



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

ADVANCED AUTOMATION & TESTING, INC.

d.b.a. Advanced Furniture Testing

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MECHANICAL

Valid To: July 31, 2016

Certificate Number: 2709.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on office furniture, cabinets and vanities:

Test Method(s):

ANSI/BIFMA X5.1

ANSI/BIFMA X5.3

Tests:

General Purpose Office Chairs:

Backrest Strength Test - Static - Type I

Backrest Strength Test - Static - Type II & III

Base Test - Static

Drop Test - Dynamic

Swivel Test - Cyclic

Tilt Mechanism Test - Cyclic

Seating Durability Tests - Cyclic

Stability Tests

Arm Strength Test - Vertical - Static

Arm Strength Test - Horizontal - Static

Backrest Durability Test - Cyclic - Type I

Backrest Durability Test - Cyclic - Type II & III

Caster / Chair Base Durability Test - Cyclic

Leg Strength Test - Front and Side Application

Footrest Static Load Test - Vertical

Footrest Durability Test - Vertical - Cyclic

Arm Durability Test - Cyclic

Out Stop Tests for Chairs with Manually Adjustable Seat Depth

Tablet Arm Static Load Test

Tablet Arm Load Ease Test - Cyclic

Vertical Files:

Stability Test

Unit Strength Test Functional

Unit Strength Test Proof

Racking Resistance Test

Drop Test

Extendable Element Cycle Test

Interlock Test

Test Method(s):

ANSI/BIFMA X5.3 (*cont'd*)

ANSI/BIFMA X5.4

ANSI/BIFMA X5.5

Tests:

Rebound Test
Out Stop Test
Force Test for Locks
Locking Mechanism Cycle Test
Latch Test - Static
Compressor Test
Pull Force Test

Lounge Seating:

Backrest Strength Test - Horizontal - Static
Backrest Strength Test - Vertical - Static
Backrest Durability Test - Horizontal - Cyclic
Backrest Durability Test - Vertical - Cyclic
Arm Strength Test - Horizontal - Static
Arm Strength Test - Vertical - Static
Arm Durability Test - Horizontal - Cyclic
Arm Durability Test for Multiple Seating Units - Vertical - Cyclic
Arm Durability Test for Single Seat Units - Angular - Cyclic
Seating Durability Tests - Cyclic
Drop Test - Dynamic
Leg Strength Test - Front and Side Application
Unit Drop Test - Dynamic
Caster/Unit Base Durability Test - Cyclic
Swivel Test - Cyclic
Tilt Mechanism Test - Cyclic
Stability Test
Tablet Arm Load Ease Test - Cyclic
Tablet Arm Load Test - Static

Desk / Table Products:

Stability with Extendable Elements Open Test
Stability Under Vertical Load Test
Horizontal Stability Test for Desks/Tables with Casters
Stability Test for Keyboard/Laptop Tables (with and without casters)
Force Stability Test for Tall Desk/Table Products
Concentrated Functional Load Test
Distributed Functional Load Test
Concentrated Proof Load Test
Distributed Proof Load Test
Transaction Surface Torsion Load Test
Extendable Element Static Load Test
Benching Systems - Distributed Functional Load and Stability Test
Benching Systems - Distributed Proof Load Test
Top Load Ease Test
Desk/Table Unit Drop Test
Leg Strength Test
Separation Test for Tall Desk/Table Products
Cycle Test for Extendable Elements Deeper than Wide
Cycle Test for Extendable Elements Wider than Deep
Cycle Test for low height drawers

Test Method(s):

ANSI/BIFMA X5.5 (*cont'd*)

Tests:

