4700 Broadmoor Ave SE, Suite 200
Kentwood, MI 49512

Telephone: +1 616 656 7401
Facsimile: +1 616 656 2022
www.intertek.com

TEST REPORT FOR ONEPOINTE SOLUTIONS LLC
Report No.: 104340859GRR-001
Date: 24-Jul-2020
P.O.: 22806

ONEPOINTE SOLUTIONS LLC TEST REPORT

SCOPE OF WORK
SEFA 8PL-2016 RECOMMENDED TESTING STANDARDS FOR LABORATORY GRADE WOOD CASEWORK on Base Cab and Wall Cabinet

REPORT NUMBER
104340859GRR-001

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34

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4700 Broadmoor Ave SE, Suite 200
Kentwood, MI 49512

Telephone: +1 616 656 7401
Facsimile: +1 616 656 2022
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TEST REPORT FOR ONEPOINTE SOLUTIONS LLC

Report No.: 104340859GRR-001
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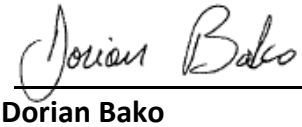
SECTION 1

CLIENT INFORMATION

Attention:
Don Carlson
1112 Swenson Blvd
Elgin, TX 78621
USA

Phone: (512) 982-1973
Email: dcarlson@onepointesolutions.com

James Jantz
Project Manager



Dorian Bako
Project Reviewer

SECTION 2

SUMMARY AND CONCLUSION

Date Received 26-May-2020
Dates Tested 26-May-2020 to 24-Jul-2020

DESCRIPTION OF SAMPLES

MODEL NUMBER	DESCRIPTION OF SAMPLE	DIMENSIONS
PL-BASE-354822-12	Base Cab	48” x 35” x 22”
PL-WALL-304812-02	Upper Cab	48” x 30” x 12”
N/A	Table	N/A

Condition of Samples: Production

WORK REQUESTED/APPLICABLE DOCUMENTS

SEFA 8PL-2016 RECOMMENDED TESTING FOR LABORATORY GRADE WOOD CASEWORK
Intertek quote Qu-1074945

CONCLUSION

TEST		RESULTS
4.2	Cabinet Load Test	CONFORMING
4.3	Cabinet Concentrated Load Test	CONFORMING
4.4	Cabinet Torsion	CONFORMING
4.5	Cabinet Submersion Test	CONFORMING
5.1	Door Hinge Test	CONFORMING
5.3	Door Cycle Test	CONFORMING
6.1	Drawer Static Test	CONFORMING
6.3	Drawer Impact Test	CONFORMING
6.4	Drawer Internal Impact Test	CONFORMING
6.5	Drawer Cycle Test	CONFORMING
7.2	Shelf Load Test	CONFORMING
8.8	Edge Impact Test	CONFORMING
9.2	Wall Cabinet Load Test	CONFORMING

The submitted sample met the acceptance criteria of all the tests listed above.

SAMPLE DISPOSITION

The samples were returned to Institutional Casework, Inc. at conclusion of testing.

TEST EQUIPMENT

ASSET #	DESCRIPTION	LAST CAL	NEXT DUE
138520	STEEL RULE 36"	01/06/2020	01/06/2021
138012	Scale/0-1,000#	09/20/2019	09/20/2020
138148	DIGITAL PROTRACTOR	12/19/2019	12/19/2020
138296-1-50	50lb steel bars	01/04/2017	01/04/2020
138279	FORCE GAUGE	12/30/2019	12/30/2020
138235	DIAL INDICATOR	10/08/2019	10/08/2019
138390	Portable Drawer Cycle Station	VBU	VBU
117500.29	Stopwatch	05/16/2019	05/16/2020

4.1 SEFA 8PL-2016 – DESCRIPTION OF TEST UNIT:

Date Received: 26-May-2020
Date Tested: 26-May-2020-24-Jul-2020
Location Tested: Intertek Kentwood, MI

MODEL NUMBER	DESCRIPTION OF SAMPLE	DIMENSIONS
PL-BASE-354822-12	Base Cab	48” x 35” x 22”
PL-WALL-304812-02	Upper Cab	48” x 30” x 12”
N/A	Table	N/A

PART DESCRIPTION:

Base unit has one drawer, two doors and a shelf.

The hardware on the units is as follows:

MODEL NUMBER	DESCRIPTION OF SAMPLE
Blum 71B3590	Hinge
Blum 569H4570B	Drawer Slides
PL-AS1.0-46x21	Shelf

Refer to the following pages for photographs.

Test Unit (Base Unit)

Drawer Slide

Hinge

Door/Drawer Pull

Shelf Support

4.2 SEFA 8PL-2016 – CABINET LOAD TEST:

Date Received: 26-May-2020
Date Tested: 26-May-2020-27-May-2020
Location Tested: Intertek Kentwood, MI

DESCRIPTION OF SAMPLES:

MODEL NUMBER	DESCRIPTION OF SAMPLE
PL-BASE-354822-12	Base Cab

Condition of Samples: Production
Number of Samples: One (1)

TEST PROCEDURE:

