

Test Report For:
ANSI/BIFMA X5.9-2012
Storage Units


FastenLink



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Work Request:**Requested By:**

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Date Received: 3/19/2015**Date(s) Tested: 3/24/2015 – 4/2/2015****Description of Test Samples:**Sample 1:

Model / Part Number: NA
 Item Description: Upper Cabinet
 Condition of Item Sample: New Production Sample

Sample 2:

Model / Part Number: NA
 Item Description: Base Cabinet
 Condition of Item Sample: New Production Sample

Sample 3:

Model / Part Number: NA
 Item Description: Tall Cabinet
 Condition of Item Sample: New Production Sample

Lab Technician(s): Scott Hasenour, Derek Libbert**Work Requested / Applicable Documents:**

Determine if the submitted test samples meet the acceptance level criteria of the applicable test standard(s):

ANSI / BIFMA X5.9-2012 Storage Units

Test No.	Test Description	Sample No.	Results
4.2	Concentrated Functional Load Test	2	Passed
4.3	Distributed Functional Load Test	1, 3	Passed
4.4	Concentrated Proof Load Test	2	Passed
4.5	Distributed Proof Load Test	1, 3	Passed
4.6	Extendible Element Static Load Tests	2	Passed
6.0	Racking Resistance Test	2, 3	Passed
7.1	Top Load Durability Test – Cyclic	2	Passed
8.2	Upward Impact Force Disengagement Test for Storage Units	1	Passed
8.3	Upward Force Static Disengagement Test for Storage Units	1	Passed
10.0	Storage Unit Drop Test	2, 3	Passed
12.0	Rebound Test	2	Passed
13.0	Extendible Element Retention Impact and Durability (Out Stop) Tests	2	Passed
15.3	Cycle Test for Extendible Elements Wider than Deep that Do Not Swivel	2	Passed
17.2	Strength Test for Vertically Hinged, Bi-fold Doors and Vertically Receding Doors	3	Passed
17.3	Hinge Override Test for Vertically Hinged Doors	3	Passed

Requested By:

17.6	Wear and Fatigue Tests for Hinged, Horizontally Sliding, and Tambour Doors	3	Passed
17.10	Slam Closed Test for Vertically Hinged and Vertically Receding Doors	3	Passed
20.0	Pull Force Test	1, 2, 3	Passed

Informational Purposes Only.

* Static Pull Test	1	Informational Only
* Static Load Test	3	Informational Only

* Denotes testing that was not performed under our current scope of accreditation

Conclusion:

The submitted sample(s) met the acceptance criteria of the tests listed above.

Testing Data:

Load Calculations

Specimen	Segment	Component	Area/Volume	Lbs / in ^(2 or 3)	Load (lbs.)
1	Distributed Functional	Unit Top	37.5 x 12	0.09	30
		Top Shelf	26 x 10.75 x 11.25	0.017	53
		Middle Shelf	26 x 10.75 x 8.375	0.017	40
		Bottom Shelf	26 x 10.75 x 9.375	0.017	45
	Distributed Proof	Unit Top	37.5 x 12	0.14	47
		Top Shelf	26 x 10.75 x 11.25	0.026	81
		Middle Shelf	26 x 10.75 x 8.375	0.026	61
		Bottom Shelf	26 x 10.75 x 9.375	0.026	69
2	Distributed Functional	Unit Top	27.5 x 12	0.20	66
		Drawer	24.375 x 19.75 x 4	0.017	32.7
		Top Shelf	26 x 22.625 x 11	0.017	110
		Bottom Shelf	26 x 22.75 x 11.125	0.017	112
	Distributed Proof	Unit Top	27.5 x 12	0.30	99
		Drawer	24.375 x 19.75 x 4	0.026	50.1
		Top Shelf	26 x 22.625 x 11	0.026	169
		Bottom Shelf	26 x 22.75 x 11.125	0.026	171
3	Distributed Functional	Unit Top	21 x 18	0.09	34
		Top 2 Shelves	16.5 x 19.75 x 12	0.017	67
		Middle 3 Shelves	16.5 x 19.75 x 10	0.017	56
		Bottom Shelf	16.5 x 19.75 x 15	0.017	84
	Distributed Proof	Unit Top	21 x 18	0.14	53
		Top 2 Shelves	16.5 x 19.75 x 12	0.026	102
		Middle 3 Shelves	16.5 x 19.75 x 10	0.026	85
		Bottom Shelf	16.5 x 19.75 x 15	0.026	128

1. Concentrated Functional Load Test:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 4.2.

Notes:

- Temperature / Humidity: 71⁰F / 32 RH%.
- Refer to page 3 for specified loads.
- A 200 lb. load was applied through a 12 inch disk, 1 inch from the unit edge at the weakest position on the primary surface.
- All remaining surfaces and elements were loaded with their distributed functional loads; the extendible element as fully extended.
- Loads remained for 60 minutes.
- See Photo 1 for set up.



