



**SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005**

**Midwest Testing Laboratories, INC**

1072 Wheaton Street, Troy, MI 48083  
 Cherie Ulatowski Phone: 248-689-9262

**TESTING**

Valid to: December 23, 2012

Certificate Number: AT – 1503

<b>FIELD OF TEST</b>	<b>ITEMS, MATERIALS OR PRODUCTS TESTED</b>	<b>SPECIFIC TESTS OR PROPERTIES MEASURED</b>	<b>SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED</b>	<b>*DETECTION LIMIT/ RANGE/ EQUIPMENT</b>
Mechanical	Fall Protection Devices, Materials and Components	Dynamic Performance Static Strength Activation Force Arrest Force Arrest Distance Elongation	ANSI Z359.1 ANSI Z359.13 ANSI Z359.12 ANSI A10.32 ANSI A14.3 CAN/CSA Z259.12 CSA Z259.2.1 CSA Z259.10 CSA Z259.11 OSHA 1926.502 (D) OSHA 1910.66 App C OSHA 1910.27 OSHA 1926.502	Certified Drop Tower Mechanical Release Mechanism Load Cell and Data Acquisition System Test Lanyards Test Dummy Test Weights Protractor / Angle Meter Winch
Mechanical	Safety Belts	Dynamic Performance Static Strength	ANSI A10.14	Certified Drop Tower Mechanical Release Mechanism Load Cell and Data Acquisition System Test Lanyards Test Dummy Test Weights Protractor / Angle Meter Winch



<b>FIELD OF TEST</b>	<b>ITEMS, MATERIALS OR PRODUCTS TESTED</b>	<b>SPECIFIC TESTS OR PROPERTIES MEASURED</b>	<b>SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED</b>	<b>*DETECTION LIMIT/ RANGE/ EQUIPMENT</b>
Mechanical	Personal Climbing Equipment	Dynamic Performance Static Strength	ASTM F887	Certified Drop Tower Mechanical Release Mechanism Load Cell and Data Acquisition System Test Lanyards Test Dummy Test Weights Protractor / Angle Meter Winch
Mechanical	Metal	Ductility	Customer Specification	Fixtures Tinius Olsen
Mechanical	Metal	Bend	ASTM E190	Fixtures Tinius Olsen
Mechanical	Metal	Flaring	Customer Specification	Tinius Olsen
Mechanical	Metal	Proof Load External Internal	ASTM A370, F606, F606M, SAE J429, J1216, J995	Fixtures Tinius Olsen
Mechanical	Metal	Tensile	ASTM A370, E8	Fixtures Extensometer Tinius Olsen
Mechanical	Metal	n-value	ASTM E646	Fixtures Extensometer Tinius Olsen
Mechanical	Metal	r-ratio	ASTM E517	Fixtures Extensometer Tinius Olsen
Mechanical	Metal	Axial/Wedge	ASTM A370, F606, F606M, SAE J82, J429, J1216	Fixtures Tinius Olsen
Mechanical	Webbing	Tensile	FEDSTD 191A, Test Method 4108	Fixtures Tinius Olsen
Mechanical	Metal	Hardness Rockwell (A,B,C,15N, 30N,30T)	ASTM E18, E140, SAE429	Rockwell Hardness tester