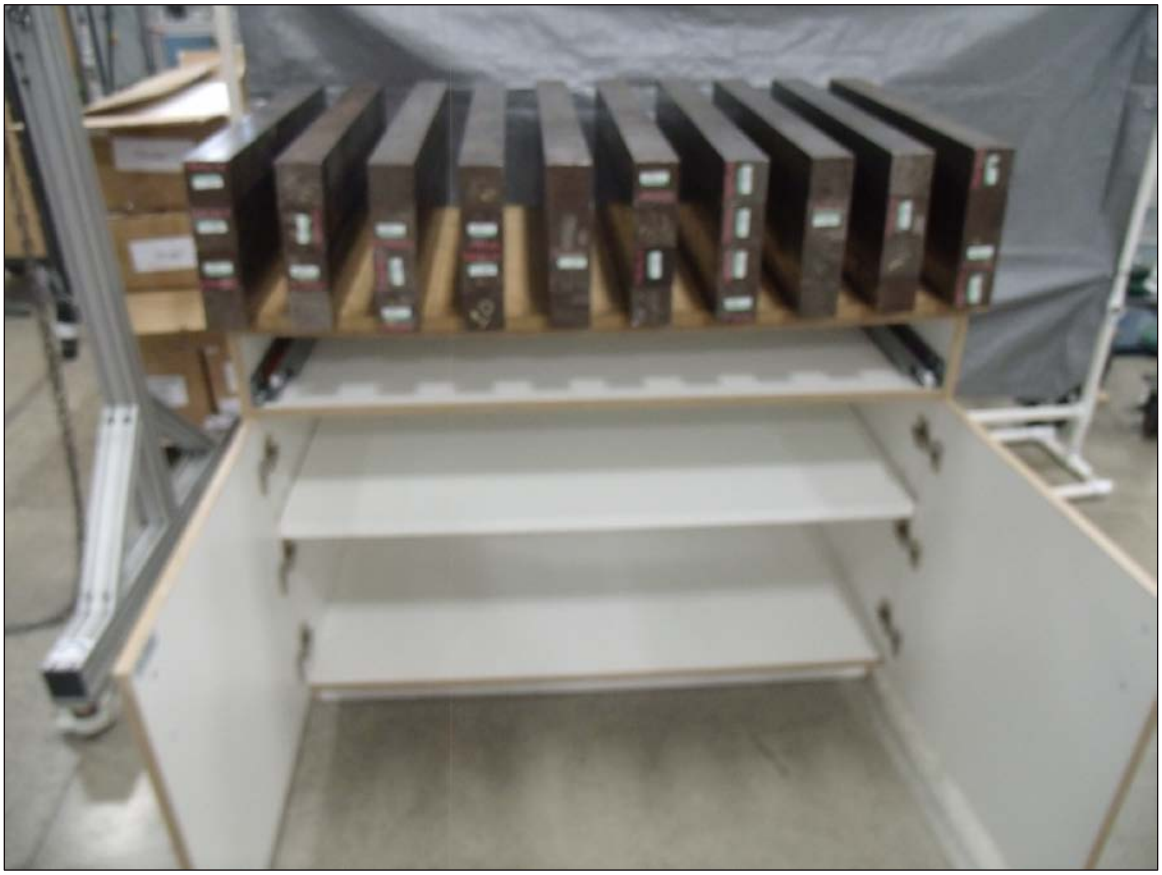
4.2.2 Test Method: Verify that the cabinet is level. Load the cabinet top by using 2000 lbs. (907.2 kg) of solid steel bars (Per Section 3.1) stacked 4 high and evenly spaced. After 24 hours, unload the cabinet.

ACCEPTANCE CRITERIA:

4.2.3 Acceptance Level: The cabinet will have no signs of permanent failure.

RESULTS:

The submitted sample met the acceptance criteria for the test described above. Refer to the following page for photograph.



Cabinet Load Test

4.3. SEFA 8PL-2016 – CABINET CONCENTRATED LOAD TEST:

Date Received: 26-May-2020
Date Tested: 27-May-2020
Location Tested: Intertek Kentwood, MI

DESCRIPTION OF SAMPLES:

MODEL NUMBER	DESCRIPTION OF SAMPLE
PL-BASE-354822-12	Base Cab

Condition of Samples: Production
Number of Samples: One (1)

TEST PROCEDURE:

4.3. Test Method: Using 50 lb. solid weights or 10 lb sandbags (per Section 3.1), apply a total of 200 lbs. (90.70 kg) to the top of the cabinet along the cabinet center line and operate doors and drawers.

ACCEPTANCE CRITERIA:

4.3.3 Acceptance Level: Door and drawer operation shall be normal under condition of test load. There shall be no sign of permanent deformation to front rail, cabinet joinery, doors, or drawers. Doors and drawers shall operate normally.

RESULTS:

The submitted sample met the acceptance criteria for the test described above. Refer to the following page for photograph.

Cabinet Concentrated Load Test

4.4 SEFA 8PL-2016 – CABINET TORSION:

Date Received: 26-May-2020
Date Tested: 27-May-2020-28-May-2020
Location Tested: Intertek Kentwood, MI

DESCRIPTION OF SAMPLES:

MODEL NUMBER	DESCRIPTION OF SAMPLE
PL-BASE-354822-12	Base Cab

Condition of Samples: Production
Number of Samples: One (1)

TEST PROCEDURE:

4.4.2 Test Method: The cabinet shall be tested in its normal upright position, raised not less than four inches off the floor and supported on rear and one front corner. The area of support under the cabinet shall be centered on the leveling feet of the cabinet. Per Section 3.1, secure the cabinet diagonally from the supported corner with seven solid steel bars so that 350 lbs. (158.75 kg.) of weight is placed on the top of the cabinet to prevent over-turning. Apply four solid steel bars (200 lbs (90.72 kg.)) to the unsupported corner for a period of 24 hours. Remove weight and place the cabinet on the floor in its normal upright position observe the cabinet joinery. Level the cabinet and measure the face and back of the cabinet across the diagonal corners.

ACCEPTANCE CRITERIA:

4.4.3 Acceptance Level: When returned to normal position, the operation of the cabinet shall be normal, and there will be no signs of permanent damage. The difference between the two measurements taken from measuring the diagonal corners shall be no more than 1/8” (3.175 mm).

RESULTS:

The submitted sample met the acceptance criteria for the test described above. There was no change in the measurement. Refer to the following page for photograph.

Cabinet Torsion

4.5 SEFA 8PL-2016 – CABINET SUBMERSION TEST:

Date Received: 26-May-2020
Date Tested: 16-Jun-2020-19-Jun-2020
Location Tested: Intertek Kentwood, MI

DESCRIPTION OF SAMPLES:

MODEL NUMBER	DESCRIPTION OF SAMPLE
PL-BASE-354822-12	Base Cab

Condition of Samples: Production
Number of Samples: One (1)

TEST PROCEDURE:

4.5.2. Test Method: The material thickness along the perimeter of the cabinet shall be measured on 6" increments. Record the thickness of the material to be submerge in water. Place the entire test cabinet in its upright position such that the cabinet is submerged in 2" of water. After 24 hours, remove the unit from the water and wait 48 hours to measure the thickness of the material at the points measure initially. Calculate the new arithmetic mean.

ACCEPTANCE CRITERIA:

4.5.3 Acceptance Level: The cabinet will show no permanent deformation or deterioration. Increase in thickness shall not exceed 10% of the initial mean measurements.

RESULTS:

The submitted sample met the acceptance criteria of the test described above. The thickness increased by 9.2% Refer to the following page for photograph.