Photo 1

Specimen	Unit Load (lbs.)	Time (min.)	Pull Force (lbs.)	Observation
2	454.7	60	< 11.2	No loss of serviceability.

Acceptance Level: There shall be no loss of serviceability. Upon completion of the test, the extendible member(s) shall meet the pull force requirements of Section 20.

Equipment:	Tape Measure (TD-001), Stop Watch (TD-008.5), Force Gauge (TD-011), 12" Load Disk (TD-015.4), Weight Scale (TD-020), Digital Level (TD-021)
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2. Distributed Functional Load Test:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 4.3.

Notes:

- Temperature / Humidity: 72⁰F / 28 RH%.
- Refer to page 3 for specified loads.
- The distributed functional load was evenly distributed along a line 8 inches in around the perimeter on the primary surface.
- All remaining surfaces and elements were loaded with their distributed functional loads.
- Loads remained for 60 minutes.
- See Photo 2 for set up.



Photo 2

Specimen	Unit Load (lbs.)	Time (min.)	Pull Force (lbs.)	Observation
1	168	60	NA	No loss of serviceability.

Acceptance Level: There shall be no loss of serviceability. Upon completion of the test, the extendible member(s) shall meet the pull force requirements of Section 20.

Equipment:	Tape Measure (TD-001), Stop Watch (TD-008.5), Digital Level (TD-021)
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3. Distributed Functional Load Test:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 4.3.

Notes:

- Temperature / Humidity: 72^oF / 42 RH%.
- Refer to page 3 for specified loads.
- The distributed functional load was evenly distributed along a line 8 inches in around the perimeter on the primary surface.
- All remaining surfaces and elements were loaded with their distributed functional loads.
- Loads remained for 60 minutes.
- See Photo 3 for set up.



Photo 3

Specimen	Unit Load (lbs.)	Time (min.)	Pull Force (lbs.)	Observation
3	420	60	NA	No loss of serviceability.

Acceptance Level: There shall be no loss of serviceability. Upon completion of the test, the extendible member(s) shall meet the pull force requirements of Section 20.

Equipment:	Tape Measure (TD-001), Stop Watch (TD-008.5), Digital Level (TD-021)
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4. Concentrated Proof Load Test:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 4.4.

Notes:

- Temperature / Humidity: 71⁰F / 32 RH%.
- Refer to page 3 for specified loads.
- A 300 lb. load was applied through a 12 inch disk, 1 inch from the unit edge at the weakest position on the primary surface.
- The extendible element remained loaded with the distributed functional load and fully extended.
- All remaining surfaces were loaded with their distributed proof loads.
- Loads remained for 15 minutes.
- See Photo 4 for set up.



Specimen	Unit Load (lbs.)	Time (min.)	Observation
2	672.7	15	No sudden and major changes.

Acceptance Level: There shall be no sudden and major change in the structural integrity of the product. Loss of serviceability is acceptable.

Equipment:	Tape Measure (TD-001), Stop Watch (TD-008.5), Force Gauge (TD-011), Digital Level (TD-021)
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5. Distributed Proof Load Test:

Testing was performed per ANSI/BIFMA X5.9 – 2012, Section 4.5.

Notes:

- Temperature / Humidity: 72⁰F / 28 RH%.
- Refer to page 3 for specified loads.
- The distributed proof load was evenly distributed along a line 8 inches in around the perimeter on the primary surface.
- All remaining surfaces were loaded with their distributed proof loads.
- Loads remained for 15 minutes.
- See Photo 5 for set up.



Photo 5

Specimen	Unit Load (lbs.)	Time (min.)	Observation
1	258	15	No sudden and major changes.

Acceptance Level: There shall be no sudden and major change in the structural integrity of the product. Loss of serviceability is acceptable.

Equipment:	Tape Measure (TD-001), Stop Watch (TD-008.2), Force Gauge (TD-011), Digital Level (TD-021)
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6. Distributed Proof Load Test:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 4.5.

