



CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

Torque & Tension Laboratory and Consulting
2121 Diehl Road, Suite 131
Aurora, IL 60502

Fulfills the requirements of

ISO/IEC 17025:2017

In the field of

TESTING

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

A handwritten signature in black ink, appearing to be 'Jason Stine', is positioned above a horizontal line.

Jason Stine, Vice President

Expiry Date: 08 May 2024

Certificate Number: AT-1662



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
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 April 2017).

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

Torque & Tension Laboratory and Consulting

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www.aztechlocknut.com

TESTING

Valid to: **May 8, 2024**

Certificate Number: **AT-1662**

Mechanical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Hardness (Rockwell B,C,F, 15N,30N)	ASTM E18, F606 ASME B18.16.1M NASM 1312-6 SAE J417	Fasteners	Rockwell Hardness Tester
Micro-Hardness	ASTM E384, E3 SAE J423	Fasteners	Micro-Hardness Tester
Proof Load	ASTM F606, F606M ASME B18.16M IFI 100/107 2002 & 2007 SAE J995 ISO 2320	Fasteners	Skidmore - Wilhelm Tester (7 500 to 300 000) lb
Clamp Load	ASTM F606, F606M ASME B18.16M ASME B18.16.6 IFI 100/107 SAE J995	Fasteners	Skidmore - Wilhelm Tester Torque Tester (7 500 to 300 000) lb
Prevailing Torque Strength	ASME B18.16M DIN 267 PT 15 IFI 100/107 ISO 2320	Fasteners	Automated Torque Tester Hand Torque Wrenches (0 to 2 200) ft-lb
Torque Tension	IFI 101	Fasteners	Automated Torque Tester Hand Torque Wrenches (0 to 2 200) ft-lb

Mechanical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Torsional Strength	ASME B18.6.3 Sec 4.11.3, DIN 7513 Sec 5.2.2, DIN EN ISO 2702 Sec 6.2.2	Fasteners	Hand Torque Wrenches (0 to 2 200) ft-lb
Plating Thickness/Coverage	ASTM B568, B487	Fasteners	Fischer X-Ray Visual Inspection

Dimensional Testing

Parameter	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
1D Dimensional Nuts Internal Thread	(40-40) UN to (3-12 & 3-4.5) UN M3 x 0.5 to M33 x 3.50	Tactile Fit (Nuts)	Internal procedures based on IFI Standards, Go – No Go Threaded Plug Gages
1D Dimensional Minor Diameter Nuts Internal	0.133 6 in to 1.16 in	Tactile Fit (Nuts)	Internal procedures based on IFI Standards, Go – No Go Cylindrical Plug Gages

Dimensional Measurement – 1 D

Parameter	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
1D Dimensional Length	Up to 6 in (Up to 152 mm)	0.0029 in (0.0736 mm)	Internal procedures based on IFI Standards, Dial or Digital Caliper
1D Dimensional Length	Up to 4 in (Up to 100 mm)	0.0035 in (0.089 mm)	Internal procedures based on IFI Standards, Digital Height Gage
1D Dimensional Angularity	(0 to 0.06 inch) (0 to 1.5 mm)	0.0052 in (0.132 mm)	Internal procedures based on IFI Standards, Dial Indicator
Surface Roughness	(13.5 to 119.6) μ in	10.2 μ in (0.26 μ m)	Internal procedures based on IFI Standards, Surface Roughness Tester

Dimensional Measurement – 2 D

Parameter	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
2D Dimensional Radius	Up to 1.75 in (Up to 44 mm)	0.005 in (0.127 mm)	Keyence 2D Image Measuring System
2D Dimensional Length – x Length - y	Up to 7.48 in X (Up to 190 mm) Up to 3.54” Y (89.9mm)	0.0045 in (0.1143 mm)	Keyence 2D Image Measuring System
2D Dimensional Concentricity	Up to 4 in (Up to 102 mm)	0.0076 in (0.193 mm)	Keyence 2D Image Measuring System
2D Dimensional Angle	(0 to 360) degree	1.49 Degrees	Keyence 2D Image Measuring System

Notes:

1. This scope is formatted as part of a single document including Certificate of Accreditation No. AT-1662.
2. Calibration and Measurement Capabilities (Expanded Uncertainties) are based on approximately a 95% confidence interval using a coverage of k=2.



Jason Stine, Vice President