Cabinet Submersion Test

5.1 SEFA 8PL-2016 – DOOR HINGE TEST:

Date Received: 26-May-2020
Date Tested: 18-Jun-2020
Location Tested: Intertek Kentwood, MI

DESCRIPTION OF SAMPLES:

MODEL NUMBER	DESCRIPTION OF SAMPLE
PL-BASE-354822-12	Base Cab

Condition of Samples: Production
Number of Samples: One (1)

TEST PROCEDURE:

5.1.2. Test Method: Remove the shelf for this test. With unit and top set as described in Section 4.1, add sufficient weight to the top in order to prevent overturning. With cabinet door opened 90 degrees, hang a sling made up of two 100 lb. (45.35 kg) weights (shot bags or solid weights) over top of the door at a point 12" (304.8 mm) out from the hinge center-line. Slowly move door through the two full cycles of the hinge up to a 160° arc. Remove weight and swing door through its full intended range of motion and close door.

ACCEPTANCE CRITERIA:

5.1.3 Acceptance Level: The open door shall withstand a load of 200 lbs. (90.70 kg) when applied at a point 12" (304.8 mm) from the hinge centerline without significant permanent distortion. Operation of the door, after test, shall show no significant permanent distortion that will cause binding of the door or hinges or that will adversely affect operation of the catch.

RESULTS:

The submitted sample met the acceptance criteria of the test. The door operated normally through its entire range of motion, and the door catch operated normally. Refer to the following page for photograph.

Door Hinge Test

5.3 SEFA 8PL-2016 – DOOR CYCLE TEST:

Date Received: 26-May-2020
Date Tested: 28-May-2020-04-Jun-2020
Location Tested: Intertek Kentwood, MI

DESCRIPTION OF SAMPLES:

MODEL NUMBER	DESCRIPTION OF SAMPLE
PL-BASE-354822-12	Base Cab

Condition of Samples: Production
Number of Samples: One (1)

TEST PROCEDURE:

5.3.2. Test Method: This test shall be in conformance to the ANSI test procedure A156.9, Grade 1, requirements for cycle testing of doors. A cycling mechanism shall swing door 90°. Door shall operate for 100,000 cycles with a speed not greater than 15 cycles per minute.

ACCEPTANCE CRITERIA:

5.3.3 Acceptance Level: Door shall operate for the full cycle period without deterioration that will significantly affect the function of the door. The door shall operate freely without binding.

RESULTS:

The submitted sample met the acceptance criteria for the test described above. There was no functional or structural damage to the unit. The doors operated freely without binding.

Door Cycle Test

6.1 SEFA 8PL-2016 – DRAWER STATIC TEST:

Date Received: 26-May-2020
Date Tested: 15-Jun-2020
Location Tested: Intertek Kentwood, MI

DESCRIPTION OF SAMPLES:

MODEL NUMBER	DESCRIPTION OF SAMPLE
PL-BASE-354822-12	Base Cab

Condition of Samples: Production
Number of Samples: One (1)

TEST PROCEDURE:

6.1.2. Test Method: With unit and top set as described in Section # 4.1, add sufficient weight to the top in order to prevent overturning. Open the drawer to 13" (330.2 mm.) of travel and hang 150 lbs. (68.0 kg.) from the drawer head at the center line of the drawer for five minutes. Remove the weight and operate the drawer through the full cycle.

ACCEPTANCE CRITERIA:

6.1.3. Acceptance Level: There shall be no permanent damage that will interfere with the normal operation of the drawer and the drawer head should remain tightly fastened to the drawer.

RESULTS:

The submitted sample met the acceptance criteria for the test described above. Refer to the following page for photograph.

Drawer Static Load Test

6.3 SEFA 8PL-2016 – DRAWER IMPACT TEST:

Date Received: 26-May-2020
Date Tested: 15-Jun-2020
Location Tested: Intertek Kentwood, MI

DESCRIPTION OF SAMPLES:

MODEL NUMBER	DESCRIPTION OF SAMPLE
PL-BASE-354822-12	Base Cab

Condition of Samples: Production
Number of Samples: One (1)

TEST PROCEDURE:

6.3.2 Test Method: Remove drawer; support each corner with 2”x2”x1” (50.8 x 50.8 x 25.4 mm) supports. Drop a 10 lb. (4.545 Kg) sand or shot bag from a height of 24” (609.6 mm) into the bottom of the drawer at the center of the width of the drawer. Remove the sand or shot bag.

ACCEPTANCE CRITERIA:

6.3.3. Acceptance Level: Operate the drawer through the full cycle. Drawer shall operate normally. Any deformation will not cause binding or interference with the operation of the drawer.

RESULTS:

The submitted sample met the acceptance criteria of the test described above. Refer to the following page for a photograph.

Drawer Impact Test

6.4 SEFA 8PL-2016 – DRAWER INTERNAL IMPACT TEST:

Date Received: 26-May-2020
Date Tested: 24-Jul-2020
Location Tested: Intertek Kentwood, MI

DESCRIPTION OF SAMPLES:

MODEL NUMBER	DESCRIPTION OF SAMPLE
PL-BASE-354822-12	Base Cab

Condition of Samples: Production
Number of Samples: One (1)

TEST PROCEDURE:

6.4.2. Test Method: Position the drawer on a table at a 45° angle. Place a 2" (50.8 mm.) diameter by 12" (304.8 mm.) long steel rod (approximately 10 lbs. (4.535 kg.) 13" (330.2 mm.) from the target impact area such that the rod will roll freely to impact the back of the drawer. Subject the back to three impacts and reverse the drawer to subject the front to three additional impacts.

ACCEPTANCE CRITERIA:

6.4.3. Acceptance Level: The drawer shall show no permanent damage. All joinery shall be intact and the drawer, when replaced in the unit, shall operate normally. Minor scratches and dents are acceptable.

RESULTS:

The submitted sample met the acceptance criteria for the test described above. Refer to the following page for photograph.

