



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ELEMENT ST. PAUL<sup>1</sup>  
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MECHANICAL

Valid To: December 31, 2020

Cert. No. 1479.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory at the location listed above as well as the one satellite laboratory location listed below on the following products or types of products: adhesives and sealants; automotive components; coatings; consumer products; electronics and electromechanical assemblies; fasteners; fiberglass; furniture; glass; geotextiles; hoses; insulation; mattresses; medical devices; metal and alloys; packaging; plastics and polymers; pipes; tapes; valves and fitting; pressure vessels; rubber and elastomers; textiles; and weldments:

**Test:**

**Test Method:**

Acoustics

AAMA 1801; ASTM C423, E90, E336<sup>4</sup>, E413, E795, E1007<sup>4</sup>, E1425; ISO 354, 10140-2

Anchors

ACI 355.2, 355.4; ASTM E488, E1512; ETAG001 (Parts 1, 2, 3, 4, 5 and 6 with Annex A, B and E *(except C2.4 and C2.5)*); ICC ES AC01 (Section 5.0), AC58 (Sections 4.0 and 5.0), AC106 (Section 4.0), AC193 (Sections 7, 8 and 9, and tables 4.1, 4.2 and 4.3), AC232 (Section 7.0), AC308 (Sections 3, 4, 7, 8 and 9, and tables 3.1-3.7, 3.8 *(Except tests 12 and 13)*, and 3.9), AC320 (Sections 3.0 and 4.0), AC398 (Section 4.0), AC399 (Section 4.0), AC446 (Sections 3.0 and 4.0)

Bedding:

Standard Test Methods for Evaluation of Innersprings and Box Springs

ASTM F1566 (Sections 6, 7 and 9); NAVSEA 05Z6 PD 5-04A

Standard Test Methods for Flexible Cellular Materials-Slab, Bonded, and Molded Urethane Foams

ASTM D3574 (Tests A, B<sub>1</sub>, B<sub>2</sub>, D, E, F, H, I<sub>3</sub>, K and L)

**Test:****Test Method(s):**

## Chemistry:

FTIR (Infrared Spectrometry)	ASTM E1252; SOP CHEM-01
Gravimetric Cleanliness Analysis	ASTM F2459
ICP (Including Lead in Paint by ICP)	SOP CHEM-14, CHEM-18; 16 CFR 1303; CPSC-CH-E1003-09.1
Total Lead in Metal and Non-Metal Children's Products	CPSC-CH-E1001-08.1, CPSC-CH-E1002-08.1
OES-Optical Emission Spectroscopy (Aluminum, Cast Iron, Copper Base, Iron Base (Carbon and Low Alloy), Stainless Steel, Titanium Base)	ASTM E415, E1086; SOP CHEM-10
Combustion (LECO) (Carbon and Sulfur)	ASTM E1019; SOP CHEM-7

## Environmental Simulation:

Humidity	MIL-STD-202 (Method 103B), MIL-STD-810 (Method 507)
Fluorescent UV- Condensation, Light- and Water-Exposure (QUV)	ASTM G154
Highly Accelerated Lifetime Testing (HALT)	SOP PT-18
Highly Accelerated Stress Screening (HASS)	SOP PT-18
Salt Spray (Fog)	ASTM B117; MIL-STD-202 (Method 101E), MIL-STD-810 (Method 509)
Modified Salt Spray	ASTM G85, Annex 5
Shock, Mechanical	IEC 60068-2-27; MIL-STD-810 (Method 516)
Shock, Thermal	MIL-STD-202 (Method 107G)
Temperature/Humidity/Pressure	IEC 60601-1-11
Xenon-Arc Light Exposure, With and Without Water	ASTM D2565, G155
Vibration	IEC 60068-2-64; MIL-STD-810 (Method 514)

**Test:****Test Method(s):**

## Flammability:

Flammability of Mattresses and Mattress Pads	16 CFR 1632
Flammability (Open Flame) of Mattress Sets	16 CFR 1633; NAVSEA 05Z6 PD 5-04A; TB 121
Flammability Test Procedure for Mattresses for US in Public Buildings	CA TB 129
Boston Mattress Fire Test	BFD IX-11
Test Procedure for Testing Flame Retardance of Resilient	CA TB 117
Flammability Test Method for Automobile Interior Materials	FMVSS 302; Honda HES D6003; SAE J369
Flammability Test Procedure for Seating Furniture for Use in Public Occupancies	CA TB 133
Wheelchair Cushion Flammability	ISO 16840-10