Extendible Element Retention Impact and Durability (Out Stop) Tests
Extendible Element Rebound Test
Interlock Strength Test
Force Test for Extendible Element Locks Force Test for Door Locks
Locking Mechanism Cycle Test
Work Surface Vertical Adjustment Test
Keyboard Support and Input Device Support Adjustment Tests
Strength Test for Vertically-Hinged Doors, Bi-fold Doors, and
Vertically Receding Doors
Hinge Override Test for Vertically-Hinged Doors
Vertical Receding Door Strength Test
Horizontal Receding Door Strength Test
Wear and Fatigue Test for Hinged Horizontal Siding, and Tambour
Doors
Wear and Fatigue Test for Vertical Receding Doors
Wear and Fatigue Test for Horizontal Receding Doors
Vertical and Horizontal Receding Door Out Stop Test - Cyclic Impact
and Durability
Slam Closed Test for Vertically Hinged and Vertically Receding Doors
Drop Cycle Test for Horizontally Hinged and Horizontally Receding
Doors
Slam Test for Doors that Free Fall Open or Closed
Slam Open and Closed Test for Doors That Do Not Free Fall
Door Latch Test
Durability Test for Desks and Tables with Casters
Pull Force Test
Tilting Top Table - Cycle Test
Tilting Top Table - Latch Strength Test
Monitor Arm Strength Test
Monitor Arm Cycle Test
Monitor Arm Dislodgment Test

ANSI/BIFMA X5.6
(*except Section 4*)

Panel Systems:

Force Stability Test
Impact Stability Test
Force Stability Test for Freestanding Screens
Mechanical Strength Test for Panel System Products
Panel Glide Assembly Strength Test
Primary Surface Concentrated Functional Load Test
Horizontal Surface Distributed Functional Load Test
Primary Surface Concentrated Proof Load Test
Horizontal Surface Distributed Proof Load Test
Transaction Surfaces Torsional Load Test
Functional Load Test for Panel Mounted Storage Units - Static
Proof Load Test for Panel Mounted Storage Units - Static
Test for Extendible Element Locks
Force Test for Door Locks
Top Load Ease Cyclic Test (for Primary Surfaces)
Cyclic Test for Extendible Elements Deeper Than Wide
Cycle Test for Extendible Elements Wider than Deep

Test Method(s):

ANSI/BIFMA X5.6 (*cont'd*)
(*except Section 4*)

Tests:

Cycle Test for Center/Pencil Drawers
Extendable Element Retention Impact and Durability Tests
Rebound Test
Locking Mechanism Cycle Test
Keyboard Support and Input Device Support Adjustment Tests
Work Surface Vertical Adjustment Test
Strength Test for Vertically Hinged Doors, Bi-Fold Doors, and Vert.
Receding Doors
Hinged Override Test for Vertically Hinged Doors
Vertical Receding Door Strength Test
Horizontal Receding Door Strength Test
Wear and Fatigue Tests for Hinged, Horizontally Sliding, and Tambour
Doors
Wear and Fatigue Tests for Horizontal Receding Door
Vertical or Horizontal Receding Door Out Stop Test, Cyclic Impact &
Durability
Slam Closed Test for Vertically Hinged Doors
Drop Test for Horizontally Hinged Doors - Cyclic
Slam Test for Sliding and Roll-Front Doors which Free-Fall Open or
Closed
Door Latch Test
Upward Force Static Disengagement Test for Panel Mounted
Components
Upward Force Impact Disengagement Test for Panel Mounted
Components
Pull Force Test

ANSI/BIFMA X5.9

Storage Units:

Concentrated Functional Load Test
Distributed Functional Load Test
Concentrated Proof Load Test
Distributed Proof Load Test
Leg / Glide Assembly Strength Test
Racking Resistance Test
Top Load Ease Test - Cyclic
Drop Test - Dynamic - for Units with Seat Surfaces
Durability Test for Units with Seating Surfaces - Cyclic Impact
Separation Test for Tall Storage Units with Vertically Attached or
Stackable Components
Upward Impact Force Disengagement Test for Storage Units
Upward Force Disengagement Test for Storage Units
Horizontal Force Stability Test for Tall Storage Units
Stability Test for Type I Units with at Least One Extendable Element
Stability Test for Type I Units with Multiple Extendable Elements
Stability Test for Type II Storage Units Having Extendable Elements
Vertical Force Stability Test for Units
Stability Test for Pedestals/Storage Units with Seat Surfaces
Storage Unit Drop Test
Movement Durability Test for Mobile Storage Units
Rebound Test

Test Method(s):

ANSI/BIFMA X5.9 (*cont'd*)

Tests:

