. 10 mm Ball	
Rockwell	Rockwell	Rockwell Superficial	Rockwell Superficial	136° Diamond Pyramid	Knoop	Brinell (Hullgren Ball)	Thousand Lbs. per Sq. In.
70	85.5	94.0	89.0	1076	972	---	Inexact and Only for Steel
69	85.0	93.5	85.0	1004	946	---	
68	85.5	---	84.5	942	920	---	
67	85.0	93.0	83.5	894	895	---	
66	84.5	92.5	83.0	854	870	---	
65	84.0	92.0	82.0	820	846	---	
64	83.5	---	81.0	789	822	---	
63	83.0	91.5	80.0	763	799	---	
62	82.5	91.0	79.0	739	776	---	
61	81.5	90.5	78.5	716	754	---	
60	81.0	90.0	77.5	695	732	614	
59	80.5	89.5	76.5	675	710	600	
58	80.0	---	75.5	655	690	587	
57	79.5	89.0	75.0	636	670	573	
56	79.0	88.5	74.0	617	650	560	
55	78.5	88.0	73.0	596	630	547	
54	78.0	87.5	72.0	580	612	534	
53	77.5	87.0	71.0	562	594	522	
52	77.0	86.5	70.6	545	576	509	
51	76.5	86.0	69.5	528	558	496	
50	76.0	85.5	68.5	513	542	484	
49	75.5	85.0	67.5	498	526	472	
48	74.5	84.5	66.5	485	510	460	
47	74.0	84.0	66.0	471	495	448	
46	73.5	83.5	65.0	458	480	437	
45	73.0	83.0	64.0	446	466	426	
44	72.5	82.5	63.0	435	452	415	
42	71.5	81.5	61.5	413	426	393	
40	70.5	80.5	59.5	393	402	372	
38	69.5	79.5	57.5	373	380	352	
36	68.5	78.5	56.0	353	360	332	
34	67.5	77.0	54.0	334	342	313	
32	66.5	76.0	52.0	317	326	297	
30	65.5	75.0	50.5	301	311	283	
28	64.5	74.0	48.5	285	297	270	
26	63.5	72.5	47.0	271	284	260	
24	62.5	71.5	45.0	257	272	250	
22	61.5	70.5	43.0	246	261	240	
20	60.5	69.5	41.5	236	251	230	

B	F	30-T	E	Knoop	Brinell	Tensile Strength
100 Kg. 1/16" Ball	50 Kg. 1/15" Ball	30 Kg. 1/16" Ball	100 Kg. 1/8" Ball	500 Gr. & Over	3000 Kg. D.P.N. 10 Kg.	
Rockwell	Rockwell	Rockwell Superficial	Rockwell	Knoop	Brinell	Thousand Lbs. per Sq. In.
100	---	82.0	---	261	240	116
99	---	81.5	---	246	234	112
98	---	81.0	---	241	228	109
97	---	80.5	---	236	222	106
96	---	80.0	---	231	216	103
95	---	79.0	---	226	210	101
94	---	78.5	---	221	205	98
93	---	78.0	---	216	200	96
92	---	77.5	---	211	195	93
91	---	77.0	---	206	190	91
90	---	76.0	---	201	185	89
89	---	75.5	---	196	180	87
88	---	75.0	---	192	176	85
87	---	74.5	---	188	172	83
86	---	74.0	---	184	169	81
85	---	73.5	---	180	165	80
84	---	73.0	---	176	162	78
83	---	72.0	---	173	159	77
82	---	71.5	---	170	156	75
81	---	71.0	---	167	153	74
80	---	70.0	---	164	150	72
79	---	69.5	---	161	147	†
78	---	69.0	---	158	144	†
77	---	68.0	---	155	141	†
76	---	67.5	---	152	139	†
75	99.5	67.0	---	150	137	†
74	99.0	66.0	---	147	135	†
72	98.0	66.0	---	143	130	†
70	97.0	63.5	99.5	139	126	†
68	95.5	62.0	98.0	135	121	†
66	94.5	60.5	97.0	131	117	†
64	93.5	59.5	95.5	127	114	†
62	92.0	58.0	94.5	124	110	†
60	91.0	56.5	93.0	120	107	†
58	90.0	55.0	92.0	117	104	†
56	89.0	54.0	90.5	114	101	†
54	87.5	52.5	89.5	111	*87	†
52	86.5	51.0	88.0	109	*85	†
50	85.5	49.5	87.0	107	*83	†
48	84.5	48.5	85.5	105	*81	†
46	83.0	47.0	84.5	103	*79	†
44	82.0	45.5	83.5	101	*78	†
42	81.0	44.0	82.0	99	*76	†
40	79.5	43.0	81.0	97	*74	†
38	78.5	41.5	79.5	95	*73	†
36	77.5	40.0	78.5	93	*71	†
34	76.5	38.5	77.0	91	*70	†
32	75.0	37.5	76.0	89	*68	†
30	74.0	36.0	75.0	87	*67	†
28	73.0	34.5	73.5	85	*66	†
24	70.5	32.0	71.0	82	*64	†
20	68.5	29.0	68.5	79	*62	†
16	66.0	28.0	66.5	76	*60	†
12	64.0	23.5	64.0	73	*58	†
8	61.5	20.5	61.5	71	*56	†
4	59.5	18.0	59.0	69	*55	†
0	67.0	15.0	57.0	67	*53	†

\*Below Brinell 101 tests were made with only 500 kg. load and 10 mm ball.

†Even for steel, Tensile Strength relation to hardness is inexact, unless determined for specific material.

The 15N, 30N and 30T Scales pertain to our "ROCKWELL" Superficial Hardness Testers which apply light minor and major loads for very shallow indentations, as required for testing nitrided steel or thin sheet metal.

All relative hardness values in this chart are averages of tests on various metals whose different properties prevent establishment of exact mathematical conversion and were carefully determined in our own standard laboratory.