## Hardness:

Brinell (500 to 3000) kg	ASTM E10
Rockwell (A, BW, C, 15N, 30N, 45N, 15T, 30T, 45T)	ASTM E18; ISO 898-1; NASM 1312-6
Micro Hardness, Vickers and Knoop (HK100, HK500, HV25, HV100, HV 300, HV500, HV1000)	ASTM E384; JIS B1052, B1053; NASM 1312-6; SAE J417

## Material Testing:

Abrasion Resistance by the Taber Abraser	ASTM D4060
Compressive Properties of Rigid Plastics	ASTM D695
Durometer Hardness (Shore A, Shore D, Shore OO)	ASTM D2240
Flexural Properties of Plastics	ASTM D790
Standard Atmospheres for Conditioning and Testing	ASTM D618
Tensile Properties of Plastics	ASTM D638



**Test:****Test Method(s):**Material Testing (*cont'd*):

Water Vapor Transmission

ASTM E96/E96M

## Metallography:

Alpha Case Contamination

AMS 4928, 4967; ASTM F67, F136

Banding/Orientation (Non-Dimensional)

ASTM E1268

Carburization/Decarburization (Visual and Hardness) and Case Depth

ASTM A574, E1077, F2328; ISO898-1, 898-5, 4570; SAE J78, J81, J419, J423, J933

Examination and Evaluation of Pitting Corrosion

ASTM G46; BSS7219

Grain Size (Comparison)

ASTM E112, E930, E1181; ISO 643

Intergranular Attack

ASTM A262 (Practice A &amp; E)

Inclusions

ASTM E45 Method A

End Grain Pitting on Metals

ASTM F2111; BSS7219

Macroetching (Grain Flow)

ASTM A604/A604M, E340, E381, F788; ISO6157-1, 6157-3

Measurement of Coating Thickness

ASTM B487 (Using Computer Imaging)

Microetching

AMS 2643; ASTM E3, E407

## Metals and Metal Products, Fasteners:

Axial Tensile Strength of Full Sized Threaded Fasteners

AC 118, ASTM F606/ F606M; BAC D2-2860; ISO898-1, 6892; JIS B1051; NASM 1312-8, NASM 6812; SAE J82

Bend, Guided and Semi-Guided (Welds)

ASME Section IX; AWS D1.1/D1.1M, D1.2/D1.2M, D1.3/D1.3M, D1.4/D1.4M, D1.5/D1.5M, D1.6/D1.6M, D17.1/D17.1M

Bend Test (General)

ASTM A615/A615M, E290; NASM 6812

Coating Weight

ASTM A90/A90M

Full Sized Eye Bolts: Bend Test, Breaking Strength and Proof Load

ASTM F541

**Test:****Test Method(s):**Metals and Metal Products, Fasteners (*cont'd*):

Impact, Notched Bar  
(Room Temperature to -321 °F)

ASTM A370, A489, A673/A673M, E23; AWS  
D1.5/D1.5M; DTW 766; ISO 148-1; JIS Z 2242, B  
7722

Mechanical and Material Requirements for  
Externally Threaded Fastener

SAE J429<sup>3</sup>

Mechanical and Material Requirements for  
Metric Externally Threaded Steel Fasteners

SAE J1199<sup>3</sup>

Proof Load of Full Sized: Externally Threaded  
Fasteners

AASHTO T244; ASTM A370, F606/F606M; ISO  
898-1; JIS B1051

Tension Test-Ambient Temperature

AASHTO M31; ASTM A370, A615/A615M,  
A706/A706M, B557, E8/E8M, F606/F606M; ISO  
898-1, 3506; JIS B1051; NASM 1312-8

Total Extension at Fracture of Externally  
Threaded Fasteners

ASTM F606/606M; ISO 898-1, 3506

Wedge Tensile of Full Sized Threaded  
Fasteners

AASHTO T244; ASTM A370, F606/F606M; ISO  
898-1; JIS B1051; NASM 1312-8, 6812; SAE J82,  
J1216

Welder Procedure and Welder Qualification  
Testing

Using the methods listed above and on Scope  
1479.07 in accordance with AWS D1.1/D1.1M,  
D1.2/D1.2M, D1.3/D1.3M, D1.4/D1.4M,  
D1.5/D1.5M, D1.6/D1.6M, and D17.1/D17.1M

## Nails and Fasteners:

Nails, Fasteners, Spikes and Staples

ASTM D4442, D4444, F1575, F1667; ICC ES  
AC116 ((Test Methods Referenced in Sections 3.0)  
(Sections 3.2-3.10)); AC118 (Test Methods  
Referenced in Section 4.0); AC120 (Test Methods  
Referenced in Section 4.0); AC257 (Test Methods  
Referenced in Sections 3.0 and 4.0); AC437 (Test  
Methods Referenced in Sections 3.0 and 4.0)