Drawer Internal Impact Test-Front to Rear

Drawer Internal Impact Test-Rear to Front

6.5 SEFA 8PL-2016 – DRAWER CYCLE TEST:

Date Received: 26-May-2020
Date Tested: 08-Jun-2020-14-Jun-2020
Location Tested: Intertek Kentwood, MI

DESCRIPTION OF SAMPLES:

MODEL NUMBER	DESCRIPTION OF SAMPLE
PL-BASE-354822-12	Base Cab

Condition of Samples: Production
Number of Samples: One (1)

TEST PROCEDURE:

6.5.2. Test Method: A dynamic load of 75 lbs. (34.019 kg) shall be uniformly distributed in the drawer. Measure force required to activate the drawer. Operate over the full range of motion without engaging bumpers, stops or self-closing features for 50,000 cycles at a rate not to exceed 10 ± 2 cycles per minute.

ACCEPTANCE CRITERIA:

6.5.3. Acceptance Level: The drawer shall operate freely without evidence of binding. The force required to open and close loaded drawer shall not be greater than 8 lbs. (3.628 kg.) to activate hardware.

RESULTS:

The submitted sample met the acceptance criteria for the test described above. Pull force at the end of the test was 6.9 lbf. Refer to the following page for photograph.

Drawer Cycle Test

7.2 SEFA 8PL-2016 – SHELF LOAD TEST:

Date Received: 26-May-2020
Date Tested: 06-Jun-18-Jun-2020
Location Tested: Intertek Kentwood, MI

DESCRIPTION OF SAMPLES:

MODEL NUMBER	DESCRIPTION OF SAMPLE
PL-BASE-354822-12	Base Cab
PL-WALL-304812-02	Upper Cab

This test is only shelf deflection of the shelf in a Base Cab.

Condition of Samples: Production
Number of Samples: One (1)

TEST PROCEDURE:

7.2.2 Test Method: A shelf shall be mounted in the manner in which it is designed. Measure the distance from the underside of the shelf to a reference point perpendicular to the center of the shelf. Use shot or sand bags weighing 10 lbs. (4.535 kg) each. Unless otherwise specified, load the shelf uniformly to 40 lbs. (18.14 kg) per square foot shelf area to a maximum of 200 lbs. (90.70 kg). Measure the deflection on the shelf by measuring the distance to the reference point and calculating the difference between the two measurements. Record data and remove the load.

ACCEPTANCE CRITERIA:

7.2.3. Acceptance Level: The allowable maximum deflection of a shelf is 1/180 of the span and not in excess of .25” (6.35 mm.). Maximum allowable deflection shall not exceed 0.25”.

RESULTS:

SHELF TYPE	SHELF LOAD	DEFLECTION MEASURED	RESULTS
Base Cab	200 lbs	0.163”	Conforming
Wall Cab	135 lbs	0.246”	Conforming

The submitted samples met the acceptance criteria for the test described above. Refer to the following page for photographs.

Shelf Load Test – Base Cab

Shelf Load Test – Wall Cabinet

8.8 SEFA 8PL-2016 – EDGE IMPACT TEST:

Date Received: 26-May-2020
Date Tested: 27-May-2020
Location Tested: Intertek Kentwood, MI

DESCRIPTION OF SAMPLES:

MODEL NUMBER	DESCRIPTION OF SAMPLE
N/A	9.5” x 9.5” x ¾” with 3mm edge band

Condition of Samples: Production
Number of Samples: One (1)

TEST PROCEDURE:

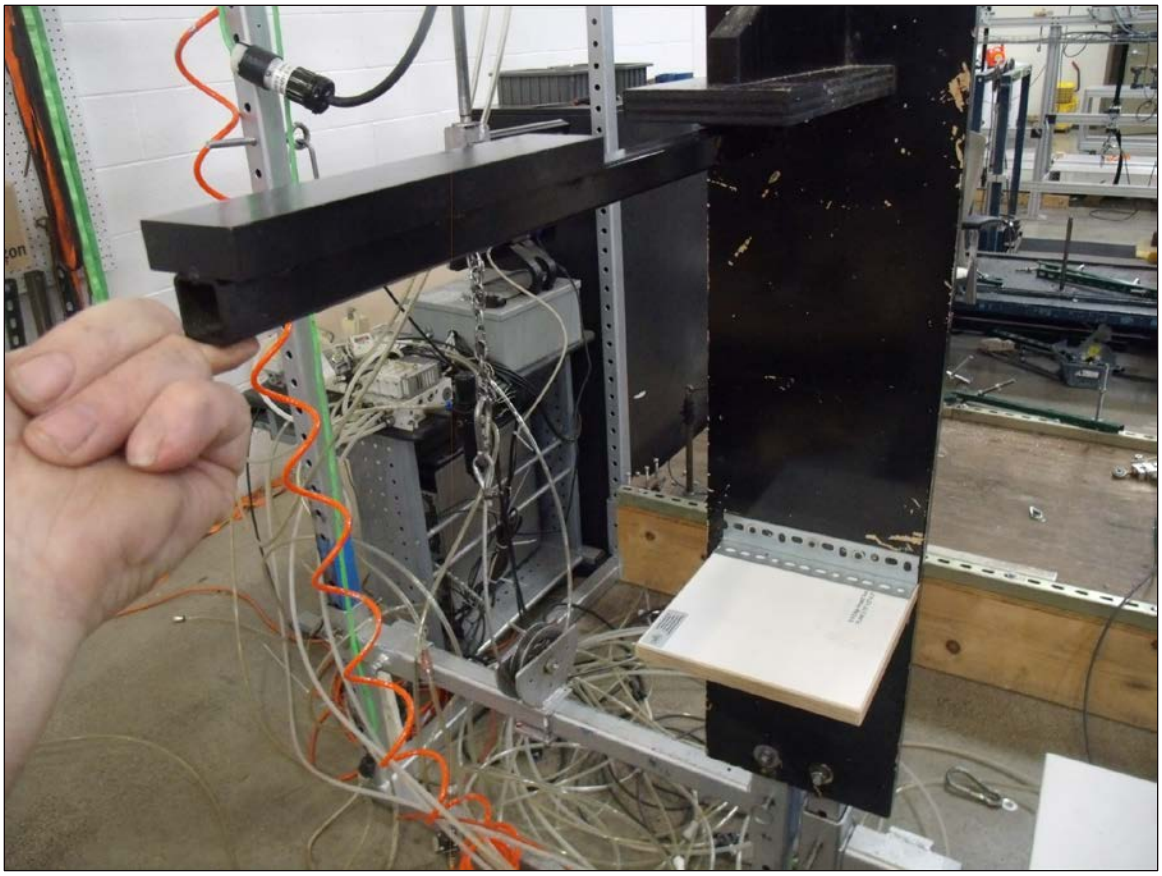
8.8.2. Test Method: Insert specimen with the 3mm edge band facing the front of the impact fixture, raise arm to stop position and then release it to let the bar impact the sample.

