

# Accredited Laboratory

A2LA has accredited

## EXOTIC FASTENERS INC.

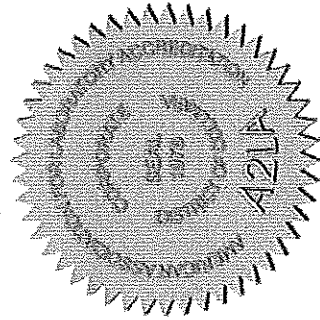
Roseville, MI

for technical competence in the field of

### Mechanical Testing

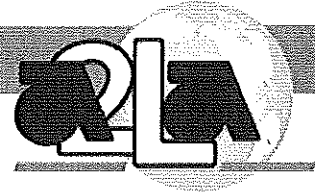
This laboratory is accredited in accordance with the recognized international Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).

Presented this 24<sup>th</sup> day of March 2016.



Senior Director of Quality and Communications  
For the Accreditation Council  
Certificate Number 0925.01  
Valid to April 30, 2018

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



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

EXOTIC FASTENERS INC.  
 15281 12 Mile Road  
 Roseville, MI 48066  
 Steve Lane Phone: 586 772 8180  
 steve.lane@exoticfasteners.com

MECHANICAL

Valid To: April 30, 2018

Certificate Number: 0925.01

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

<u>Test</u>	<u>Test Methods</u>
Hardness (Rockwell & Superficial B, C, 15N, 30N)	ASME B18.6.3; ASTM E18; Chrysler MS-4515; Ford ES21004-S100, ESS-M1A170B; ISO 6508-1, 898-1; SAE J417, J429; WD 950, WD 952
Tensile (Axial & Wedge) (6°, 10° & 45°)	ASME B18.6.3; ASTM F606, F606M; Chrysler MS-4515; FMVSS 209 (5.2, C.1); ISO 898-1, 6892; JIS B1051; SAE J429
Proof (Externally Threaded, Length Method)	ASTM F606, F606M; ISO 898-1 (8.5); JIS B1051 (8.5); SAE J429 (6.4)
Discontinuities	ASTM F788 / F788M; ISO 6157-1; SAE J123, J1199
Stress Durability (Hydrogen Embrittlement)	ASME B18.6.3; Ford ES21003-S100; SAE J1237
Torsional Strength	ASME B18.6.3; ASTM F738; Ford WD 950
Ductility	ASME B18.6.3; Ford ES21003-S100, ES21004-S100; SAE J1237
Drive Torque	ASME B18.6.3; Ford ES21004-S100; SAE J1237

(A2LA Cert. No. 0925.01) 03/24/2016

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*Note: The laboratory is only accredited for the test methods listed above. The accredited test methods are used in determining compliance with the material specifications listed below. The inclusion of these material specifications on this Scope does not confer laboratory accreditation to the material specifications nor does it confer accreditation for the method(s) embedded within the specifications.*

<u>Test</u>	<u>Material Specification(s)</u>
Hardness (Rockwell & Superficial 15N, 30N, C, B)	GM275M, 280M, 6171M, 6202M
Tensile (Wedge) (6° to 45°)	GM275M, 280M, 500M, 6171M
Proof (Externally Threaded)	GM275M, 280M, 500M, 6202M
Discontinuities	GM275M, 280M, 500M, 6102M; PF5188
Stress Durability (Hydrogen Embrittlement)	GM6010M, 6202M
Torsional Strength	GM6010M, 6202M
Ductility	GM6010M, 6171M, 6202M
Drive Torque	GM6010M, 6171M, 6202M

I. Dimensional Testing<sup>1</sup>

Parameter	Range	CMC <sup>2</sup> (±)	Technique / Method
Thread Pitch Diameter <sup>3</sup>	M5 to M14 ( <sup>1</sup> / <sub>4</sub> to <sup>9</sup> / <sub>16</sub> ) in	N/A	Pitch Micrometer / ASME B1.3M, B18.6.4; ISO 1502
Functional Thread Diameter <sup>3</sup>	M5 to M14 ( <sup>1</sup> / <sub>4</sub> to <sup>9</sup> / <sub>16</sub> ) in	N/A	Go/ No Go/ ASME B1.3M, B18.6.4; ISO 1502
Linear <sup>3</sup> Length <sup>3</sup> (1D)	Up to 2 in	0.0005 in	Micrometer / MIL-STD-120
	Up to 6 in	0.0005 in	Caliper / MIL-STD-120
	Up to 1 in	0.0005 in	Indicator / MIL-STD-120
	Up to 1 in	0.0001 in	Tri-micrometer/ MIL-STD-120
Angle <sup>3</sup>	0° to 360°	1°	Comparator / MIL-STD-120
Radii <sup>3</sup>	Up to 1 in	0.001 in	Comparator / MIL-STD-120
Recesses Depth <sup>3</sup>	Up to 0.3 in	0.0005 in	Penetration gage / ASME B18.6.4, B18.6.3
Head Height <sup>3</sup>	Up to 1 in	0.0005 in	Indicator / ASME B18.6.4, B18.6.3

<sup>1</sup> This laboratory does not offer commercial dimensional testing services.

<sup>2</sup> 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.

<sup>3</sup> This test is not equivalent to that of a calibration.

