

# HARDNESS CONVERSION TABLE

Approximate equivalent hardness numbers for Brinell hardness numbers for steel and approximate relationship between Brinell hardness number and tensile strength for steel.

Brinell Indentation Diameter mm	Brinell Hardness Number 3000-Kg Load 10 mm Tungsten Carbide Ball	Rockwell Hardness Number		Tensile Strength (approximate)	
		B-Scale 100-Kg Load 1/16 in. Dia. Ball	C-Scale 150-Kg Load Brale Penetrator	Ksi	Mpa
2.25	745	-	65.3	-	-
2.35	682	-	61.7	-	-
2.4	653	-	60	-	-
2.45	627	-	58.7	323	2225
2.5	601	-	57.3	309	2130
2.55	578	-	56	297	2050
2.6	555	-	54.7	285	1965
2.65	534	-	53.5	274	1890
2.7	514	-	52.1	263	1815
2.75	495	-	51	253	1745
2.8	477	-	49.6	243	1675
2.85	461	-	48.5	235	1620
2.9	444	-	47.1	225	1550
2.95	429	-	45.7	217	1495
3	415	-	44.5	210	1450
3.05	401	-	43.1	202	1395
3.1	388	-	41.8	195	1345
3.15	375	-	40.4	188	1295
3.2	363	-	39.1	182	1255
3.25	352	(110)	37.9	176	1215
3.3	341	(109)	36.6	170	1170
3.35	331	(108.5)	35.5	166	1145
3.4	321	(108)	34.3	160	1105
3.45	311	(107.5)	33.1	155	1075
3.5	302	(107)	32.1	150	1035
3.55	293	(106)	30.9	145	1000
3.6	285	(105.5)	29.9	141	970
3.65	277	(104.5)	28.8	137	945
3.7	269	(104)	27.6	133	915
3.75	262	(103)	26.6	129	890
3.8	255	(102)	25.4	126	870
3.85	248	(101)	24.2	122	840
3.9	241	10	22.8	118	815
3.95	235	99	21.7	115	795
4	229	98.2	20.5	111	765
4.05	223	97.3	(18.8)	-	-
4.1	217	96.4	(17.5)	105	725
4.15	212	95.5	(16)	102	705
4.2	207	94.6	(15.2)	100	690
4.25	201	93.8	(13.8)	98	675
4.3	197	92.8	(12.7)	95	655
4.35	192	91.9	(11.5)	93	640
4.4	187	90.7	(10)	90	620
4.45	183	90	(9)	89	615
4.5	179	89	(8)	87	600
4.55	194	87.8	(6.4)	85	585
4.6	170	86.8	(5.4)	83	570
4.65	167	86	(4.4)	81	560
4.7	163	85	(3.3)	79	545
4.8	156	82.9	(0.9)	76	525
4.9	149	80.8	-	73	503
5	143	78	-	71	490
5.1	137	76.4	-	67	460
5.2	131	74	-	65	450
5.3	126	72	-	63	435
5.4	121	69.8	-	60	415
5.5	116	67.6	-	58	400
5.6	111	65.7	-	56	385