ACCEPTANCE CRITERIA:

8.8.3. Acceptance Level: There shall be no signs of damage to the 3mm edge banding that was applied to the test specimen

RESULTS:

The submitted sample met the acceptance criteria for the test described above. Refer to the following page for photograph.



EDGE IMPACT TEST

9.2 SEFA 8PL-2016 – WALL MOUNTED CABINET LOAD TEST:

Date Received: 26-May-2020
Date Tested: 28-May-2020
Location Tested: Intertek Kentwood, MI

DESCRIPTION OF SAMPLES:

MODEL NUMBER	DESCRIPTION OF SAMPLE
PL-WALL-304812-02	Wall Cabinet

Condition of Samples: Production
Number of Samples: One (1)

TEST PROCEDURE:

9.2.2 Test Method: A wall mounted cabinet shall be mounted as per manufacturer's instructions and is to have the standard number of shelves. Use shot or sand bags weighing 10 lbs. (4.535 kg.) each. Load the shelves per Section 7.0 including the bottom, each shelf, and top uniformly with 40 lbs. (18.14 kg) per square foot shelf area to a maximum of 200 lbs. (90.70 kg). Test to be performed with doors closed.

ACCEPTANCE CRITERIA:

9.2.3. Acceptance Level: With weights in place after a period of 24 hours, operate the doors through full travel to verify normal operation of the doors. Remove weights and operate doors to verify normal operation. Verify that there is no permanent deflection of the cabinet top, cabinet back, cabinet bottom, or shelves. After weights are removed, the cabinet shall show no permanent damage to the cabinet, cabinet bottom, or shelves.

RESULTS:

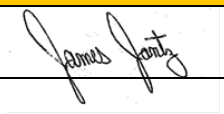
SHELF TYPE	STATIC LOAD	RESULTS
Cabinet Top	160 lbs.	Conforming
Cabinet Bottom	139 lbs.	Conforming
Shelves	135 lbs.	Conforming

The submitted sample met the acceptance criteria for the test described above. Refer to the following page for photograph.

Wall Mounted Cabinet Load Test

SECTION 4

REVISIONS MADE TO TEST REPORT

DATE	REVISION DESCRIPTION	REVISED BY	REVISED BY
24-Jul-2020	Initial release.	James Jantz	

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ONEPOINTE SOLUTIONS LLC
TEST REPORT

SCOPE OF WORK
SEFA 8 PL (2016) testing on PL-Base-354822-12 / PL-Wall-304812-02

REPORT NUMBER
104340859GRR-014

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06-November-2020

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4700 Broadmoor Ave SE, Suite 200
Kentwood, MI 49512

Telephone: +1 616 656 7401
Facsimile: +1 616 656 2022
www.intertek.com

TEST REPORT FOR ONEPOINTE SOLUTIONS LLC

Report No.: 104340859GRR-014
Date: 27-July-2020
P.O.: PO22806

SECTION 1

CLIENT INFORMATION

Attention: Don Carlson
OnePointe Solutions LLC
8801 Wall St., Suite 840
Austin, TX 78754 USA
Phone: 512-982-1973
Email: dcarlson@onepointesolutions.com

Marc Schra
Test Engineer

Derek Blakeslee
Project Reviewer

SECTION 2

SUMMARY

Date Received:	26-May-2020 and 13-June-2020 and 22-October-2020
Dates Tested:	03-June-2020 to 24-July-2020, and 04-November-2020

DESCRIPTION OF SAMPLES

Part Description:	PL-Base-354822-12 / PL-Wall-304812-02
Material Submitted:	Eight (8x) Pre-prepped cabinet samples
Material Specification:	SEFA 8 PL (2016)
Condition of Samples:	Production

WORK REQUESTED/APPLICABLE DOCUMENTS

SEFA 8 PL (2016)
Intertek quote Qu-01074945-1

SECTION 3

CONCLUSION

TEST	RESULTS
8.1 Chemical Spot Test	Conforming
8.2 Hot Water Test	Conforming
8.3 Ball Impact Resistance Test	Conforming
8.6 Dart Impact Resistance Test	Conforming
8.7 Edge Delaminating Test	Conforming
8.9 Wear Resistance (Abrasion)	Conforming

SAMPLE DISPOSITION

After testing completed, samples were rendered unusable and then disposed of.

SUBMITTED TEST SAMPLE

Figure 1: Typical sample as received

SECTION 4

8.1 CHEMICAL SPOT TEST:

Date Received:	26-May-2020 and 13-June-2020
Date Tested:	03-June-2020 to 04-June-2020
Location Tested:	Intertek Kentwood, MI

DESCRIPTION OF SAMPLES:

Part Description:	PL-Base-354822-12 / PL-Wall-304812-02
Material Submitted:	Eight (8x) Pre-prepped cabinet samples
Material Specification:	SEFA 8 PL (2016)
Condition of Samples:	Production

TEST PROCEDURE:

Test Method: Per SEFA 8-PL-2016 Section 8.1

The received sample to be tested for chemical resistance as described herein: Place panel on flat surface, clean with soap (Liqui-Nox at 5% concentration) and water and blot dry. Condition the panel for 48-hours at 73±3°F (23±2°C) and 50 ± 5% relative humidity. Test the panel for chemical resistance using forty-nine (49) different chemical reagents by the following methods.

Method A: Test volatile chemicals by placing a cotton ball saturated with reagent in the mouth of a 1-oz. (29.574cc) bottle and inverting the bottle on the surface of the panel. The cotton ball shall remain in contact with the sample for duration of the test.

Method B: Test non-volatile chemicals by placing five drops of the reagent on the surface of the panel and covering with a 24 mm watch glass, convex side down.

For both of the above methods, leave the reagents on the panel for a period of one hour. Wash off the panel with water, clean with detergent (Liqui-Nox at 5% concentration) and naphtha, and rinse with deionized water. Dry with a towel and evaluate after 24 hours at 73±3°F (23±2°C) and 50 ± 5% relative humidity using the following rating system.

