



THE AMERICAN ASSOCIATION FOR
LABORATORY ACCREDITATION

ACCREDITED LABORATORY

A2LA has accredited

MIDWEST TESTING LABORATORIES, INC.
Troy, 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 January 2009*).



Presented this 27th day of February 2009.

Peter Abney

President

For the Accreditation Council

Certificate Number 1981.02

Valid to September 30, 2010

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

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

MIDWEST TESTING LABORATORIES, INC.
1072 Wheaton Street
Troy, MI 48083
Cherie Ulatowski Phone: 248 689 9262

MECHANICAL

Valid To: September 30, 2010

Certificate Number: 1981.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on safety equipment, aircraft and automotive components, coatings, fasteners, metals and alloys (including titanium):

<u>Test</u>	<u>Test Method(s)</u>
<u>Safety Equipment</u>	
Personal Fall Arrest Systems	ANSI Z359.1-2007; CAN/CSA Z259.12-01; CSA: Z259.2.1-98 (R2004), Z259.10-M90 (R2003), Z259.11-05
Safety Belts	ANSI A10.14-1991
Personal Climbing Equipment	ASTM F887-05
<u>Mechanical</u>	
Ductility	
Bend	ASTM E190
Flaring	Customer Specification
Proof Load	
External	ASTM: A370, F606, F606M; SAE: J429, J1216
Internal	ASTM: A370, F606, F606M; SAE: J995, J1216
Tensile	ASTM: A370, E8
n-value	ASTM E646
r-ratio	ASTM E517
Axial/Wedge	ASTM: A370, F606, F606M; SAE: J82, J429, J1216
Compression	Customer Specification
Webbing	FEDSTD 191A, Test Method 4108

<u>Test</u>	<u>Test Method(s)</u>
<u>Mechanical (cont'd)</u>	
Hardness	
Rockwell (A, B, C, 15N, 30N, 30T)	ASTM: E18, E140; SAE J429
Brinell	ASTM E10; SAE J417
Microhardness (Knoop)	ASTM E384; SAE J121
Plating Adhesion	ASTM B571; GMW 14829; SAE J207
Hydrogen Embrittlement	USCAR 5 and 7
STEP Test	ASTM B764
<u>Metallographic</u>	
Case Depth/Decarburization/ Depth of Decarburization	ASTM: A574, A574M, E1077; SAE: J78, J121, J121M, J419, J423, J429
Discontinuities	
Surface External Threaded	ASTM: A490, A574, A574M, F788, F788M, F835, F835M, F912, F912M; SAE: J123, J1061
Surface Internal Threaded	ASTM: F812, F812M; SAE J122
Grain Size	ASTM: E112, E930, E1181; SAE J418
Inclusion Content	ASTM E45 (Method A, C)
Macroetching	ASTM E340
Microetching	ASTM E407
Plating Thickness	ASTM: B487, B764; ISO: 1463, 2177
Preparation	ASTM E3
Fusion and Spot Weld Evaluation	Customer Specification
Oxalic Intergranular Susceptibility	ASTM A262 (Practice A)
White Layer (Microstructure)	Customer Specification; ASM METALS HANDBOOK
Failure Analysis	ASM METALS HANDBOOK
Coating Weight	ASTM A90
Chip Resistance	ASTM D3170; FLTM BI 157-05; GM 9508P; GMW 14700 (Method B/C); SAE J400
<u>Environmental Simulation</u> ¹	
Cure (Solvent Rub)	GM 9509P
Corrosion Resistance (Creepback)	GM: 4350M, 9102P

<u>Test</u>	<u>Test Method(s)</u>
<u>Environmental Simulation (cont'd)</u> ¹	
Humidity	ASTM: D1735, D2247; GM 4465P
Salt Spray	ASTM B117; GM 4298P; GMW 3286; ISO 9227
CASS	ASTM B368; DIN 50021/53167; GMW 14458
Discontinuous Chrome	ASTM B456
Water Immersion	FLTM BI 104-01
Water Immersion/Adhesion	FLTM BI 104-04
Corrosion (including Cyclic)	ASTM: B456, D2933-84; FLTM BI 123-03; GM: 9505P, 9511P, 9540P (modified 30 – 70%); GMW: 14668, 14872; HES D2021*; NES M0007 (automated); SAE: J1563, J2334 (automated)
Dime Scrape	GM 9506P
Filiform Corrosion	ASTM: D2803, D3322; FLTM BI 124-01
Gloss	ASTM D523
Pencil Hardness	ASTM D3363; FLTM BI 151-01
Thumbnail Hardness	GM 9507P
Car Wash Simulation Test	GM 9600P
SWAAT (Sea Water Acetic Acid Test)	ASTM G85 (A3)*; GMW 14193*; PNAR.00682
Mar Resistance	ASTM: D2197, D5178; GM 9105P
Flammability	FMVSS 302; GM 9070P
Tape Adhesion	FLTM BI 106-01; GM 9502P
Mandrel Bend	GM 9503P
Gasoline Drip/Puddle	GM: 9500P, 9501P
Oil Resistance	GM – Appendix B

¹ Environmental testing can be performed in a temperature range of -65 °C to 1,200 °C and a humidity range of 20% to 100%.

* Portions of test methods only related to test technologies listed.