Dowel-Bearing Strength of Wood and Wood-  
Base Products

ASTM D5764

Power-Actuated Fasteners

ASTM E1190; ICC ES AC70 (Sections 3.0 and  
4.0)

Mechanical Fasteners in Wood

ASTM D1761



**Test:****Test Method(s):**

## Package Testing:

Standard Practice for Performance Testing of Shipping Containers and Systems	ASTM D4169
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## Physical/Structural:

Basic Hardboard/Hardboard Siding	ANSI/AHA A135.4, A135.6, A135.7
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Mullen Burst Test	ASTM D3786/3786M
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External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading	ASTM D2412
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Water Absorption of Core Materials for Sandwich Constructions	ASTM C272/C272M
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Wood-Based Fiber Materials and Particle Panel Materials	ASTM D1037
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## Thermal:

Thermal Transmittance and Condensation Resistance	AAMA 1503
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Measuring Compressive Properties of Thermal Insulations	ASTM C165
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Breaking Load and Flexural Prop. of Block-Type Thermal Insulation	ASTM 203
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Cellulose Fiber Insulating Board	ASTM C209
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Dimensions and Density of Preformed Block & Board Type Insulation	ASTM C303
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Thermal Transmission Properties	ASTM C518
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Rigid, Cellular Polystyrene Thermal Insulation	ASTM C578 (Sections 11.1 - 11.9)
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Thermal Performance by Hot Box Apparatus	ASTM C1363
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Coefficient of Linear Thermal Expansion of Plastics	ASTM D696
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Compression, Density, Thermal and Humid Aging of Rigid Cellular Plastics	ASTM D1621, D1622/1622M, D2126
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**Test:**

**Test Method(s):**

BAIID Testing

Breath Alcohol Ignition Interlock Devices

AS-3547-1997 (Australia);  
CENELEC (Europe); EN 50436-1:2014 (*except clauses 6.7, 6.8 and 6.9*);  
EN 50436-2:2014+A1:2015, 60068-2-78 (IEC 60068-2-78);  
CSTT-HVC-TR-114/CSTT-HVC-TR-150 (*Except Test 3.6*) (Canada); CSA Z627 (*Except Clause 8.7*); IEC 60529; 60068-2-30;  
ISO 16750-1, 16750-2:2010<sup>2</sup>, 2012, 16750-3:2007<sup>2</sup>, 2012, 16750-4:2010;  
NHTSA Federal Register Vol. 57, No. 67;  
Vol. 78, No. 89 (*Except Test 14*)

Failure Analysis:

SEM with EDS

SOP MT93 and MT94

Failure Analysis

Using the methods listed above in accordance with ASM handbook Volume 11

<sup>1</sup>This accreditation covers testing/calibration performed at the main laboratory listed above, and the following satellite laboratory listed below

<sup>2</sup>Note: 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.

<sup>4</sup>This laboratory meets A2LA R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories for these tests.



ELEMENT WAUSAU  
115 S. 84<sup>th</sup> Avenue  
Wausau, WI 54401-8434

MECHANICAL

Accreditation is granted to this satellite laboratory to perform the following tests on fenestration products:

<b><u>Test:</u></b>	<b><u>Test Method(s)</u></b>
Impact & Cycle Pressure	ASTM E1886, E1996; AAMA 506; TAS 201, TAS 203
Water Penetration	ASTM E331, E547
Structural Performance	ASTM E330; AAMA 1701.2; TAS 202
Windows, Doors, and Curtain Walls (Air)	ASTM E283, E987, E2068; AAMA 450; AAMA/WDMA/CSA 101/I.S.-2/A440; CSA A440S1 <sup>3</sup> ; WDMA I.S. 11 <sup>3</sup>
Forced Entry	ASTM F588, F842; AAMA 1304
Door Slam Cycling	AAMA 920, 925
Architectural Safety Glazing Tests	ANSI Z97.1 (except 5.3 and 5.3.2.1); ASTM C1036 <sup>3</sup> CPSC 16 CFR 1201 (except Xenon Exposure); CAN/CGSB-12.1

<sup>2</sup>Note: 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.

<sup>3</sup>The laboratory is only accredited for the test methods listed above. The accredited test methods are used in determining compliance with the material specifications identified above. The inclusion of these material specifications on this Scope does not confer laboratory accreditation to the material specifications.

<sup>4</sup>This laboratory meets A2LA R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories for these tests.







## *Accredited Laboratory*

A2LA has accredited

**ELEMENT ST. PAUL**

*St. Paul, MN*

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 17<sup>th</sup> day of December 2018.

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 1479.01  
Valid to December 31, 2020  
Revised February 20, 2019

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