Rating Scale:

Level 0	No detectable change.
Level 1	Slight change in color or gloss.
Level 2	Slight surface etching or severe staining.
Level 3	Pitting, cratering, swelling, or erosion of coating with obvious and significant deterioration.

Number of Samples: Two (2)

ACCEPTANCE CRITERIA:

Per SEFA 8-PL-2016

The Range of Results is provided to establish the acceptable range for Laboratory Grade Finish. Results will vary from manufacturer to manufacturer. Laboratory grade finishes should result in no more than four (4) Level 3 conditions. Suitability for a given application is dependent upon the chemicals used in a given laboratory.

RESULTS:

Table 1: 8.1 Chemical Spot Test Results Table

TEST NO.	CHEMICAL (% BY VOL.)	METHOD	RATING	COMMENTS
1	Acetate, Amyl	A	0	
2	Acetate, Ethyl	A	0	
3	Acetic Acid, 98%	B	0	
4	Acetone	A	0	
5	Acid Dichromate, 5%	B	0	
6	Alcohol, Butyl	A	0	
7	Alcohol, Ethyl	A	0	
8	Alcohol, Methyl	A	0	
9	Ammonium Hydroxide, 28%	B	0	
10	Benzene	A	0	
11	Carbon Tetrachloride	A	0	
12	Chloroform	A	0	
13	Chromic Acid, 60%	B	0	
14	Cresol	A	0	
15	Dichloroacetic Acid	A	0	
16	Dimethylformanide	A	0	
17	Dioxane	A	0	
18	Ethyl Ether	A	0	
19	Formaldehyde, 37%	A	0	
20	Formic Acid, 90%	B	1	Slight gloss change
21	Furfural	A	2	Staining
22	Gasoline	A	0	
23	Hydrochloric Acid, 37%	B	0	
24	Hydrofluoric Acid, 48%	B	0	
25	Hydrogen Peroxide, 30%	B	0	
26	Iodine, Tincture of	B	0	
27	Methyl Ethyl Ketone	A	0	
28	Methylene Chloride	A	2	Gloss change
29	Monochlorobenzene	A	0	
30	Naphthalene	A	0	
31	Nitric Acid, 20%	B	0	
32	Nitric Acid, 30%	B	0	

TEST NO.	CHEMICAL (% BY VOL.)	METHOD	RATING	COMMENTS
33	Nitric Acid, 70%	B	1	Slight gloss change
34	Phenol, 90%	A	0	
35	Phosphoric Acid, 85%	B	0	
36	Silver Nitrate, Saturated	B	0	
37	Sodium Hydroxide, 10%	B	0	
38	Sodium Hydroxide, 20%	B	0	
39	Sodium Hydroxide, 40%	B	0	
40	Sodium Hydroxide, Flake	B	0	
41	Sodium Sulfide, Saturated	B	0	
42	Sulfuric Acid, 33%	B	0	
43	Sulfuric Acid 77%	B	0	
44	Sulfuric Acid, 96%	B	1	Slight gloss change
45	Sulfuric Acid, (77%) and Nitric Acid (70%), equal parts	B	1	Slight gloss change, slight color change
46	Toluene	A	0	
47	Trichloroethylene	A	0	
48	Xylene	A	0	
49	Zinc Chloride, Saturated	B	0	

TOTALS			
ITEMS	**REQUIREMENT**	**NO. REAGENT WITH 3 RATINGS**	**DISPOSITION**
Volatile Subtotal:	-	0	---
Non-volatile Subtotal:	-	0	---
Grand Totals:	No More than Four Level 3 Conditions	0	*Conforming

PHOTOGRAPHS:

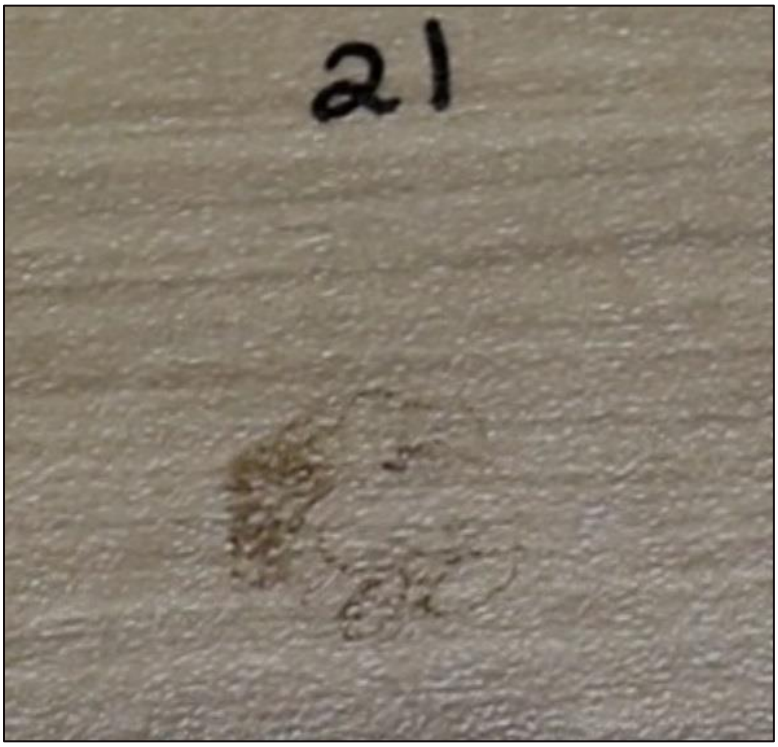
Chemical Spot Test "As Received" Test Panels

