GNS NEDERLAND

FLEXIBLE METAL SERVICE & DISTRIBUTION

Comparison chart of hardness to tensile strengths

Hardness			Tensile strength
Brinell	Vickers	Rockwell	R_m
HB 30	HV	HRC	N/mm^2
76	80	-	255
81	85	-	270
86	90	-	285
91	95	-	305
95	95	-	320
95	100	-	320
100	105	-	335
105	105	-	350
109	115	-	370
114	120	-	385
119	125	-	400
124	130	-	415
128	135	-	430
133	140	-	450
138	145	-	465
143	150	-	480
147	155	-	495
152	160	-	510
156	165	-	530
162	170	-	545
166	175	-	560
171	180	-	575
176	185	-	595
181	190	-	610
185	195	-	625
190	200	-	640
195	205	-	660
199	210	-	675
204	215	-	690
209	220	-	705
214	225	-	720
219	230	-	740
223	235	-	755
228	240	20	770
233	245	21	785
238	250	22	800
242	255	23	820
247	260	24	835
252	265	25	850
257	270	26	865
266	280	27	900

Hardness			Tensile strength
Brinell	Vickers	Rockwell	R_m
HB 30	HV	HRC	N/mm^2
271	285	28	915
280	295	29	950
285	300	30	965
295	310	31	995
304	320	32	1030
314	330	33	1060
323	340	34	1095
330	345	35	1115
335	355	36	1140
340	365	37	1150
352	370	38	1190
361	380	39	1220
371	390	40	1255
380	400	41	1290
390	410	42	1320
399	420	43	1350
409	430	44	1385
423	445	45	1450
437	460	46	1485
447	470	47	1520
456	480	48	1555
475	500	49	1630
485	510	50	1665
495	520	51	1700
515	545	52	1780
532	560	53	1845
551	580	54	1920
570	600	55	1995
580	610	56	2030
599	630	57	2105
620	650	58	2180
-	670	59	-
-	700	60	-
-	720	61	-
-	740	62	-
-	770	63	-
-	800	64	-
-	830	65	-
-	860	66	-
-	900	67	-
-	920	68	-

The above conversions are only valid for unalloyed and low-alloyed steels. Using the table for higher alloyed and / or cold reinforced grades the conversion is often not suitable. Conversion of hardness to tensile strength gives abnormalities and is therefore indicative.

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