

# Standard Blocks for Hardness

Based on Japanese Industrial Standards

**BEST QUALITY SAVES YOUR COST**

ROCKWELL  
ROCKWELL SUPERFICIAL  
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**YAMAMOTO SCIENTIFIC TOOL LABORATORY CO.,LTD.**  
**CHIBA JAPAN**

YSTL Home Page  
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# Hardness Standard Tools Ensure Reliability for Your Products.

Table 1 Specification of Standard blocks

Y.S.T.L.95

Assortment	Hardness value	Tolerance	Calibration number (n)	Variation (R=Max. -Min)	Materials (JIS notation)	Dimension (mm)	Finished surface	Standard based on
HR C	70 (SK2), 67, 64, 62, 60	±1	10 (5×2)	0.2	SKS 3	φ64×15	○	JIS B 7730
//	57, 55, 50, 45, 40, 35, 30, 25, 20, 10	//	//	(under RC40 0.3)	SK 5	//	○	//
HR B	100, 95, 90	±3	//	0.8	SK 5	φ64×10	△	//
//	82, 72, 62, 52, 42, 32,	//	//	(under RB50 1.0)	C2600P	//	△	//
HR A	87, 85, 83, 81, 78, 75, 71, 65, 56	±1	//	0.3	Same of HR C	φ64×15	○	//
HR 30 N	83, 81, 78, 73, 67, 60, 50, 41	±2	//	0.9	//	//	○	//
HR 15 N	92, 90, 87, 85, 80, 75	//	//	//	//	//	○	//
HR 30 T	78, 72, 62, 52, 42, 32	±2	//	1.0	Same of HR B	φ64×10	○	//
HR 15 T	87, 82, 78	//	//	//	//	//	○	//
HR (E-M-L-R)	HRE90 HRM107 HRL118 HRR123	//	//	//	(HV100)	//	○	JIS K 7202
//	HRM67 HRL92 HRR105	//	//	//	(HV40)	//	○	//
HS	100 (SK2), 95, 90, 80, 70, 60, 50, 40, 30	±2	HV10 (5×2)	R VHS ≤ 1.5 (HS70 under 1.2)	SK 5	φ64×15	○	JIS B 7731
//	20 (S20C), 7 (C1020P φ64×10)	2 //	HS10 (5×2)	ΔHS (VHS HS) ≤ 0.5	←	//	○	//
HL (Leeb)	HLE (Dia), 850, 800, 700, 600, 500	±15	(HV CALIBRATION)		SK 5	φ115×33	○	JIS B 7731
//	HLD (WC), 880, 830, 730, 620, 520	//			//	//	○	RELATED
HV (30, 1)	1000 (SK2), 900, 800, 700	±15	10 (5×2)/30, 10	1.5%	SKS 3	φ64×15	○	JIS B 7735
HV (10, 1)	600, 500, 400, 300, 200 (SK5), 150 (S45C)	//	6 (3×2)/1	//	←	φ25×10	○	//
//	100 (C2600P), 40 (C1020P)	±10	//	(HV150 under 2.2%)	←	φ64×10	○	//
HMV (1, 0.1, 0.01)	900, 800, 700, 600, 500,	±15	6 (3×2)	5%/0.1	SK 5	φ25×5	□	JIS B 7735
//	400, 300, 200 (Be Copper)	±15	//	//	C1720P	φ25×6(2)	□	//
//	100 (C2600P), 40 (C1020P)	±10	//	//	←	φ25×5	□	//
HMV (0.2, 0.05, 0.01)	30 (Gold)	±10	//	//	Au	φ25×6(2)	□	//
HBW (10 3000)	600, 550, 500, 450, 400, 350	±15	6 (3×2)	1.5%	SK 5	φ115×18	●	JIS B 7736
HB (10 3000)	300, 250, 229 (d=4mm), 200, 180	//	//	//	//	//	●	//
//	HB (10/3000)150, HB (10/500)125	//	//	2.5%	S45C	//	●	//
//	HB (10/500)100	//	//	3%	S10C	//	●	//

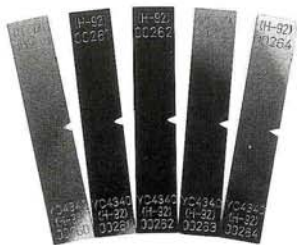
Finished test surface; ○ Buffing, △ plate lapping, □ Super finish, ● Fine grinding

New Test Blocks (N. T. B.) ※ (for Spot Anvil) ◇ Export only

HRC	67, 64, 62, 60	±1	6 (3×2)	φ50.8×6.4 (φ2"×1/4")	(ASTM E-18)
//	55, 50, 45, 40, 35, 30, 25, 20				

## Charpy V-Notch Test Blocks

In compliance with JIS B7740-1990  
 Feature: Extremely small irregularity in charpy absorption energy (CV: 3% or less)  
 Material: SNCM439.Q.T (complying with JIS test piece No. 4)  
 NK verification provided.



Type	Energy Level
Super High Energy	approx. 180 J
High Energy	approx. 100 J
Low Energy	approx. 30 J

5 pieces each energy levels per 1set

## Standard Micro Structure

Standard pieces of metal material micro-structures, and detailed explanations with photographs and videotapes.



- Group 1. Carbon steel, Cast iron
- Group 2. Alloy tool steel, High-speed tool steel
- Group 3. Structural alloy steel, steel for special use
- Group 4. Non-ferrous alloys
- Group 5. New materials
- Group 1~5 25 types each

- Group 6, Metallic surface modifications 25 types
- A.G.S ETCHING SET

Conforms to JIS G 0551  
 Etching set for revealing the prior Austenite Grainboundaries of Steels for structural use in machines.

## Hardnester

Standard File for Scratch Hardness  
 PAT. No. 196592

To measure metal hardness of various parts from steel materials to thin layers simply and sensitively.

Hardnester	Rockwell C Hardness Set	Vickers B Hardness Set	Vickers H6 Hardness Set
No. I	HR C 20	HV 200	HV 200-250
No. II	HR C 30	HV 300	HV 300-350
No. III	HR C 40	HV 400	HV 400-450
No. IV	HR C 50	HV 500	HV 500-550
No. V	HR C 55	HV 600	HV 600-650
No. VI	HR C 60	HV 700	HV 700-750
No. VII	HR C 65	HV 800	HV 800-850
No. VIII	HR C 67	HV 900	HV 900-950

with a spare contact measure for each hardness.

## Standard Piece for Spark Test

Based on Japanese Industrial standard JIS G 0566-1980  
 Clearly identifies the species of JIS iron and steel materials.  
 Designed for educational or field use for machine assembly and heat treatment processes.



**YAMAMOTO SCIENTIFIC TOOL LABORATORY CO.,LTD.**

2-15-4, Sakae-cho, Funabashi-shi, Chiba Pref., 273 Japan Tel. (0474)31-7451  
 Cable: YAMAMOTO SCILABO FAX:(0474)32-8592