Notes:

- Temperature / Humidity: 71⁰F / 41 RH%.
- Refer to page 3 for specified loads.
- The distributed proof load was evenly distributed along a line 8 inches in around the perimeter on the primary surface.
- All remaining surfaces were loaded with their distributed proof loads.
- Loads remained for 15 minutes.
- See Photo 6 for set up.



Photo 6

<u>Specimen</u>	<u>Unit Load (lbs.)</u>	<u>Time (min.)</u>	<u>Observation</u>
3	640	15	No sudden and major changes.

Acceptance Level: There shall be no sudden and major change in the structural integrity of the product. Loss of serviceability is acceptable.

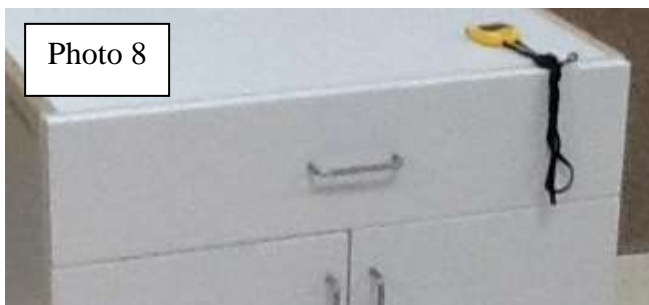
Equipment:	Tape Measure (TD-001), Stop Watch (TD-008.5), Force Gauge (TD-011), Digital Level (TD-021)
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7. Extendible Element Static Load Tests:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 4.6.

Notes:

- Temperature / Humidity: 71⁰F / 40 RH%.
- Refer to page 3 for specified loads.
- The largest extendible element of each construction was loaded with its specified proof load and fully extended.
- Loads remained for 15 minutes.
- With the proof load still in the extendible element the drawers were fully closed and remained for an additional 15 minutes.
- See Photos 7 & 8 for set up.



Specimen	Segment	Time (min.)	Observation
2	Open	15	No sudden and major change to the structure of the unit.
	Closed	15	No sudden and major change to the structure of the unit.

Acceptance Level: There shall be no sudden and major change in the structural integrity of the product. Loss of serviceability is acceptable.

Equipment:	Tape Measure (TD-001), Stop Watch (TD-008.3), Force Gauge (TD-011), Weight Scale (TD-020), Digital Level (TD-021)
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8. Racking Resistance Test:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 6.

Notes:

- Temperature / Humidity: 71°F / 40 RH%.
- Refer to page 3 for specified loads.
- Two 1 inch tall blocks were placed under the glides on opposite corners. The top two corners opposite the blocks under the glides were loaded with 50 lbs of weight each. The unit was loaded with its distributed functional load and was allowed to stand for 60 minutes.
- See Photo 9 for set up.



<u>Specimen</u>	<u>Time (min.)</u>	<u>Pull Force (lbs.)</u>	<u>Observation</u>
2	60	< 11.2	No loss of serviceability.

Acceptance Level: The storage unit shall have no loss of serviceability. All extendible elements shall be tested to and meet the pull force test as defined in Section 20.

Equipment:	Tape Measure (TD-001), Stop Watch (TD-008.3), Force Gauge (TD-011), Weight Scale (TD-020), Digital Level (TD-021)
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9. Racking Resistance Test:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 6.

Notes:

- Temperature / Humidity: 71⁰F / 41 RH%.
- Refer to page 3 for specified loads.
- Two 1 inch tall blocks were placed under the glides on opposite corners. The top two corners opposite the blocks under the glides were loaded with 50 lbs of weight each. The unit was loaded with its distributed functional load and was allowed to stand for 60 minutes.
- See Photo 10 for set up.



<u>Specimen</u>	<u>Time (min.)</u>	<u>Pull Force (lbs.)</u>	<u>Observation</u>
3	60	NA	No loss of serviceability.

Acceptance Level: The storage unit shall have no loss of serviceability. All extendible elements shall be tested to and meet the pull force test as defined in Section 20.

Equipment:	Tape Measure (TD-001), Stop Watch (TD-008.5), Digital Level (TD-021)
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10. Top Load Ease Cycle Test:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 7.1.

Notes:

- Temperature / Humidity: 72^oF / 42 RH%.
- Refer to Page 3 for specified loads.
- Force applied: 200 lbs. 1 inch from the unit edge at the weakest location on the primary surface.
- All elements were loaded with their distributed functional loads and remained closed.
- Test rate: 14 cpm.
- See Photo 11 for set up.