<b>FIELD OF TEST</b>	<b>ITEMS, MATERIALS OR PRODUCTS TESTED</b>	<b>SPECIFIC TESTS OR PROPERTIES MEASURED</b>	<b>SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED</b>	<b>*DETECTION LIMIT/ RANGE/ EQUIPMENT</b>
Mechanical	Metal	Hardness Brinell	ASTM E10 SAE J417	Birnell hardness tester
Mechanical	Metal	Hardness Microhardness	ASTM E384 SAE J121	Microhardness Tester
Mechanical	Metal	Plating Adhesion	ASTM B571 GMW 14829 SAE J207	Grind saw Hack saw
Mechanical	Metal	Hydrogen Embrittlement	USCAR 5 and 7	Torque wrench
Mechanical	Plating	STEP Test	ASTM B764	Kocour
Metallographic	Metal	Case Depth/ Decarburization/ Depth of	ASTM A574, A574M, E1077 SAE J78, J121, J121M, J419, J423, J429	Microhardness tester
Metallographic	Metal	Discontinuities Surface external threaded Surface internal threaded	ASTM A490, A574, A574M, F788, F788M, F835, F835M, F912, F912M, SAE J123, J1061 ASTM F812, F812M, SAE J122	Microscope Measuring device and software
Metallographic	Metal	Grain Size	ASTM E112, E930, E1181, SAE J418	Microscope
Metallographic	Metal	Inclusion Content	ASTM E45 (Method A, C)	Microscope
Metallographic	Metal	Macroetching	ASTM E340	Etchant Microscope
Metallographic	Metal	Microetching	ASTM E407	Etchant Microscope
Metallographic	Metal	Plating Thickness	ASTM B487, B764, B504, B556, GMW 14829, ISO 1463, 2177	Microscope



<b>FIELD OF TEST</b>	<b>ITEMS, MATERIALS OR PRODUCTS TESTED</b>	<b>SPECIFIC TESTS OR PROPERTIES MEASURED</b>	<b>SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED</b>	<b>*DETECTION LIMIT/ RANGE/ EQUIPMENT</b>
Metallographic	Metal	Preparation	ASTM E3	Polishing Wheels Polishing paste
Metallographic	Metal	Fusion and Spot Weld Evaluation	Customer Specification	Etchant
Metallographic	Metal	Oxalic Intergranular Susceptibility	ASTM A262 (Practice A)	Microscope
Metallographic	Metal	White Layer(microstructure)	Customer Specification; ASTM METALS HANDBOOK	Microscope
Metallographic	Metal	Failure Analysis	ASTM METALS HANBOOK	Microscope
Metallographic	Metal	Coating Weight	ASTM A90	Balance Chemicals Ruler
Mechanical Environmental	Coatings	Chip Resistance	ASTM D310, FLTM BI 157-05; GM 9508P, GMW 14700 (METHOD B/C), SAE J400	Gravelometer
Mechanical Environmental	Coatings	Cure (Solvent Rub)	GM 9509P	M.E.K or different solvent Cheese cloth
Mechanical Environmental	Coatings	Corrosion Resistance (Creepback)	GM 4350M, 9102P	Chambers, scribe tool
Mechanical Environmental	Coatings	Controlled Atmospheres	DIN 50014	Hotpack Oven
Mechanical Environmental	Coatings	Humidity	ASTM D2247, D1735, GM 4465P; DIN EN ISO 6270-2, DIN 50017	Chambers

<b>FIELD OF TEST</b>	<b>ITEMS, MATERIALS OR PRODUCTS TESTED</b>	<b>SPECIFIC TESTS OR PROPERTIES MEASURED</b>	<b>SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED</b>	<b>*DETECTION LIMIT/ RANGE/ EQUIPMENT</b>
Mechanical Environmental	Coatings	NES Methods of Compound Corrosion	NES M0140 NES M0007	Chambers
Mechanical Environmental	Coatings	Salt Spray	ASTM B117, GM 4298P, GMW 3286, ISO 9227, DIN 50021, FMVSS209, FORD BI 103-01, NISSAN M0140	Chambers
Mechanical Environmental	Coatings	CASS	ASTM B368 DIN 50021/53167 GMW 14458	Chambers
Mechanical Environmental	Coatings	Discontinuous Chrome	ASTM B456	Chambers, microscope
Mechanical Environmental	Coatings	Water Immersion	FLTM BI 104-01	Aquariums, pumps, bubblers, thermometers, heaters
Mechanical Environmental	Coatings	Water Immersion/Adhesion	FLTM BI 104-04	Aquariums, pumps, bubblers, thermometers, heaters
Mechanical Environmental	Coatings	Corrosion (including Cyclic)	ASTM B456, D2933-84, G85(A5), FLTM BI 123-03, GM 9505P, 9511P, 9540P, GMW 14668, 14872, HES D2021***, NES 0007(automated), SAE J1563, J2334, Ford DVM-0042-SM	Chambers
Mechanical Environmental	Coatings	Temperature Cycle	GMW 14668 DVM-0008-RG	Chambers
Mechanical Environmental	Coatings	Temperature Humidity	Chrysler – LP-463PB-22-01	Chambers



