

Yamamoto® Low Variation Test Blocks

Specification Sheet

SS-YHB-0309

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Newage Testing Instruments stocks a variety of Yamamoto test blocks for Rockwell, Brinell and Microhardness testing. Yamamoto hardness test blocks have less variation than other hardness blocks - as low as ± 0.1 HRC in the HRC 60 range. Each block is marked with the actual variation based on ten (10) tests. The 64mm diameter "TY" Rockwell blocks have twice the area of many competitive blocks so more tests can fit onto one block. The substantial thickness of the "TY" Rockwell blocks also prevent warping- sometimes a result of multiple indentations on a block. The additional thickness, combined with the highly parallel surface makes it possible to test with a standard anvil rather than a spot anvil.

Features

- Low Variation
- Rockwell, Brinell, and Vickers scales
- Applicable Standards Compliance
 - Rockwell (ASTM E-18)
 - Brinell (ASTM E-10)
 - Vickers (ASTM E-384)
- Calibrated Using Steel Indenters
- Select Blocks are NIST traceable (see table)

Notes:

Use the Model number and replace the "xx" with the desired scale when ordering.

Yamamoto Rockwell test blocks in scales using ball indenters are all calibrated using steel ball indenters, not tungsten carbide indenters. The most recent version of the ASTM standard for Rockwell hardness testing, E18-05, states tungsten carbide ball indenters are the default ball indenter type. Steel balls are permitted by prior agreement with the vendor/customer. Consequently, all Rockwell ball scale test blocks are specified for carbide or steel. Once a tester is calibrated using either a carbide or steel ball, the same type of indenter must be used during normal operation.

Specifications

Rockwell Blocks (64mm diameter)

Model	Scale	Nominal Hardness Values	Variation	NIST Traceable
TY-Axx	HRA	56, 65, 71, 75, 78, 81, 83, 85, 87	± 0.3	No
TY-Bxx ¹	HRB	32, 42, 52	± 0.5	No
TY-Bxx ¹	HRB	62, 72, 82, 90, 95, 100	± 0.4	No
TY-Cxx	HRC	10, 20, 25, 30, 35, 40	± 0.15	Yes
TY-Cxx	HRC	45, 50, 55, 60, 62, 64, 67, 70	± 0.1	Yes
TY-15Nxx	HR15N	75, 80, 85, 87, 90, 92	± 0.45	No
TY-30Nxx	HR30N	41, 50, 60, 67, 73, 78, 81, 83	± 0.45	No
TY-15Txx ¹	HR15T	78, 82, 87	± 0.5	No
TY-30Txx ¹	HR30T	32, 42, 52, 62, 72, 78	± 0.5	No
TY-Exx ¹	HRE	90	± 0.5	No
TY-Lxx ¹	HRL	92, 118	± 0.5	No
TY-Mxx ¹	HRM	67, 107	± 0.5	No
TY-Rxx ¹	HRR	105, 123	± 0.5	No

¹ Calibrated with steel ball indenter

Rockwell Blocks (51mm diameter)

Model	Scale	Nominal Hardness Values	Variation	NIST Traceable
TYN-Cxx	HRC	20, 25, 30, 35, 40, 45	± 0.15	No
TYN-Cxx	HRC	50, 55, 60, 62, 64, 67	± 0.1	No

Brinell Blocks (115mm diameter)

Model	Scale	Nominal Hardness Values	Variation	NIST Traceable
TY-HBxx*	HBW30	150, 180, 200, 229, 250, 300, 350, 400, 450, 500, 550, 600	$\pm 0.7\%$	No
TY-HB5xx**	HBW5	100, 125	$\pm 0.7\%$	No

* 3000 kg load, 10mm tungsten carbide ball

** 500 kg load, 10mm tungsten carbide ball

Micro Vickers Blocks (25mm diameter)

Model	Scale	Nominal Hardness Values	Variation	NIST Traceable
TY-HMVxx	HV	100, 200, 300, 400, 500, 600, 700, 800, 900	$\pm 2.5\%$	No

Calibrate at 1000g, 100g and 10 g

100-400 are non-ferrous blocks

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