Extendible Element Retention Impact and Durability (Out Stop) Tests
Force Test for Extendible Element Locks
Force Test for Door Locks
Locking Mechanism Cycle Test for Locks
Cycle tests for Extendible Elements Deeper than Wide that Do Not Swivel
Cycle Test for Extendible Elements Wider Than Deep That Do Not Swivel
Horizontal Cycle Test for Television/Video Display Terminal Extendible Elements
Cyclic Test for Low Height Drawers
Interlock Test
Strength Test for Vertically Hinged, Bi-Fold Doors and Vertically Receding Doors
Hinged Override Test for Vertically Hinged Doors
Vertical Receding Doors Strength Test
Horizontal Receding Doors Strength Test
Wear and Fatigue Tests for Hinged and Horizontal Sliding, and Tambour Doors
Wear and Fatigue Test for Vertical Receding Door
Wear and Fatigue Test for Horizontal Receding Door
Vertical and Horizontal Receding Door Out Stop Test - Cyclic Impact and Durability
Slam Closed Test for Vertically Hinged and Vertically Receding Doors
Drop Test for Horizontally Hinged and Horizontally Receding Doors - Cyclic
Slam Test for Doors Which Free Fall Open or Closed
Slam Open and Closed Test for Door Which Do Not Free Fall
Door Latch Test
Clothes Rails Static Loading Test
Swivel Cycle Test for Television /Video Display Terminal Surface
Pull Force Test

ANSI/BIFMA X6.1

Educational Seating:
Stability Tests
Backrest Strength Test - Static
Backrest Durability Test - Cyclic
Drop Test - Dynamic
Seat Static Load Test for Chair Desks and Fixed-Tablet Arm Chairs
Seating Durability Tests - Cyclic
Arm Strength Test - Vertical – Static
Arm Strength Test - Horizontal - Static
Arm Durability Test - Angular - Cyclic
Caster/Chair Base Durability Test - Cyclic
Durability Test for Convertible Bench Tables with Casters
Leg Strength Tests
Structural Member Strength Test
Swivel Test - Cyclic
Tablet Arm Test - Front Stability
Tablet Arm Static Load Test

Test Method(s):

ANSI/BIFMA X6.1 (*cont'd*)

ANSI/SOHO S6.5

Tests:

Tablet Arm Load Ease Test - Cyclic

Chair Desk and Table Top Horizontal Surface Vertical Load Tests

Chair Desk and Convertible Bench Table Top Load Ease Test - Cyclic

Static Loading of Storage (Backpack) Hooks & Unit Stability

Small Office/Home Office Furniture:

Stability Under Vertical Load Test

Stability Test for Units with Extendible Load-Bearing Elements

Stability Test for Freestanding Pedestal

Horizontal Stability Test for Desk/Tables with Casters

Horizontal Force Stability/Disengagement Test for Tall Units

Vertical Force Stability for Bookcases and Other Units Without
Extendible Elements

Horizontal Force Stability for Bookcases and Other Units Without
Extendible Elements

Distributed Functional Load Test for Individual Surfaces

Concentrated Functional Load Test for Primary Surfaces

Distributed Proof Load Test for Individual Surfaces

Concentrated Proof Load Test for Individual Surfaces

Unit Strength Test - Static Load

Extendible Element Proof Load Test

Top Load Ease Test - Cyclic

Leg Strength Test - Static

Horizontal Racking Resistance Tests

Interlock Tests - Static

Drop Test

Force Test for Extendible Element Locks

Force Test for Door

Cycle Test for Extendible Elements/Equipment Surfaces Deeper Than
Wide

Cycle Test for Extendible Elements/Equipment Surfaces Wider Than
Deep

Cycle Test for Center/Pencil Drawers

Extendible Element/Equipment Surface Retention Tests

Rebound Test

Keyboard Support and Input Device Support Adjustment Tests

Strength Test for Vertically Hinged Doors

Wear and Fatigue Tests for All Hinged Doors

Slam Open/Closed Test for Vertically Hinged Doors

Drop Cycle Test for Horizontally Hinged and Horizontally Receding
Doors

Test for Horizontal Receding Doors

Test for Vertical Receding Doors

Wear and Fatigue Test

Slam Open and Closed Test for Doors Which Do Not Free Fall

Durability Test for Products with Casters - Cyclic

Pull Force Test

Test Method(s):

