SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ELEMENT MATERIALS TECHNOLOGY NEW BERLIN INC.
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MECHANICAL

Valid To: August 31, 2024 Certificate Number: 0098.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform physical tests, welding qualification tests, investigative nondestructive testing, metallography and microscopy on metallic and non-metallic materials (including plastics, composites and rubber) and to perform laboratory corrosion and environmental exposure tests on metals, alloys, plastics, composites and rubber, fabricated assemblies or parts, tape and various coatings, using the following types of tests:

Test Technology*	Scale Range	Test Method(s)[3]	Third Party Documents
Physical Testing			
Adhesive Bond Strength		PM-08	ASTM D1002, D3163, D3165, D5868
Axial Tensile and Proof			ASTM F606/F606M; SAE J429, J995, J1199
Bend			ASTM E290
Charpy Impact			ASTM A370, E23; ISO 148-1
Coefficient of Friction			ASTM D1894-14[2]
Compression and Flexural Properties			ASTM D575, D695, D790
Compression Set			ASTM D395 (Method B)
Rubber O Ring (Except Shrinkage)			ASTM D1414
Rubber Tear Strength (Except CP Sample Cutting)			ASTM D624
Strain Gaging[1]		AM-04	ASTM E1237
Fatigue Testing			
Force Controlled Fatigue		AM-02	ASTM E466
Component Fatigue		AM-03	ASTM E466
Hardness Testing			
Brinell	500 & 3000 kg	MT-03	ASTM E10
Rockwell	A, BW, C, EW, 15N, 30N, 45N, 15TW, 30TW, 45TW, MW, RW		ASTM D785, E18, F606/F606M; SAE J429, J995

Test Technology	Scale Range	Test Method(s)[3]	Third Party Documents
Impact Testing			
Izod Impact		PM-14	ASTM D256 (Methods A, C, D, E)
Unnotched Impact		PM-14	ASTM D4812
High Speed Puncture Properties		PM-15	ASTM D3763
Tup/Falling Mass			ASTM D5628
Microhardness			
Knoop	100, 200, 300, 500 g		ASTM B578, E384; ISO 9015-1, 9015-2, 6507-1
Vickers	100, 200, 300, 500 g		ASTM B578, E384; ISO 9015-1, 9015-2
MacroVickers	5, 10, 30 kg		ASTM E92, E384; ISO 9015-1, 6507-1
Durometer	Shore A & D		ASTM D2240
Portable Hardness			
Leeb Hardness[1]		MT-08	ASTM A956
UCI Hardness (MC10)[1]		MT-10	ASTM A1038
Tension Testing			
Metals	120,000 lbs. Max.		ASTM A370, B557, B557M, E8/E8M; ISO 6892-1
Strain Ratio (r-value)	120,000 lbs. Max.		ASTM E517
Strain-Hardening (n-value)	120,000 lbs. Max.		ASTM E646
Plastics & Polymers	120,000 lbs. Max.	PM-01, PM-11	ASTM D638, D882, D1004
Rubber	120,000 lbs. Max.		ASTM D412
Metallography			
Preparation of Samples[1]		MA-08	ASTM E3
Microstructure[1]		MA-08	ASTM A247
Inclusion Content			ASTM E45 (Method A, B, D)
Grain Size[1]		MA-08	ASTM E112, E883
Macroetching[1]		MA-08	ASTM E340, E381
Microetching[1]		MA-08	ASTM E407
Depth of Decarburization			ASTM E1077, E883, F2328, F2328M; ISO 898-1; SAE J121 (Superseded 2013)[2], J121M (Superseded 2013)[2]
Case Depth			SAE J423
Coating Thickness			ASTM B244, B487, B499, D1005, D1186 (Withdrawn 2006)[2], D7091; ISO 1463, 2808
Hydrogen Embrittlement			ASTM F606/F606M; SAE J1237
Scanning Electron Microscopy (SEM) (Fracture Mode Characterization)		MA-14	
Corrosion Tests			
Accelerated Weathering Fluorescent (QUV)			ASTM G147, G151, G154, D4329, D4587, D4674, D5208; SAE J2020

Test Technology	Scale Range	Test Method(s)[3]	Third Party Documents
Corrosion Tests Cont.			
Xenon Arc			ASTM D2565, D4355, D4459, D5071, D6551, D6695, D7869, G155; GM9327P (Superseded 2012)[2]; SAE J2412, J2527
Corrosion Resistance:			
Susceptibility, Dezincification Resistance			ISO 6509-1
Intergranular Corrosion Resistance			ASTM A262 (Practice A & E), A763, G28
Environmental Compatibility:			
Humidity			ASTM D1735, D2247, D4585; GMW14729
Salt Spray (Fog)			ASTM B117; ISO 9227
Modified Salt Spray (Fog)			ASTM G85 (A1, A2, A3, A5); ISO 9227
Cyclic Corrosion			ASTM D5894, G85 (A2, A3, A5); GM9540P (Superseded 2012)[2], GM9505P (Superseded 2012)[2]; GMW14872; SAE J2334
Post-Exposure Evaluations:			
Rusting			ASTM D610
Blistering			ASTM D714
Scribed/Non-Scribed			ASTM D1654
Coating Evaluation			
Coating Adhesion:			
Paint & Plastic			ASTM D3359; Ford FLTM BI 106-01; GM9071P (Superseded 2012)[2]
Plating			ASTM B571
Pull-off Strength			ASTM D4541
Coating Flexibility:			
T-Bend			ASTM D4145
Coating Impact			ASTM D2794
Conditioning of Plastics			ASTM D618
Chip Resistance (Gravelometer)			ASTM D3170; GMW14700; GM9508P (Superseded 2010)[2]; SAE J400
Gloss			ASTM D523, D2457
Pencil Hardness			ASTM D3363
Taber Abrasion Resistance			ASTM D3389, D4060, D6037; GM9515P (Cancelled 2013)[2]; ISO 9352

