

007 Approximate Hardness Conversion Numbers for Copper No. 102 to 142 Inclusive													
Vickers Hardness Number		Knoop Hardness Number		Rockwell Superficial Hardness Number			Rockwell Hardness Number	Rockwell Superficial Hardness Number			Brinell Hardness Number		
1kgf (HV)	100gr (HV)	1kgf (HK)	500gr (HK)	15T Scale 1/16" Ball	15T Scale 1/16" Ball	30T Scale 1/16" Ball	B Scale 1/16" Ball	F Scale 1/16" Ball	15T Scale 1/16" Ball	30T Scale 1/16" Ball	45T Scale 1/16" Ball	500 kgf 10mm Ball	20 kgf 2mm Ball
				HR15T	HR15T	HR30T	(HRB)	(HRF)	(HR15T)	HR30T)	(HR45T)	(HBS)	(HBS)1kgf
				0.010-in Strip	0.020-in Strip			0.040-in and Greater			0.080-in	0.040-in	
130	127.0	138.7	133.8	...	85.0	...	67.0	99.0	...	69.5	49.0	...	119.0
128	125.2	136.8	132.1	83.0	84.5	...	66.0	98.0	87.0	68.5	48.0	...	117.5
126	123.6	134.9	130.4	...	84.0	...	65.0	97.0	...	67.5	46.5	120.0	115.0
124	121.9	133.0	128.7	82.5	83.5	...	64.0	96.0	86.0	66.5	45.0	117.5	113.0
122	121.1	131.0	127.0	...	83.0	...	62.5	95.5	85.5	66.0	44.0	115.0	111.0
120	118.5	129.0	125.2	82.0	82.5	...	61.0	95.0	...	65.0	42.5	112.0	109.0
118	116.8	127.1	123.5	81.5	...	...	59.5	94.0	85.0	64.0	41.0	110.0	107.5
116	115.0	125.1	121.7	...	82.0	...	58.5	93.0	...	63.0	40.0	107.0	105.5
114	113.5	123.2	119.9	81.0	81.5	...	57.0	92.5	84.5	62.0	38.5	105.0	103.5
112	111.8	121.4	118.1	80.5	81.0	...	55.0	91.5	...	61.0	37.0	102.0	102.0
110	109.9	119.5	116.3	80.0	...	...	53.5	91.0	84.0	60.0	36.0	99.5	100.0
108	108.3	117.5	114.5	...	80.5	...	52.0	90.5	83.5	59.0	34.5	97.0	98.0
106	106.6	115.6	112.6	79.5	80.0	...	50.0	89.5	...	58.0	33.0	94.5	96.0
104	104.9	113.5	110.1	79.0	79.5	...	48.0	88.5	83.0	57.0	32.0	92.0	94.0
102	103.2	111.5	108.0	78.5	79.0	...	46.5	87.5	82.5	56.0	30.0	89.5	92.0
100	101.5	109.4	106.0	78.0	78.0	...	44.5	87.0	82.0	55.0	28.5	87.0	90.0
98	99.8	107.3	104.0	77.5	77.5	...	42.0	85.5	81.0	53.5	26.5	84.5	88.0
96	98.0	105.3	102.1	77.0	77.0	...	40.0	84.5	80.5	52.0	25.5	82.0	86.5
94	96.4	103.2	100.0	76.5	76.5	...	38.0	83.0	80.0	51.0	23.0	79.5	85.0
92	94.7	101.0	98.0	76.0	75.5	...	35.5	82.0	79.0	49.0	21.0	77.0	83.0
90	93.0	98.9	96.0	75.5	75.0	...	33.0	81.0	78.0	47.5	19.0	74.5	81.0
88	91.2	96.9	94.0	75.0	74.5	...	30.5	79.5	77.0	46.0	16.5	...	79.0
86	89.7	95.5	92.0	74.5	73.5	...	28.0	78.0	76.0	44.0	14.0	...	77.0
84	87.9	92.3	90.0	74.0	73.0	...	25.5	76.5	75.0	43.0	12.0	...	75.0
82	86.1	90.1	87.9	73.5	72.0	...	23.0	74.5	74.5	41.0	9.5	...	73.0
80	84.5	87.9	86.0	72.5	71.0	...	20.0	73.0	73.5	39.5	7.0	...	71.5
78	82.8	85.7	84.0	72.0	70.0	...	17.0	71.0	72.5	37.5	5.0	...	69.5
76	81.0	83.6	81.9	71.5	69.5	...	14.5	69.0	71.5	36.0	2.0	...	67.5
74	79.2	81.1	79.9	71.0	68.5	...	11.5	67.5	70.0	34.0	...	...	66.0
72	77.6	78.9	78.7	70.0	67.5	...	8.5	66.0	69.0	32.0	...	...	64.0
70	75.8	76.8	76.6	69.5	66.5	...	5.0	64.0	67.5	30.0	...	...	62.0
68	74.3	74.1	74.4	69.0	65.5	...	2.0	62.0	66.0	28.0	...	...	60.5
66	72.6	71.9	71.9	68.0	64.5	...	...	60.0	64.5	25.5	...	...	58.5
64	70.9	69.5	70.0	67.5	63.5	...	...	58.0	63.5	23.5	...	...	57.0
62	69.1	67.0	67.9	66.5	62.0	...	...	56.0	61.0	21.0	...	...	55.0
60	67.5	94.6	65.9	66.0	61.0	...	...	54.0	59.0	19.0	...	...	53.0
58	65.8	62.0	63.8	65.0	60.0	...	...	51.5	57.0	15.5	...	...	51.5
56	64.0	59.8	61.8	64.5	58.5	...	...	49.0	55.0	13.0	...	...	49.5
54	62.3	57.4	59.5	63.5	57.5	...	...	47.0	53.0	10.0	...	...	48.0
52	60.7	55.0	57.2	63.0	56.0	...	...	44.0	51.5	7.5	...	...	46.5
50	58.9	52.8	55.0	62.0	55.0	...	...	41.5	49.5	4.5	...	...	44.5
48	57.3	50.3	52.7	61.0	53.5	...	...	39.0	47.5	1.5	...	...	42.0
46	55.8	48.0	50.2	60.5	52.0	...	...	36.0	45.0	...	...	...	41.0
44	53.9	45.9	47.8	59.5	51.0	...	...	33.5	43.0	...	...	...	...
42	52.2	43.7	45.2	58.5	49.5	...	...	30.5	41.0	...	...	...	...
40	51.3	40.2	42.8	57.5	48.0	...	...	28.0	38.5	...	...	...	...

References:
Hardness Testing ASM International Metals Park OH
ASTM Designation E140-12b