Chemical Spot Test Volatile Chemical Set-up

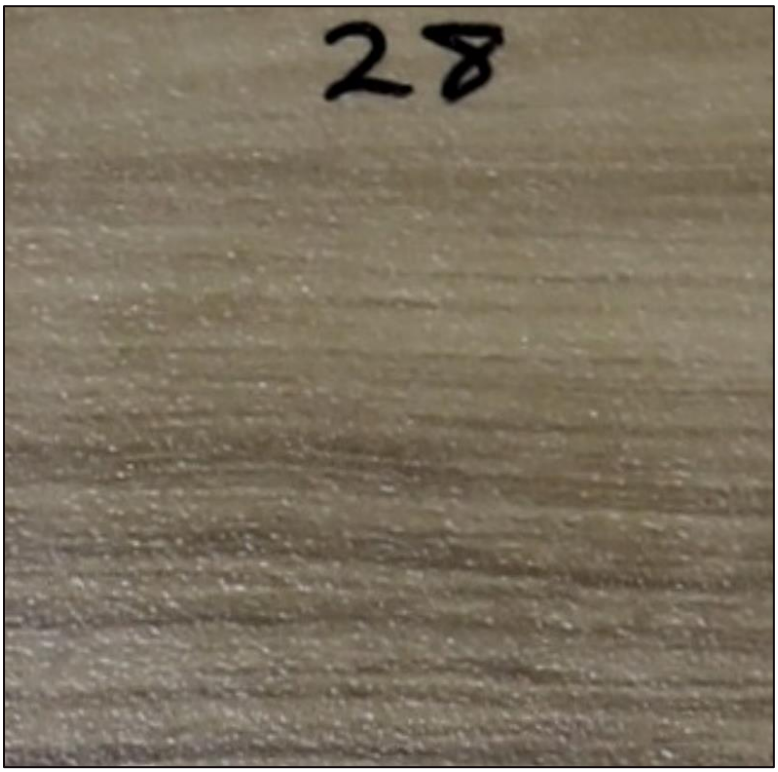
Chemical Spot Test Non-volatile Chemical Set-up

After exposure Volatile chemical spot test

After exposure non-volatile chemical spot test



Chemical Spot Test: #21, Furfural, Rating 2, Staining



Chemical Spot Test: #28, Methylene Chloride, Rating 2, Gloss change

SECTION 5

8.2 HOT WATER TEST:

Date Received:	26-May-2020 and 13-June-2020
Date Tested:	04-June-2020
Location Tested:	Intertek Kentwood, MI

DESCRIPTION OF SAMPLES:

Part Description:	PL-Base-354822-12 / PL-Wall-304812-02
Material Submitted:	Eight (8x) Pre-prepped cabinet samples
Material Specification:	SEFA 8 PL (2016)
Condition of Samples:	Production

TEST PROCEDURE:

Test Method:	SEFA 8 PL (2016) section 8.2 ANSI/NEMA LD 3-2005 Para 3.5 Boiling Water Resistance
Number of Samples:	One (1)
Conditioning:	48 hours minimum at 23±2°C and 50±5% R.H.
Sample Size:	8”x8”
Exposure Duration:	20 minutes
Reconditioning:	24 hours at 23±2°C

ACCEPTANCE CRITERIA:

A. No Effect - No change in color or surface finish.

Table 2: 8.2 Hot Water Test Evaluation Table

A.	No Effect	No change in color or surface finish
B.	Slight Effect	A change in color or surface finish only visible at certain angles or directions.
C.	Moderate Effect	A change in color or surface finish visible from all angles and directions, but does not appreciably alter the original condition of the specimen
D.	Severe Effect	A change in color or surface finish which obviously and markedly alters the original condition of the specimen.

RESULTS:

Table 3: 8.2 Hot Water Test Results Table

SAMPLE	OBSERVATIONS	CONFORMING
1	None	Conforming

PHOTOGRAPHS:

8.2 Hot Water Test Sample Before Testing

8.2 Hot Water Test Setup

8.2 Hot Water Test Sample After Testing

TEST EQUIPMENT:

ASSET NUMBER	EQUIPMENT	CALIBRATION DATE	CALIBRATION DUE
117286	NEMA LD 3-2005 SEC 3.5	REF ONLY	REF ONLY
114231.13	Digital Timer	4/30/2020	4/30/2021
117346	Digital Thermometer	2/4/2020	2/4/2021
117343.2	Thermocouple Wire	4/13/2016	VBU

SECTION 6

8.3 BALL IMPACT RESISTANCE TEST:

Date Received:	22-October-2020
Date Tested:	04-November-2020
Location Tested:	Intertek Kentwood, MI

DESCRIPTION OF SAMPLES:

Part Description:	PL-Base-354822-12 / PL-Wall-304812-02
Material Submitted:	Eight (8x) Pre-prepped cabinet samples
Material Specification:	SEFA 8 PL (2016)
Condition of Samples:	Production

TEST PROCEDURE:

Test Method:	SEFA 8 PL (2016) section 8.2 ANSI/NEMA LD 3-2005 Para 3.8 Ball Impact Resistance
Number of Samples:	One (1)
Conditioning:	48 hours minimum at 23±2°C and 50±5% R.H.
Sample Size:	12”x12”
Impact Ball:	224±3g and 38.1mm diameter

ACCEPTANCE CRITERIA:

Minimum of 50” (1250mm)

RESULTS:

Table 4: 8.3 Ball Impact Resistance Test Results Table

SAMPLE	IMPACT RESISTANCE HEIGHT (inch)	OBSERVATIONS	CONFORMING
1	60	Quarter Ring Fracture	Conforming

PHOTOGRAPHS:

Figure 2: 8.3 Ball Impact Resistance Test no fracturing observed at 50 inches

TEST EQUIPMENT:

ASSET NUMBER	EQUIPMENT	CALIBRATION DATE	CALIBRATION DUE
114244	Digital Caliper	12/22/2019	12/22/2020
114229	Temperature And Humidity Recorder	2/1/2020	2/1/2021
114248	Scout Pro Portable Balance 6200g Capacity	4/7/2020	4/7/2021
114241	26 Ft Tape Measure	1/27/2020	1/27/2021

SECTION 7

8.6 DART IMPACT RESISTANCE TEST:

Date Received:	26-May-2020 and 13-June-2020
Date Tested:	09-June-2020
Location Tested:	Intertek Kentwood, MI

DESCRIPTION OF SAMPLES:

Part Description:	PL-Base-354822-12 / PL-Wall-304812-02
Material Submitted:	Eight (8x) Pre-prepped cabinet samples
Material Specification:	SEFA 8 PL (2016)
Condition of Samples:	Production

TEST PROCEDURE:

Test Method:	SEFA 8 PL (2016) section 8.2 ANSI/NEMA LD 3-2005 Para 3.9 Impact Resistance
Number of Samples:	One (1)
Conditioning:	48 hours minimum at 23±2°C and 50±5% R.H.
Sample Size:	8”x8”
Impact Ball:	25.0±0.5g and 5mm diameter tip
Initial Drop Height:	125mm
Drop Height Increase Increments:	25mm

ACCEPTANCE CRITERIA:

