



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

UL
 3480 Windquest Drive
 Holland, MI 49424
 Dan Kolean Phone: 616 928 0791

MECHANICAL

Valid To: July 31, 2018

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 and II
- Backrest Strength Test - Static - Type III
- 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 and Type 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
- Structural Durability

Vertical Files:

- Stability Test
- Unit Strength Test Functional
- Unit Strength Test Proof
- Racking Resistance Test
- Drop Test
- Extendable Element Cycle Test
- Interlock Test
- Rebound Test
- Out Stop Test

Test Method(s):

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

Tests:

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

ANSI/BIFMA X5.4

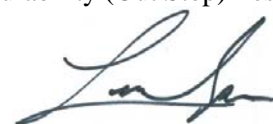
Lounge Seating:

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

ANSI/BIFMA X5.5

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
Extendible Element Retention Impact and Durability (Out Stop) Tests
Extendible Element Rebound Test



Test Method(s):

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

Tests:

Interlock Strength Test
Force Test for Extendable 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 Extendable Element Locks
Force Test for Door Locks
Top Load Ease Cyclic Test (for Primary Surfaces)
Cyclic Test for Extendible Elements
Cycle Test for Low Height Drawers
Extendible Element Retention Impact and Durability Tests
Extendible Element Rebound Test
Locking Mechanism Cycle Test



Test Method(s):

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

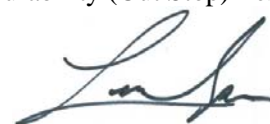
Tests:

Adjustable Keyboard Support and Input Device Support Cycle Tests
Work Surface Vertical Adjustment Test
Strength Test for Vertically Hinged Doors, Bi-Fold Doors, and Vertically 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 Test for Vertical Receding Door
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 Cycle Test for Horizontally Hinged and Horizontally Receding Doors
Slam Test for Doors Which Free-Fall Open or Closed
Slam Open and Closed Test for Doors that Do Not Free-Fall
Door Latch Test
Upward Force Static Disengagement Test for Panel Mounted Components
Upward Force Impact Disengagement Test for Panel Mounted Components
Pull Force Test
Wear and Fatigue Test for Vertically Hinged and Horizontally Sliding Access Doors
Slam Open and Closed Test for Sliding Access Doors
Slam Closed Test for Vertically Hinged Access Doors
Force Test for Access Door Lock
Glass Retention Test for Access Doors

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 Extendible Element
Stability Test for Type I Units with Multiple Extendible
Stability Test for Type II Storage Units Having Extendible Elements
Vertical Force Stability Test for Storage Units
Stability Test for Pedestals/Storage Units with Seat Surfaces Elements
Storage Unit Drop Test
Movement Durability Test for Mobile Storage Units
Rebound Test
Extendible Element Retention Impact and Durability (Out Stop) Tests
Force Test for Extendible Element Locks



Test Method(s):

ANSI/BIFMA X5.9 (cont'd)

Tests:

Force Test for Door Locks
Locking Mechanism Cycle Test
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, 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 X5.11

General-Purpose Large Occupant Office Chairs:

Seat Width Measurement
Backrest Strength Test - Static Type I
Backrest Strength Test - Static Type II and III
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 and Type III
Caster/Chair Base Durability Test - Cyclic
Leg Strength Test - Front and Side Application
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
Structural Durability Test

ANSI/BIFMA X6.1

Educational Seating:

Stability Tests
Backrest Strength Test - Static
Backrest Durability Test - Cyclic
Drop Test - Dynamic



Test Method(s):

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

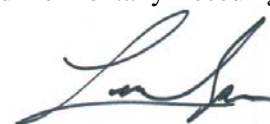
Tests:

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
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

ANSI/SOHO S6.5

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 Locks
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 Method(s):

Tests:

ANSI/SOHO S6.5 (*cont'd*)

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

CAN/CGSB-44.227-2008,
Section 6.1.1

Work Surface Deflection

CAN/CGSB-44.227-2008,
Section 6.6.1

Surface Deflection for Storage Units

CAN/CGSB-44.229-2008,
Section 6.2.4

Work Surfaces Deflection

CAN/CGSB-44.229-2008,
Section 6.7.2

Panel Mounted Cabinets and Storage Units Deflection

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

Task Chairs Office Environments

CAN/CGSB-44.229-2008,
Section 8.5.1

Insertion Force Test

CAN/CGSB-44.229-2008,
Section 8.5.2

Hanging Strength

FNAE-80-214A

GSA - Upholstered Furniture:

Seat Load Test
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

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

GSA - Intensive Use:

Cyclic Back and Back Tilt Mechanism Fatigue Test
Cyclic Pneumatic Back Tilt or Seat Inclination Adjustment Mechanism Test
Cyclic Increasing Back Load 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



Test Method(s):

Tests:

ASTM F851	Self-Rising Seat Mechanism
ASTM F2057	Standard Performance Specification for Clothing Storage Units
ASTM F3096	Standard Performance Specification for Tipover Restraint(s) Used with Clothing Storage Unit(s)
ASTM D3574 Test B ₁	Indentation Force Deflection Test – Specified Deflection (IFD)
3FNE 99-582	<u>Safety and Performance Test Requirements for Bunkable and Loftable Beds, Beds with Drawers and Drawer Units for Use Under Beds:</u> 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

Test

Parameter/Range

Test Method

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.





Accredited Laboratory

A2LA has accredited

UL

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 10th day of June 2016.

A handwritten signature in black ink, written over a horizontal line.

President and CEO
For the Accreditation Council
Certificate Number 2709.01
Valid to July 31, 2018
Revised: March 3, 2017

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