



Certificate of Accreditation

IAJapan hereby accredits the following conformity assessment body as a calibration laboratory of Japan Calibration Service System (JCSS).

Accreditation Identification: JCSS 0149 Calibration

Name of Conformity Assessment Body:

Calibration Center, Yamamoto Scientific Tool Laboratory Co., Ltd.

Name of Legal Entity:

Yamamoto Scientific Tool Laboratory Co., Ltd.

Location of Conformity Assessment Body:

2-15-4, Sakae-cho, Funabashi, Chiba 273-0018, Japan

Scope of Accreditation:

Hardness (as attached)

Accreditation Requirement:

ISO/IEC 170<mark>25: 2</mark>017

Accreditation Requirements in the Section 6 of Accreditation Scheme (JCSS) 2nd Edition

Effective Date of Accreditation: 2020-03-23 Expiry Date of Accreditation: 2024-03-22 (Date of Initial Accreditation: 2009-01-19)

YAMAMOTO Kenichi

Chief Executive, IAJapan National Institute of Technology and Evaluation

⁻ International Accreditation Japan (IAJapan) is a laboratory accreditation body which has signed MRAs of ILAC (International Laboratory Accreditation Cooperation) and APAC (Asia Pacific Accreditation Cooperation).

⁻ MRA requirements are, in addition to relevant international standards and guides, requirements for participation in proficiency testing programs, surveillance and reassessment, and the policy for the traceability of measurement for MRA purpose.

⁻ This laboratory fulfills ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. This accreditation means this laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

⁻This accreditation information is the information as of the effective date of accreditation. The latest accreditation information can be found on the IAJapan website.

General Field of Calibration: Hardness

Date of Initial Accreditation of the Field: 2009-01-29

<u>Laboratory's permanent facility/On-site Calibration: Laboratory's permanent facility</u>

Calibration and Measurement Capabilities

Calibration Procedures# and Type of Instruments/Materials to be calibrated		Range	Expanded Uncertainty (Level of Confidence Approximately 95 %)
Rockwell	Rockwell Hardness	From 20 HRC up to 25 HRC	0.49 HRC
Hardness	Standard Block	More than 25 HRC less than 35 HRC	0.51 HRC
Testing Machines etc			
Machines, etc.	*	From 35 HRC up to 45 HRC	0.50 HRC
		More than 45 HRC less than 55 HRC	0.43 HRC
		From 55 HRC up to 65 HRC	0.35 HRC
Vickers Hardness Testing	Vickers Hardness Standard Block	From 85 HV up to 1050 HV	a) d < 190 μm 0.142+(410 / d) % b) d≧ 190 μm
Machines, etc.	-	Test force	2.3 %
		From 0.09807 N up to 490.4 N	Where: d is the length of a
		(From HV 0.01 up to HV 50)	diagonal line of the indentation
Brinell	Brinell Hardness	100 HBW 10/3000	1.7 %
Hardness Testing	Standard Block	150 HBW 10/3000	1.6 %
Machines, etc.		180 HBW 10/3000	1.6 %
		200 HBW 10/3000	1.6 %
		229 HBW 10/3000	1.3 %
		250 HBW 10/3000	1.3 %
		300 HBW 10/3000	1.3 %
		350 HBW 10/3000	1.3 %
		400 HBW 10/3000	1.3 %
		450 HBW 10/3000	1.3 %
		500 HBW 10/3000	1.3 %
		550 HBW 10/3000	1.3 %
		600 HBW 10/3000	1.3 %
		650 HBW 10/3000	1.3 %
		50 HBW 10/1500	1.7 %
		100 HBW 10/1500	1.6 %
		150 HBW 10/1500	1.6 %

9		200 HBW 10/1500	1.5 %
		250 HBW 10/1500	1.3 %
		300 HBW 10/1500	1.3 %
		50 HBW 10/1000	1.6 %
		100 HBW 10/1000	1.6 %
		150 HBW 10/1000	1.5 %
		200 HBW 10/1000	1.5 %
6		50 HBW 10/500	1.6 %
		100 HBW 10/500	1.5 %
		100 HBW 5/750	1.7 %
		150 HBW 5/750	1.6 %
		180 HBW 5/750	1.6 %
		200 HBW 5/750	1.6 %
		229 HBW 5/750	1.3 %
		250 HBW 5/750	1.3 %
		300 HBW 5/750	1.3 %
F		350 HBW 5/750	1.3 %
		400 HBW 5/750	1.3 %
		450 HBW 5/750	1.3 %
		500 HBW 5/750	1.3 %
	×	550 HBW 5/750	1.3 %
		600 HBW 5/750	1.3 %
		650 HBW 5/750	1.3 %

[#]All Calibration Procedures are in-house procedures developed by this laboratory.