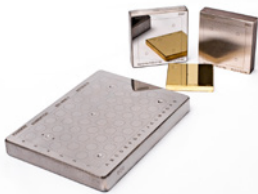


CONVERSION			CONVERSION				
HBW 5/750	Indentation diameter	HBW	HBW 10/1000	Indentation diameter	HBW 10/3000	Tensile T.S.I.	Tensile N/mm ²
601	1.25	100	200	2.5	601	132	2039
555	1.3	96.3	193	2.55	578	127	1961
514	1.35	92.6	185	2.6	555	122	1884
477	1.4	89	178	2.65	534	117	1807
444	1.45	85.7	171	2.7	514	112	1730
415	1.5	82.6	165	2.75	495	108	1668
388	1.55	79.6	159	2.8	477	105	1622
363	1.6	76.8	154	2.85	461	101	1560
341	1.65	74.1	148	2.9	444	98	1514
321	1.7	71.5	143	2.95	429	95	1467
302	1.75	69.1	138	3	415	92	1421
285	1.8	66.8	134	3.05	401	88	1359
269	1.85	64.6	129	3.1	388	85	1313
255	1.9	62.5	125	3.15	375	82	1266
241	1.95	60.5	121	3.2	363	80	1236
229	2	58.6	117	3.25	352	77	1189
217	2.05	56.8	114	3.3	341	75	1158
207	2.1	55.1	110	3.35	331	73	1127
197	2.15	53.4	107	3.4	321	71	1097
187	2.2	51.8	104	3.45	311	68	1050
179	2.25	50.3	101	3.5	302	66	1019
170	2.3	48.9	97.7	3.55	293	64	988
163	2.35	47.5	95	3.6	285	63	973
156	2.4	46.1	92.3	3.65	277	61	942
149	2.45	44.9	89.7	3.7	269	59	911
143	2.5	43.6	87.2	3.75	262	58	896
137	2.55	42.4	84.9	3.8	255	56	865
131	2.6	41.3	82.6	3.85	248	55	849
126	2.65	40.2	80.4	3.9	241	53	819
121	2.7	39.1	78.3	3.95	235	51	788
116	2.75	38.1	76.3	4	229	50	772
111	2.8	37.1	74.3	4.05	223	49	757
107	2.85	36.2	72.4	4.1	217	48	741
103	2.9	35.3	70.6	4.15	212	46	710
99.2	2.95	34.4	68.8	4.2	207	45	695
95.5	3	32.8	65.5	4.3	197	43	664
		31.2	62.4	4.4	187	41	633
		29.8	59.5	4.5	179	39	602
		28.4	56.8	4.6	170	38	587
		27.1	54.3	4.7	163	37	571
		25.9	51.9	4.8	156	36	556
		24.8	49.6	4.9	149	34	525
		23.8	47.5	5	143	33	510
		22.8	45.5	5.1	137	31	479
		21.8	43.7	5.2	131	30	463
		20.9	41.9	5.3	126	29	448
		20.1	40.2	5.4	121	28	432
		19.3	38.6	5.5	116	27	417
		18.6	37.1	5.6	111	26	402
		17.8	35.7	5.7	107	25	386
		17.2	34.3	5.8	103	24	371
		16.5	33.1	5.9	99.2		
		15.9	31.8	6	95.5		



**IMPORTANT:
READ NOTES
BEFORE USING**

FOUNDRA X

NOTES FOR USE OF FOUNDRA X BRINELL HARDNESS CONVERSION TABLES

Equivalents are approximate and must be used with caution

HBW 10/3000 means:

HBW	Hardness Brinell Wolfram (Tungsten Carbide)
Ball diameter	10
Test force	3000

The force is expressed in Newtons which have been converted from kgf. at $1\text{kg}=9.807\text{N}$.

The actual force used is 29 420N which is the same as 3000kgf and the figure 3000 is now known as the load symbol.

When testing at HBW5/750 note the indentation diameter and read off the HBW value in the column to the left.

When testing at HBW10/500, HBW10/1000 or HBW10/3000, note the indentation diameter and read off the HBW value in the appropriate column

It is important that the correct F/D^2 index (where F is the load symbol and D is the diameter of the ball indenter in mm) is used for any particular test

Ferrous metals use	$F/D^2 = 30$
Copper, copper Alloys, Aluminium Alloys use	$F/D^2 = 10$
Aluminium use	$F/D^2 = 5$

Examples of Load symbol and ball diameter ratios:

$f/D^2 = 30$. HBW10/3000 . HBW5/750 . HBW2/120

$f/D^2 = 10$. HBW10/1000 . HBW5/250

$f/D^2 = 5$. HBW10/500

The material being tested must be at least 8 times as thick as the depth of the Brinell indentation.

In order to achieve the most accurate results it is necessary to have as large as possible an indentation compatible with the material thickness and the engineering requirements of the component surface.

All Brinell hardness testing machines should be regularly checked using certified Brinell Reference blocks and all Brinell microscopes should be regularly checked using a range of certified Reference Indentations, which are available from Foundrax Engineering Products Ltd, and a Foundrax Stage Micrometer.