Metrix+™
Innovative Excellence

BARCOL IMPRESSOR

BIT 01P

For soft and hard Aluminium products

Measuring principle

A needle of specific size is hard pressed on to the sample, and the depth of penetration is measured to estimate the hardness of the sample. Barcol impressor is mainly useful in Aluminium processing industry. Formula: HBa=100-h/0.0076, h-indentation depth, 0.0076-constant, HBa-Barcol hardness.

Applications

This can be used to quickly measure the hardness of pure aluminium, soft and thick Al alloys, Al strip, Al section bars, Al castings and forgings, soft metals, copper, brass, rigid plastics and in fiber reinforced plastics(glass steel), non-reinforced hard plastics, etc.

Features

- Easy one-hand operation for quick measurements on site.
- Balance positioning doesn't require any other support for measurement.
- Avg/max and conversion to HW/HB/HRF/HV/HRH/HRB/HRE scales.
- Optional Data logging

Technical Specifications

Model	*Metrix+* BIT 01P
Standards	ASTM B648-10(2015), ASTM D2583-13, GB/T 3854-2005
Std Hardness scale	Hba
Range	0 ~ 100 Hba, approx. 25 ~ 135 HBW
Accuracy	42 ~ 48 Hba: ±2.5Hba 81 ~ 88 Hba: ±1.5Hba
Resolution	0.1Hba
Statistics	Avg and Max
Other Hardness Scales	HW/ HB/ HRF/ HV/ HRH/ HRB/ HRE
Dimensions	170 x 63 x 82mm
Weight	390g
Power Source	2 x 1.5V AAA batteries
Std accessories	Main unit, std block, pins, spanner, screwdriver, manual, case
Optional accessories	Data logging: PC interface (USB & software), Bluetooth

Conversion Table

Barcol	Brinell 10mm 500kg	Vickers 5kg	Webster W-20	Rockwell B	Rockwell E	Rockwell F	Rockwell H
35		21					32
36		22					35
37		23					37
38		24					40
39		25					42
40	25	26					45
41	25	27					47
42	26	28					49
43	27	29					51
44	27	30					54
45	28	30					56
46	29	31					58
47	30	32			23		60
48	30	33	0.7		26		62
49	31	34	1.3		28		64
50	32	35	1.9		31		66
51	33	36	2.5		34		68
52	34	38	3.1		36		70
53	35	39	3.6		39	30	72
54	37	40	4.2		41	34	73
55	38	41	4.7		44	37	75
56	39	43	5.3		46	40	77
57	40	44	5.8		48	43	78
58	42	45	6.3		50	46	80
59	43	47	6.8		53	48	82
60	45	49	7.3		55	51	83
61	46	50	7.8		57	54	85
62	48	52	8.3		59	56	86
63	50	54	8.8		61	59	88
64	51	56	9.2		63	61	89
65	53	58	9.7		65	63	90
66	55	60	10.1		67	66	92

Barcol	Brinell 10mm 500kg	Vickers 5kg	Webster W-20	Rockwell B	Rockwell E	Rockwell F	Rockwell H
67	57	62	10.6		69	68	93
68	60	65	11.0		71	70	94
69	62	67	11.4		73	72	95
70	64	70	11.8	17	75	74	97
71	67	72	12.2	23	76	75	98
72	69	75	12.6	28	78	77	99
73	72	78	12.9	33	80	79	100
74	75	81	13.3	38	81	80	101
75	78	85	13.7	42	83	82	102
76	80	88	14.0	47	84	83	103
77	84	92	14.3	51	86	85	104
78	87	95	14.7	55	87	86	105
79	90	99	15.0	59	89	88	106
80	94	103	15.3	63	90	89	106
81	97	108	15.6	66	91	90	107
82	101	112	15.9	70	92	91	108
83	105	117	16.2	73	94	92	109
84	109	121	16.4	76	95	93	109
85	113	126	16.7	79	96	94	110
86	117	131	16.9	81	97	95	111
87	121	137	17.2	84	98	96	111
88	126	142	17.4	86	99	97	112
89	130		17.6	88	100	98	112
90	135		17.8	90	101	98	113
91	140		18.0		102	99	114
92	145		18.2		103	100	
93			18.4		103	100	
94			18.6		104	101	
95			18.7		105	102	
96			18.9		106	102	
97			19.0		106	103	
98			19.2		107		
99			19.3		107		
100			19.4				

4.3 Sample Requirement

* The sample surface should be smooth, clean and without mechanical damage. The sample surface can be slightly polished to eliminate scratches or coatings.
* The specimen thickness should be not less than 1.5mm, and there should not be obvious deformation trace on the supporting surface after testing. Sample size should ensure that the minimum distance between the pin tip to any edge is not less than 3mm.
* Ensure that there are no previous test indentation left around 3mm of the current test point.
* In order to ensure the accuracy of the test, the pin must be perpendicular to the surface of the sample.
* Test samples should be placed stably. Small sample should be placed on a solid backing. (e.g., steel, glass, etc.)
* The sample should not be tilted, samples should not have any slide or elastic deformation in the process of testing.