CAN/CGSB-44.227-2008,
Section 6.1.1

CAN/CGSB-44.227-2008,
Section 6.6.1

CAN/CGSB-44.229-2008,
Section 6.2.4

CAN/CGSB-44.229-2008,
Section 6.7.2

CAN/CGSB-44.232-2008,
Sections 5.1, 5.5, 5.6, and all of
Section 6

CAN/CGSB-44.229-2008,
Section 8.5.1

CAN/CGSB-44.229-2008,
Section 8.5.2

FNAE-80-214A

FED-STD 834A (*except
Sections 5.12 and 5.13*);
FNEW-83-269E (*except
Sections 4.12 and 4.13*)

ASTM B499

ASTM D522

(A2LA Cert. No. 2709.01) Revised 08/04/2014

Tests:

Work Surface Deflection

Surface Deflection For Storage Units

Work Surfaces Deflection

Panel Mounted Cabinets and Storage Units Deflection

Task Chairs Office Environments

Insertion Force Test

Hanging Strength

GSA - Upholstered Furniture:

Backrest Foundation Test

Backrest Frame Test

Horizontal Sidethrust Arm Load Test

Sidethrust Load Test on Legs

Front to Back Load Test for Legs

Fold Out Bed and Mattress Operating Durability Test

Recliner Cycle Test

Ottoman Test

GSA - Intensive Use:

Cyclic Back and Back Tilt Mechanism Fatigue Test

Cyclic Increasing Back Load Test

Cyclic Pneumatic Back Tilt or Seat Inclination Adjustment
Mechanism Test

Cyclic Vertical Load Test on One Arm

Cyclic Side Thrust Load Test on Arms

Cyclic Vertical Load Test on Seats, Bases and Casters

Cyclic Fatigue Test on Swivel Bearings

Cyclic Pneumatic Height Adjustment Durability Test

Front Stability Test

Back Stability Test

Caster and Base Durability Test

Measurement of Coating Thickness by the Magnetic Method:
Nonmagnetic Coatings on Magnetic Metals

Mandrel Bend Test of Attached Organic Coatings

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Test Method(s):

Tests:

ASTM D1308, Method A

Effect of Household Chemicals on Clear and Pigmented Organic Finishes

ASTM D2794

Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)

ASTM D3359, Method B

Measuring Adhesion by Tape Test

ASTM D3363
ASTM D4060

Film Hardness by Pencil Test
Abrasion Resistance of Organic Coatings by the Taber Abraser

ASTM E376

Measuring Coating Thickness by Magnetic-Field or Eddy Current (Electromagnetic) Examination Methods

ASTM F851

Self-Rising Seat Mechanism

3FNE 99-582

Safety And Performance Test Requirements For Bunkable And Loftable Beds, Beds With Drawers And Drawer Units For Use Under Beds:

- Bed End Impact Test
- Deck Impact Test
- Deck Durability Test – Cyclic
- Deck Frame Racking Test
- Deck Racking Test for Wood or Metal Beds With Lift Deck
- Unit Strength Test
- Drawer Rebound Test
- Drawer Out Stop Test
- Drawer Cycle Test

<u>Test</u>	<u>Parameter/Range</u>	<u>Test Method</u>
Mechanical Life Cycling ¹	Up to 1000 lbs. Up to 60 Cycles Per Minute Up to 5ft Stroke Length	ANSI/BIFMA X5.1, X5.3, X5.4, X5.5, 5.6, X5.9
Drop Test ¹	500 lbs. 12in Height	ANSI/BIFMA X5.1, X5.3, X5.4, X5.5, 5.6, X5.9

¹Also using customer supplied specifications based on the parameters and test methods listed above.



American Association for Laboratory Accreditation

Accredited Laboratory

A2LA has accredited

ADVANCED AUTOMATION & TESTING, INC. dba ADVANCED FURNITURE TESTING

Holland, 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 8 January 2009*).

Presented this 23rd day of July 2014.





President & CEO

For the Accreditation Council
Certificate Number 2709.01
Valid to July 31, 2016

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