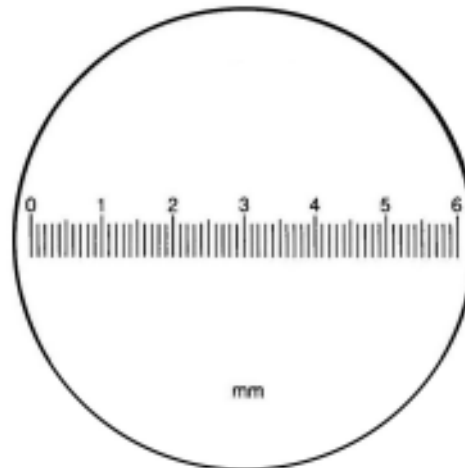


Model 35 450 Brinell Microscope Reader & Illuminator



*Model 35-450 Brinell Microscope Reader
Calibrated microscope for measuring
Brinell indentations in millimeters*



*The scale is calibrated in 0.1 mm units over a
range of 6 mm. The diameter of the
microscope field is 7mm.*

SPECIFICATIONS

1. Magnification 20X.
2. Reticle scale length 6.0 mm.
3. Scale divisions 0.1 mm.
4. Field diameter 7.1 mm.
5. Weight 7½ oz. (213 g).
6. Shipping weight 2 lbs. (907 g).
7. Height 47⁷/₈

WARRANTY & CALIBRATION SERVICE

Newage Testing Instruments, Inc. guarantees the workmanship and materials of this instrument for a period of one year from the date of purchase.

Newage offers a free calibration check service on the instruments. This offer covers only the calibration check and should not be construed as a replacement of parts or repairs. Return postage will be paid by the customer

DESCRIPTION

The Newage Model 35-450 Brinell Microscope Reader features a calibrated reticle in a flat field optical system. This instrument makes accurate measurements of the indentations for all Brinell type hardness testers.

The Model 35 450 is a compact, portable reader designed as an accessory for Brinell type testers. The illumination system features a MagLite® Solitaire™ flashlight. The flashlight uses one size AAA battery included with the instrument. This instrument is quality built and durable, making it suitable for both the shop and laboratory.

The reticle is calibrated in 0.1 mm units over a range of 6 mm and the field of vision is 7 mm. Measure the indentation at its largest diameter against the reticle scale. Use this measurement and convert to its Brinell Hardness Number (BHN) by using the chart on the back of this sheet.



BRINELL HARDNESS NUMBERS

Ball 10mm in diameter, Applied loads of 500, 1500, and 3000kgf

Diam. of Indentation mm	BRINELL HARDNESS NUMBER				(HRC/B)*	Diam. of Indentation mm	BRINELL HARDNESS NUMBER				(HRC/B)*
	500kgf Load	1500kgf Load	3000kgf Load				500kgf Load	1500kgf Load	3000kgf Load		
2.00	158	473	945			3.05	66.8	200	401	(43 HRC)	
2.05	150	450	899			3.10	64.6	194	388	(42 HRC)	
2.10	143	428	856			3.15	62.5	188	375	(40 HRC)	
2.15	136	408	817			3.20	60.5	182	363	(39 HRC)	
2.20	130	390	780			3.25	58.6	176	352	(38 HRC)	
2.25	124	372	745			3.30	56.8	170	341	(37 HRC)	
2.30	119	356	712	(63 HRC)		3.35	55.1	165	331	(35 HRC)	
2.35	114	341	682	(62 HRC)		3.40	53.4	160	321	(34 HRC)	
2.40	109	327	653	(60 HRC)		3.45	51.8	156	311	(33 HRC)	
2.45	104	313	627	(59 HRC)		3.50	50.3	151	302	(32 HRC)	
2.50	100	301	601	(57 HRC)		3.55	48.9	147	293	(31 HRC)	
2.55	96.3	289	578	(56 HRC)		3.60	47.5	142	285	(30 HRC)	
2.60	92.6	278	555	(55 HRC)		3.65	46.1	138	277	(29 HRC)	
2.65	89.0	267	534	(54 HRC)		3.70	44.9	135	269	(28 HRC)	
2.70	85.7	257	514	(52 HRC)		3.75	43.6	131	262	(27 HRC)	
2.75	82.6	248	495	(51 HRC)		3.80	42.4	127	255	(25 HRC)	
2.80	79.6	239	477	(50 HRC)		3.85	41.3	124	248	(24 HRC)	
2.85	76.8	230	461	(49 HRC)		3.90	40.2	121	241	(100 HRB)	
2.90	74.1	222	444	(47 HRC)		3.96	39.1	117	235	(99 HRB)	
2.95	71.5	215	429	(46 HRC)		4.00	38.1	114	229	(98 HRB)	
3.00	69.1	207	415	(45 HRC)		4.05	37.1	111	223	(97 HRB)	

This table is based on ASTM, A370 Table 3A and E10, Table 1. This table gives the approximate interrelationships of hardness values of steel. It is possible that steels of various compositions and processing histories will deviate in hardness relationship from the data presented in these tables. The data in this table should not be used for austenitic stainless steel, but have been shown to be applicable for ferrite and martensitic stainless steel. Where more precise conversions we required, they should be developed specially for each steel composition, heat treatment, and part

* Conversion to HRC or HRB is approximate. There is no general method for converting accurately Brinell hardness numbers to other hardness scales or tensile strength values. Such conversions are, at best, approximations and therefore should be avoided, except for special cases where a reliable basis for the approximate conversion has been obtained by comparison tests.