<b>FIELD OF TEST</b>	<b>ITEMS, MATERIALS OR PRODUCTS TESTED</b>	<b>SPECIFIC TESTS OR PROPERTIES MEASURED</b>	<b>SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED</b>	<b>*DETECTION LIMIT/ RANGE/ EQUIPMENT</b>
Mechanical Environmental	Coatings	Corrodokote	ASTM B380; FORD BQ-004-01	Chambers, scribe tool
Mechanical Environmental	Coatings	Filiform Corrosion	ASTM D2803, D3322, FLTM BI 124-01	Chambers, ruler
Mechanical Environmental	Coatings	Gloss	ASTM D523 GM 9506P	Gloss meter
Mechanical Environmental	Coatings	Pencil Hardness	ASTM D3363 FLTM BI 151-01	Hardness pencils
Mechanical Environmental	Coatings	Thumbnail Hardness	GM 9507P	Thumbnail
Mechanical Environmental	Coatings	Car Wash Simulation Test	GM 9600P	Car wash brush tester
Mechanical Environmental	Coatings	SWAAT (Sea Water Acetic Acid Test)	ASTM G85*** GMW 14193*** PNAR.00682	Chambers
Mechanical Environmental	Coatings	Mar Resistance	ASTM D2197, D5178 GMW 9105P	Chambers
Mechanical Environmental	Coatings	Flammability	FMVSS 302 GM 9070P	Flammability chamber
Mechanical Environmental	Coatings	Tape Adhesion	FLTM BI 106-01 GM 9502P GMW 14829 ASTM D3359	Tape, crosscutter, knife, brush
Mechanical Environmental	Coatings	Mandrel Bend	GM 9503P	Mandrels
Mechanical Environmental	Coatings	Gasoline Drip/Puddle	GMW1433	Gas, Chambers
Mechanical Environmental	Coatings	Oil Resistance	GM 4350M	Oil, Chambers



FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	*DETECTION LIMIT/ RANGE/ EQUIPMENT
Mechanical Environmental	Metal	Spot Test	GMW 15284	Alconox, Solution
Mechanical Environmental	Metal	Dye Penetrant	ASTM E165	Dye
Mechanical Environmental	Metal	Dust	Chrysler PF-6803 JIS D0207	Dust chamber per Customer
Mechanical Environmental	Metal	Surface Roughness	JIS B0601, DIN, ISO, ANSI	Profilometer
Chemical	Metals	Combustimetric Analysis (Caron & Sulfur)	ASTM E1019	Leco
Chemical	Metals	Optical Emission Spectroscopy (C, Mn, P, S, Si, Cr, Ni, Mo, V)	ASTM E415	ARL
Chemical	Metals	Wet Chemistry	ASTM E30, E34, E53, E54, E75, E76, E350, E352, E354, E478***	Glassware Balances

**Notes:**

1. \* = As Applicable
2. \*\*= Including customer and industry specifications directly related to the test technologies.
3. \*\*\*=Portions of test methods only related to test technologies listed
4. Also using customer supplied methods utilizing any combination of test equipment parameters listed above.
5. Corrosion Testing: Salt Spray, Salt Fog, Humidity, CASS and cyclic corrosion
6. Temperature Testing: -70°C to 1200°C
7. Humidity Testing: 20% to 100% RH condensed and non-condensed
8. Compression Testing: 100 lbs. to 1000,000 lbs
9. Tensile Testing: 100 lbs to 1000,000 lbs
10. This scope is part of and must be included with the Certificate of Accreditation No. AT-1503

*Karl Greenway*

\_\_\_\_\_  
Vice President

