



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

CHUN YU WORKS & CO., LTD.
QUALITY ASSURANCE DEPARTMENT TESTING LABORATORY
100, Ta-Pao St. Kangshan Kaohsiung
Taiwan, R.O.C.
S.H. Lai Phone: 011 886 7 622 4111
Fax: 011 886 7 623 6721

MECHANICAL

Valid To: April 30, 2012

Certificate Number: 0877.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following fastener tests:

<u>Test</u>	<u>Test Methods</u>
Hardness (Rockwell: HRC, HRB, 30N, 30T, HB)	ASTM E18, F606, F606M; ISO 898-1, -2; SAE J429
Microhardness (Vickers)	ASTM E384; ISO 898-1, -2; SAE J78, J933
Retemper Hardness (HRB, HV)	ASTM A194, A194M; ISO 898-1
Tensile (axial full size & wedge full size)	ASTM E8, E8M, F606, F606M; ISO 898-1; SAE J429
Reduction of Area	ASTM E8, E8M, F606, F606M
Elongation	ISO 898-1
Torque Tension	ASTM A490, F1852, F2280; JIS B1186, JSSII 09; GB/T 1231, GB/T 3632
Proof (internally & externally threaded)	ASTM A563, F606, F606M; ISO 898-1, -2; SAE J429, J995
Rotational Capacity (zinc plated product)	ASTM A325, A325M
Plating and Coating Thickness	
Optical	ASTM B487
Magnetic	ASTM B499
X-ray (Zn/ Fe)	ASTM B568

<u>Test</u>	<u>Test Methods</u>
Metallographic Evaluation: Microetch/ Macroetch	ASTM E3, E340, E381, E407
Depth of Decarburization (hardness and microscopic method)	ASTM A574, A574M, F835, F835M; ISO 898-1; SAE J121, J121M
Discontinuities	ASTM A574, A574M, F788, F788M, F812, F812M, F835, F835M; ISO 6157-1, -2, -3
Salt Spray	ASTM B117
Optical Emission Spectrometry	ASTM E415
Magnetic Particle Inspection	ASTM A490, E709, F2280

I. Dimensional Testing

Parameter	Range	CMC* (±)	Technique	Standards
Angle	(0 to 360) °	2'	Optical comparator	N/A
		1'	2D Profile	
Radii	(0 to 2) in	0.002mm	2D Profile	N/A
Head Height	(0 to 25) mm	0.02mm	Micrometer	JIS B1071
	(0 to 20) mm	0.02mm	Dial Indicator	
External Threads – Functional Diameter	M5 to M27	N/A	Thread Plug Gage	ISO 1502, ANSI/ASME B 1.2
	(¼ to 1½) in	N/A	Go / No Go	
	M6 to M12	0.005 mm	Thread three roller gage	N/A
Internal Threads – Functional Diameter	M5 to 24	N/A	Thread Plug Gage	ISO 1502, ANSI/ASME B 1.2
	(¼ to 1½) in	N/A	Go / No Go	

Parameter	Range	CMC* (\pm)	Technique	Standards
Length	(0 to 150) mm	0.03 mm	Caliper	JIS B1071
	(0-300) mm	0.10 mm	Caliper	
Diameter	(0 to 25) mm	0.003 mm	Micrometer	
	(25 to 50) mm	0.01 mm	Micrometer	
Linear (X, Y)	(0 to 100) mm	0.004 mm	Optical Comparator	JIS B1071
	(0 to 100) mm	0.004mm	2D Optical Profiler	
Recesses (socket)	M5 to M24 #10 to 1"	N/A	Go/No-go gages	ASME/ANSI B18.3.1M, ASME B18.3

*Calibration and Measurement Capability (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine measurements of nearly ideal measurement standards or nearly ideal measuring equipment. Calibration and Measurement Capabilities represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The actual measurement uncertainty of a specific measurement performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific measurement.



The American Association for Laboratory Accreditation

World Class Accreditation

Accredited Laboratory

A2LA has accredited

CHUN YU WORKS & CO., LTD.

QUALITY ASSURANCE DEPARTMENT TESTING LABORATORY

Kaohsiung, Taiwan, R.O.C.

for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General Requirements for the Competence of Testing and Calibration Laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009*).

Presented this 8th day of June 2010.





President & CEO

For the Accreditation Council
Certificate Number 0877.01
Valid to April 30, 2012

For the tests or types of tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.