Test Technology	Scale Range	Test Method(s)[3]	Third Party Documents
Welding and Brazing Performance (Operator) and Procedure Qualification Tests			
Bend			API STD 1104; AWS B2.1, B2.2, B4.0, D1.1, D1.2, D1.5, D3.6M, D14.1, D14.3, D14.4, D14.5, D14.6, D17.1/17.1M, D18.1; ASME Sec. IX; ISO 5173, 9606-1, 9606-2, 15614-1, 15614-12, 15614-13, 15614-2; MIL-STD-248D (Superseded 1997)[2]; NAVSEA S9074-AQ-GIB-010/248
Break (Fillet Weld)			API STD 1104; ASME Sec. IX; AWS B4.0, D1.1, D1.2, D3.6M, D14.1, D14.3, D14.4, D14.5, D14.6, D17.1/17.1M; ISO 9606-1, 9606-2; MIL-STD-248D (Superseded 1997)[2]; NAVSEA S9074-AQ-GIB-010/248
Hardness			API STD 1104; AWS B4.0, D3.6M, D8.9M, D14.3; BS EN ISO 14271, 15614-1, 15614-12; MIL-STD-248D (Superseded 1997)[2]; NAVSEA S9074-AQ-GIB-010/248
Impact			AASHTO/AWS D1.5, D14.1, D14.6; ASME Sec. IX; AWS D1.1, D3.6M, D17.1/17.1M; BS EN ISO 9016; DIN EN 1992-1-1/NA; MIL-STD-248D (Superseded 1997)[2]; NAVSEA S9074-AQ-GIB-010/248
Macroetch			ANSI/AASHTO/AWS D1.5; ANSI/AWS D1.2, D1.4, D14.1, D14.4, D14.5, D14.6, D15.1; API STD 1104; ASME Sec. IX; AWS B2.1, B2.2, D1.1, D3.6M, D14.3, D17.1/D17.1M; BS EN ISO 15614-1; DIN EN ISO 17639; ISO 9606-1, 15614-2; MIL-STD-248D (Superseded 1997)[2]; NAVSEA S9074-AQ-GIB-010/248
Metallographic			ASME Sec. IX; AWS D1.1, D8.9M, D17.1/D17.1M, D17.2/17.2M; BS EN ISO 15614-1, 15614-2, 15614-12; DIN EN ISO 17639
Shear			AWS B2.1, B2.2, B3.6M, B4.0, D8.9M, D17.2/17.2M; ASME Sec. IX; EN ISO 14273; ANSI/AWS C3.2, D1.2, D1.3

Test Technology	Scale Range	Test Method(s)[3]	Third Party Documents
Welding and Brazing Performance (Operator) and Procedure Qualification Tests Cont.			
Tensile			ANSI/AASHTO/AWS D1.5; ANSI/AWS D1.4, D14.1, D14.4, D14.5, D14.6, D15.1; API STD 1104; ASME Sec. IX; ASTM A488; AWS B2.1, B2.2, B4.0, D1.1, D3.6M, D8.9M, D14.3, D17.1/D17.1M, D18.1; DIN EN ISO 8496; ISO 1002, 4136, 15614-1, 15614-2, 15614-12; MIL-STD-248D (Superseded 1997)[2]; NAVSEA S9074-AQ-GIB-010/248
Peel & Chisel			ISO 10447
Miscellaneous Testing			
Failure Analysis			Using the methods listed above in accordance with ASM Handbook Volume 11.
Additive Manufacturing			ASTM F2971, F3122

[1] This laboratory performs field testing.

[2] This laboratory's scope contains withdrawn or superseded methods. As a clarifier, this indicates that the applicable method itself has been withdrawn or is now considered "historical" and not that the laboratory's accreditation for the method has been withdrawn.

[3] When the date, edition, version, etc. is not identified in the scope of accreditation, laboratories may use the version that immediately precedes the current version for a period of one year from the date of publication of the standard measurement method, per part C., Section 1 of A2LA R101 - General Requirements- Accreditation of ISO-IEC 17025 Laboratories.

*Including customer supplied and industry specifications directly related to the test technologies and parameters listed above.

Accredited Laboratory

A2LA has accredited

ELEMENT MATERIALS TECHNOLOGY NEW BERLIN INC.

New Berlin, WI

for technical competence in the field of

Mechanical Testing

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

Presented this 28th day of November 2022.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 0098.02
Valid to August 31, 2024
Revised September 11th, 2023

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