SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ELEMENT ST. PAUL[1]
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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[4], E413, E795, E1007[4], 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 (E*xcept 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_1, B_2, D, E, F, H, I_3, K and L)

Test:	**Test Method(s):**
Chemistry:	
FTIR (Infrared Spectrometry)	ASTM E1252; SOP CHEM-01
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 & 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[3]
Mechanical and Material Requirements for Metric Externally Threaded Steel Fasteners	SAE J1199[3]
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
Physical/Structural:	
Basic Hardboard/Hardboard Siding	ANSI/AHA A135.4, A135.6, A135.7
Mullen Burst Test	ASTM D3786/3786M
External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading	ASTM D2412
Water Absorption of Core Materials for Sandwich Constructions	ASTM C272/C272M
Wood-Based Fiber Materials and Particle Panel Materials	ASTM D1037
Thermal:	
Thermal Transmittance and Condensation Resistance	AAMA 1503
Measuring Compressive Properties of Thermal Insulations	ASTM C165
Breaking Load and Flexural Prop. of Block-Type Thermal Insulation	ASTM C203
Cellulose Fiber Insulating Board	ASTM C209
Dimensions and Density of Preformed Block & Board Type Insulation	ASTM C303
Thermal Transmission Properties	ASTM C518
Rigid, Cellular Polystyrene Thermal Insulation	ASTM C578 (Sections 11.1 - 11.9)
Thermal Performance by Hot Box Apparatus	ASTM C1363
Coefficient of Linear Thermal Expansion of Plastics	ASTM D696
Compression, Density, Thermal and Humid Aging of Rigid Cellular Plastics	ASTM D1621, D1622/1622M, D2126

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 (E*xcept Test 3.6)* (Canada); CSA Z627 *(Except Clause 8.7)*; IEC 60529; 60068-2-30; ISO 16750-1, 16750-2:2010[2], 2012, 16750-3:2007[2], 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

[1]This accreditation covers testing/calibration performed at the main laboratory listed above, and the following satellite laboratory listed below

[2]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.

[4]This laboratory meets A2LA R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories for these tests.

ELEMENT WAUSAU
115 S. 84th Avenue
Wausau, WI 54401-8434

MECHANICAL

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

Test:	**Test Method(s)**
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[3]; WDMA I.S. 11[3]
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[3] CPSC 16 CFR 1201 (except Xenon Exposure); CAN/CGSB-12.1

[2]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.

[3]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.

[4]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 17th day of December 2018.

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.