Specimen	Load (lbs.)	Cycles	Pull Force (lbs.)	Observation
2	200	0	< 11.2	Test began.
	200	10,000	< 11.2	No loss of serviceability.

Acceptance Level: There shall be no loss of serviceability. Upon completion of cycling test, the extendible element(s) shall meet the pull force requirements of Section 20.

Equipment:	Test Machine (TM-002), Tape Measure (TD-002), Stop Watch (TD-008.4), Force Gauge (TD-011), Weight Scale (TD-020), Digital Level (TD-021)
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11. Upward Impact Force Disengagement Test for Storage Units:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 8.2

Notes:

- Temperature / Humidity: 70⁰F / 28 RH%.
- A pivoting arm, in the horizontal position, was placed flush against the unit bottom, but not closer than 6 inches from the attachment point. A 10 lb weight was secured to the opposite side of the arm. The weighted side of the arm was then lifted 4 inches and released, allowing the opposing end to impact the underside of the unit.
- See Photo 12 for set up.



Photo 12

Specimen	Observation
1	No loss of serviceability.

Acceptance Level: The component shall not become disengaged. There shall be no loss of serviceability from the application of the force. If it is unclear whether disengagement to the impacted unit has occurred, apply the appropriate proof load(s) per Table 1. The unit shall not become disengaged from its attachment upon application of the proof load.

Equipment:	Tape Measure (TD-001), Digital Level (TD-021)
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12. Upward Force Static Disengagement Test fir Storage Units:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 8.3.

Notes:

- Temperature / Humidity: 70⁰F / 28 RH%.
- A force was applied to one side of the unloaded unit at its center of balance until either the force reached 110 lbs, or the front edge of the unit became displaced 2 inches.
- See Photo 13 for set up.



Specimen	Force (lbs.)	Observation
1	110	The unit did not become disengaged. No loss of serviceability occurred.

Acceptance Level: The component shall not become disengaged. No loss of serviceability shall result from application of the force. If it is unclear if disengagement had occurred, apply the greater of either the distributed or concentrated proof load per Table 1. The unit shall not become disengaged upon application of the proof load.

Equipment:	Tape Measure (TD-001), Force Gauge (TD-012), Digital Level (TD-021)
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13. Storage Unit Drop Test:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 10.

Notes:

- Temperature / Humidity: 71⁰F / 42 RH%.
- Unit weight: 99.45 lbs.
- Drop height: 7.1 inches.
- Each side of the unit was allowed to fall freely from the specified height.
- See Photo 14 for set up.

Photo 14



Specimen	Segment	Height (in.)	Pull Force (lbs.)	Observation
2	Left	7.1	< 11.2	No loss of serviceability.
	Right	7.1	< 11.2	No loss of serviceability.

Acceptance Level: There shall be no loss of serviceability. The extendible elements shall meet the pull force test requirements in Section 20.

Equipment:	Tape Measure (TD-002), Force Gauge (TD-011), Weight Scale (TD-020), Digital Level (TD-021)
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14. Storage Unit Drop Test:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 10.

Notes:

- Temperature / Humidity: 71⁰F / 41 RH%.
- Unit weight: 139.90 lbs.
- Drop height: Tipping point - 3.5 inches.
- Each side of the unit was allowed to fall freely from the specified height.
- See Photo 15 for set up.



Photo 15

Specimen	Segment	Height (in.)	Pull Force (lbs.)	Observation
3	Left	3.5	NA	No loss of serviceability.
	Right	3.5	NA	No loss of serviceability.

Acceptance Level: There shall be no loss of serviceability. The extendible elements shall meet the pull force test requirements in Section 20.

Equipment:	Tape Measure (TD-002), Force Gauge (TD-011), Weight Scale (TD-020), Digital Level (TD-021)
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15. Rebound Test:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 12.

Notes:

- Temperature / Humidity: 70⁰F / 38 RH%.
- Refer to page 3 for specified loads.
- The drawer being tested was loaded with its functional load. A spring force gauge was set 2.0 inches away from the drawer front. The drawer was pushed against the force gauge with the amount of weight loaded in the drawer, but not to exceed 40 lbs. The drawer was released and the at rest position was recorded for all five cycles.
- See Photo 16 for set up.

Photo 16



Specimen	Load (lbs.)	Max. at Rest (in.)	Observation
2	33	< 1.5	No loss of serviceability.

