

**Description** Relationship between different hardness numbers and tensile strength - Rockwell, Vickers, Brinell

Rockwell				Vickers	Brinell	Tensile strength
A	B	C	D	HV	HB	R <sub>m</sub>
120°	1/16"	120°	120°	136°	10	[N/mm <sup>2</sup> ]
60	100	150	100	10	3000	
92.00		80.00	86.50			
91.50		79.00	85.50			
91.00		78.00	84.50			
90.50		77.00	84.00			
90.00		76.00	83.00	1100		
89.50		75.00	82.50			
89.00		74.00	81.50			
88.50		73.00	81.00			
85.30		67.50	76.50	920		
85.00		67.00	76.10	900		2780
84.70		66.40	75.70	880		
84.40		65.90	75.30	860		
84.10		65.30	74.80	840		
83.80		64.70	74.30	820		
83.40		64.00	73.80	800		2580
83.00		63.30	73.30	780		
82.60		62.50	72.60	760		
82.20		61.80	72.10	740		
81.80		61.00	71.50	720		
81.30		60.10	70.80	700		2380
81.10		59.70	70.50	690	656	2340
80.80		59.20	70.10	680	646	2300
80.60		58.80	69.80	670	637	2260
80.30		58.30	69.40	660	627	2220
80.00		57.80	69.00	650	618	2180
79.80		57.30	68.70	640	608	2145
79.50		56.80	68.30	630	599	2105
79.20		56.30	67.90	620	589	2070
78.90		55.70	67.50	610	580	2030
78.60		55.20	67.00	600	570	1995
78.40		54.70	66.70	590	561	1955
78.00		54.10	66.20	580	551	1920
77.80		53.60	65.80	570	542	1880
77.40		53.00	65.40	560	532	1845
77.00		52.30	64.80	550	523	1810

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A	B	C	D	HV	HB	R <sub>m</sub>
120°	1/16"	120°	120°	136°	10	[N/mm <sup>2</sup> ]
60	100	150	100	10	3000	
76.70		51.70	64.40	540	513	1775
76.40		51.10	63.90	530	504	1740
76.10		50.50	63.50	520	494	1700
75.70		49.80	62.90	510	485	1665
75.30		49.10	62.20	500	475	1630
74.90		48.40	61.60	490	466	1595
74.50		47.70	61.30	480	456	1555
74.10		46.90	60.70	470	447	1520
73.60		46.10	60.10	460	437	1485
73.30		45.30	59.40	450	428	1455
73.00		44.50	58.80	440	418	1420
72.30		43.60	58.20	430	408	1385
71.80		42.70	57.50	420	399	1350
71.40		41.80	56.80	410	389	1320
70.80		40.80	56.00	400	380	1290
70.30		39.80	55.30	390	370	1255
69.80		38.80	54.40	380	361	1220
69.20		37.70	53.60	370	351	1190
68.70		36.60	52.80	360	342	1155
68.10		35.50	51.90	350	332	1125
67.60		34.40	51.10	340	323	1095
67.00		33.30	50.20	330	313	1060
66.40		32.20	49.40	320	304	1030
65.80		31.00	48.40	310	294	995
65.20		29.80	47.50	300	285	965
64.80		29.20	47.10	295	280	950
64.50	105.00	28.50	46.50	290	275	930
64.20	104.50	27.80	46.00	285	271	915
63.80	104.00	27.10	45.30	280	266	900
63.50	103.00	26.40	44.90	275	261	880
63.10	102.00	25.60	44.30	270	256	865
62.70	101.50	24.80	43.70	265	252	850
62.40	101.00	24.00	43.10	260	247	835
62.00	100.00	23.10	42.20	255	242	820
61.60	99.50	22.20	41.70	250	237	800
61.20	98.80	21.30	41.10	245	233	785
60.70	98.10	20.30	40.30	240	228	770

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120°	1/16"	120°	120°	136°	10	[N/mm <sup>2</sup> ]
60	100	150	100	10	3000	
	97.40	19.00		235	223	755
	96.70	17.50		230	219	740
	96.00	16.00		225	214	720
	95.00			220	209	705
	94.00			215	204	690
	93.50			210	199	675
	92.50			205	195	660
	91.50			200	190	640
	90.50			195	185	625
	89.50			190	181	610
	88.30			185	176	595
	87.10			180	171	575
	86.00			175	166	560
	85.00			170	162	545
	83.20			165	156	530
	81.70			160	152	510
	80.20			155	147	495
	78.70			150	143	480
	76.80			145	138	465
	75.00			140	133	450
	73.00			135	128	430
	71.20			130	124	415
	69.00			125	119	400
	66.70			120	114	385
	64.50			115	109	370
	62.30			110	105	350
	59.30			105	100	335
	56.20			100	95	320
	52.00			95	90	305
	48.00			90	85	285
	41.00			85	81	270
				80	76	255

## Rules for applying the table

- The conversion table is only valid for unalloyed and low-alloy steels.
- Conversion is always imprecise and gives only approximate values.
- In the event of arbitration or doubt, the test method indicated in the product specification applies.