Acceptance Level: There shall be no loss of serviceability. The rebound position of the extendible element shall not exceed (1.5 in.) from its closed position after each of the five closings.

Equipment:	Tape Measure (TD-002), Spring Force Gauge (TD-004), Weight Scale (TD-020), Digital Level (TD-021)
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16. Extendible Element Retention Impact and Durability (Out Stop) Tests:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 13.

Notes:

- Temperature / Humidity: 70 - 72°F / 34 - 38 RH%.
- Refer to page 3 for the specified loads.
- A cable was attached to the center of the drawer front and extended over a pulley. The appropriate amount of weight was attached to the opposite end of the cable. The drawer was opened 1.5 inches from fully closed and released, allowing the out stops to be impacted. The drawer was then opened 2.0 inches from fully opened and released for the duration of the test.
- Test rate: 18 – 19 cpm.
- See Photos 17 & 18 for set up.



Specimen	Segment	Cycles	Pull Force (lbs.)	Observation
2	Box	5	< 11.2	No loss of serviceability.
		0	< 11.2	Test began.
		15,000	< 11.2	No loss of serviceability.

Acceptance Level: After performing the test the extendible element shall meet the pull force requirements of Section 20. There shall be no loss of serviceability.

Equipment:	Test Machine (TM-009), Tape Measure (TD-002), Stop Watch (TD-008.3), Force Gauge (TD-011), Weight Scale (TD-020), Digital Level (TD-021)
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17. Cycle Test for Extendible Elements Wider than Deep That Do Not Swivel:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 15.3.

Notes:

- Temperature / Humidity: 71 - 73⁰F / 35 - 42 RH%.
- Refer to page 3 for specified loads.
- The drawer being tested was loaded with its distributed functional load. A restraining device was attached to the center of the drawer pull area and cycled for 50,000 cycles.
- Test rate: 8 – 9 cpm.
- See Photo 19 for set up.



Photo 19

Specimen	Segment	Cycles	Pull Force (lbs.)	Observation
2	Center	0	< 11.2	Test began.
		50,000	< 11.2	No loss of serviceability.

Acceptance Level: There shall be no loss of serviceability. Before and after the cycle test, the extendible element(s) shall meet the pull force requirements of Section 20. After the cycle test, the extendible elements, if applicable shall meet the test requirements of Section 16. If the unit is equipped with a stabilizing device that may be affected by the cycle test, reevaluate the stability of the unit per Section 9.4 to determine if the device performs adequately.

Equipment:	Test Machine (TM-007), Tape Measure (TD-002), Stop Watch (TD-008.3), Force Gauge (TD-011), Weight Scale (TD-020), Digital Level (TD-021)
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18. Strength Test for Vertically Hinged Doors, Bi-fold Doors and Vertically Receding Doors:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 17.2

Notes:

- Temperature / Humidity: 71°F / 40 RH%.
- 44 lbs was suspended 4 inches from the outside edge of the door. The door was then cycled 10 times from 45 degrees from fully closed to 10 degrees from fully opened.
- See Photo 20 for set up.



Photo 20

Specimen	Load (lbs.)	Cycles	Observation
3	44	10	No loss of serviceability.

Acceptance Level: There shall be no loss of serviceability to the unit.

Equipment:	Tape Measure (TD-002), Digital Level (TD-021)
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19. Hinge Override Test for Vertically Hinged Doors:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 17.3.

Notes:

- Temperature / Humidity: 71°F / 40 RH%.
- 13.5 lbs of force was applied to the center of the door, 4 inches in from the outside edge.
- See Photo 21 for set up.



Photo 21

Specimen	Load (lbs.)	Observation
3	> 13.5	No loss of serviceability.

Acceptance Level: There shall be no loss of serviceability to the storage unit or its components.

Equipment:	Tape Measure (TD-002), Force Gauge (TD-011), Digital Level (TD-021)
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20. Wear and Fatigue Test for Hinged, Horizontally Sliding and Tambour Doors:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 17.6.

Notes:

- Temperature / Humidity: 70°F / 30 RH%.
- The door was cycled from 10 degrees from fully closed to 10 degrees from fully opened and back. The door was cycled for 20,000 cycles at the center of the pull area.
- Test rate: 13 cpm.
- See Photo 22 for set up.



<u>Specimen</u>	<u>Segment</u>	<u>Cycles</u>	<u>Observation</u>
3	Center	0	Test began.
		20,000	No loss of serviceability.

Acceptance Level: There shall be no loss of serviceability to the storage unit or its components.

Equipment:	Test Machine (TM-007), Tape Measure (TD-002), Stop Watch (TD-008.5), Digital Level (TD-021)
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21. Slam Closed Test for Vertically Hinged and Receding Doors:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 17.10.

Notes:

- Temperature / Humidity: 71°F / 40 RH%.
- Refer to page 3 for specified loads.
- The door shelves were loaded with their distributed functional loads.
- A cable was attached to the center of the door, opposite the hinge. The cable was extended through the back of the unit over a pulley and the appropriate amount of weight was attached to the opposite end of the cable. The door was then open 30 degrees and released, allowing the door to slam shut.
- See Photos 23 & 24 for set up.



Specimen	Cycles	Observation
3	10	No loss of serviceability.

Acceptance Level: There shall be no loss of serviceability.

Equipment:	Tape Measure (TD-002), Weight Scale (TD-020), Digital Level (TD-021)
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22. Pull Force Test:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 20.

Notes:

- Temperature / Humidity: 71⁰F / 32 RH%.
- Using a force gauge, the door was pulled from all the way closed to all the way open.
- See Photo 25 for set up.



Specimen	Segment	Pull Force (lbs.)	Observation
1	Door	< 11.2	The force required to pull the door from all the way closed to all the way open did not exceed 11.2 lbs.

Acceptance Level: The applied force shall not exceed 50 N (11.2 lbf).

Equipment:	Tape Measure (TD-001), Force Gauge (TD-011), Digital Level (TD-021)
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23. Pull Force Test:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 20.

Notes:

- Temperature / Humidity: 71°F / 40 RH%.
- Refer to page 3 for specified loads.
- Extendible elements were loaded with their distributed functional loads.
- Using a force gauge, the extendible element was pulled from all the way closed to all the way open.
- See Photos 26 & 27 for set up.



Specimen	Segment	Pull Force (lbs.)	Observation
2	Drawer	< 11.2	The force required to pull the drawer from all the way closed to all the way open did not exceed 11.2 lbs.
	Door	< 11.2	The force required to pull the door from all the way closed to all the way open did not exceed 11.2 lbs.

Acceptance Level: The applied force shall not exceed 50 N (11.2 lbf).

Equipment:	Tape Measure (TD-001), Force Gauge (TD-011), Digital Level (TD-021)
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24. Pull Force Test:

Testing was preformed per ANSI/BIFMA X5.9 – 2012, Section 20.

Notes:

- Temperature / Humidity: 71⁰F / 41 RH%.
- Using a force gauge, the door was pulled from all the way closed to all the way open.
- See Photos 28 & 29 for set up.



Specimen	Segment	Pull Force (lbs.)	Observation
3	Doors	< 11.2	The force required to pull the door from all the way closed to all the way open did not exceed 11.2 lbs.

Acceptance Level: The applied force shall not exceed 50 N (11.2 lbf).

Equipment:	Tape Measure (TD-001), Force Gauge (TD-011), Digital Level (TD-021)
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25. Static Pull Test:

Testing was preformed per requester’s instructions. This test is NOT A2LA accredited.

Notes:

- Temperature / Humidity: 71⁰F / 38 RH%.
- A horizontal, outward force was applied to the end panel until the panel became disconnected from the cabinet.
- See Photo 30 for set up and Photos 31 & 32 for failure.



Specimen	Segment	Pull Force (lbs.)	Observation
1	Side 1	350	The force required to pull the end panel from the cabinet reached 350 lbs.
	Side 2	410	The force required to pull the end panel from the cabinet reached 410 lbs.

Equipment:	Test Machine (TD-011.2), Tape Measure (TD-001), Digital Level (TD-021)
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26. Static Load Test:

Testing was performed per requester’s instructions. This test is NOT A2LA accredited.

Notes:

- Temperature / Humidity: 71°F / 39 RH%.
- Per BIFMA, the maximum proof load required for this sized bottom shelf is 153 lbs.
- For this test, the bottom was loaded with weight until failure occurred.
- See Photos 33, 34, & 35.

Photo 33



Photo 34



Photo 35



Specimen	Load (lbs.)	Observation
3	900	No sudden and major changes.
	950	Failure occurred

Equipment:	Tape Measure (TD-001), Digital Level (TD-021)
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