Minimum 500mm (20”)

RESULTS:

Table 5: 8.3 Ball Impact Resistance Test Results Table

SAMPLE	IMPACT RESISTANCE HEIGHT (inch)	OBSERVATIONS	CONFORMING
1	26.6	Ring Fracturing	Conforming

PHOTOGRAPHS:

Figure 3: 8.3 Ball Impact Resistance Test Sample After Testing

TEST EQUIPMENT:

ASSET NUMBER	EQUIPMENT	CALIBRATION DATE	CALIBRATION DUE
117557	Digital Caliper	8/25/2019	8/25/2020
114241	26 ft Tape Measure	1/27/2020	1/27/2021
114229	Temperature and Humidity Recorder	2/1/2020	2/1/2021
114159	Scale, Analytical Balance 0-120 g	9/30/2019	9/30/2020

SECTION 8

8.7 EDGE DELAMINATING TEST:

Date Received:	26-May-2020 and 13-June-2020
Date Tested:	10-June-2020
Location Tested:	Intertek Kentwood, MI

DESCRIPTION OF SAMPLES:

Part Description:	PL-Base-354822-12 / PL-Wall-304812-02
Material Submitted:	Eight (8x) Pre-prepped cabinet samples
Material Specification:	SEFA 8 PL (2016)
Condition of Samples:	Production

TEST PROCEDURE:

Test Method:	SEFA 8 PL (2016) section 8.7
Number of Samples:	One (1)

ACCEPTANCE CRITERIA:

Peel value must exceed 18.5 lbs/inch.

RESULTS:

Table 6: 8.7 Edge Delaminating Test Results Table

SAMPLE	MAX PEEL STRENGTH (LBS/INCH)	DISPOSITION
1	52.2	Conforming

PHOTOGRAPHS:

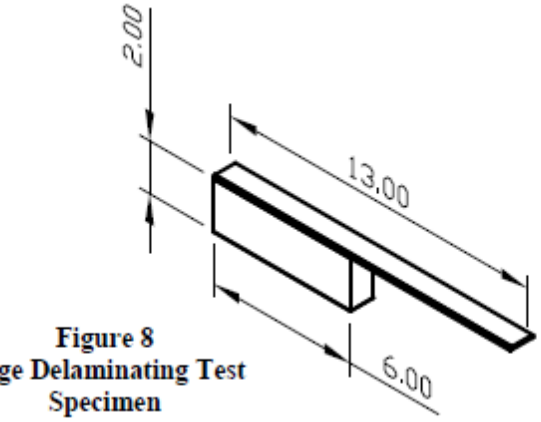


Figure 8
Edge Delaminating Test Specimen

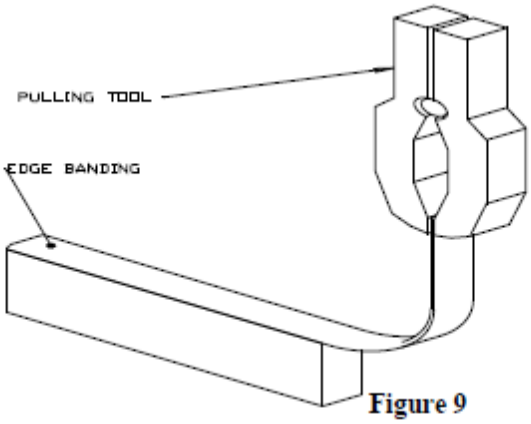


Figure 9
Edge Delaminating Test and Setup

Figure 4: 8.7 Edge Delaminating Test Orientation

TEST EQUIPMENT:

ASSET NUMBER	EQUIPMENT	CALIBRATION DATE	CALIBRATION DUE
114255	Digital Caliper	10/7/2019	10/7/2020
114217	UTM	12/17/2019	12/17/2020
114220	Load Cell	12/17/2019	12/17/2020
114229	Temperature and Humidity Recorder	2/1/2020	2/1/2021

SECTION 9

8.9 WEAR RESISTANCE (ABRASION):

Date Received:	26-May-2020 and 13-June-2020
Date Tested:	08-June-2020 to 12-June-2020
Location Tested:	Intertek Kentwood, MI

DESCRIPTION OF SAMPLES:

Part Description:	PL-Base-354822-12 / PL-Wall-304812-02
Material Submitted:	Eight (8x) Pre-prepped cabinet samples
Material Specification:	SEFA 8 PL (2016)
Condition of Samples:	Production

TEST PROCEDURE:

Test Method:	SEFA 8 PL (2016) section 8.9 ANSI/NEMA LD 3 2005 para 3.13
Number of Samples:	Three (3)
Conditioning:	48 hours minimum at 23±2°C and 50±5% R.H.
Wheels:	S-32
Sample Paper:	180grit applied to the outer surface of abrasive wheels.
Weights:	500g
Sand Paper Calibration:	
Zinc Plate:	S-34 53.4653
Zinc Plate Weight 1:	Post 500 cycles 53.3836
Zinc Plate Weight 2:	Post 500 additional cycles. 53.3189 53.2307
Zinc Plate Mass Loss (L1 and L2):	L1: 82 mg L2: 88 mg
Correction Factor (CF):	0.7727
Test Procedure:	
Inspection Rate:	Every 25 Cycles
Initial Wear Point (IP):	2. Solid colors—that point at which the color layer is first worn through in 4 quadrants and the sublayer is exposed.
Final Wear Point (FP):	2. Solid colors—that point at which the color layer is completely removed, exposing the sublayer the full width of the abrading wheel around its entire path.
Sandpaper Replacement Rate:	Every 500 cycles

ACCEPTANCE CRITERIA:

Per SEFA 8 PL (2016): Report
Per ANSI/NEMA LD 3: 400 cycles minimum

RESULTS:

Table 7: 8.9 Wear Resistance (Abrasion) Results Table

SAMPLE	INITIAL WEIGTH (g)	FINAL WEIGHT (g)	RATE OF WEAR (g/100 CYCLES)	IP (CYCLES)	FP (CYCLES)	WEAR RESISTANCE (CYCLES)	DISPOSITION
1	165.7685	165.0579	0.0271	525	2625	1200	
2	167.0888	166.3849	0.0256	600	2750	1300	
3	155.6347	154.9225	0.0282	550	2525	1200	
Mean:	---	---	0.0270	---	---	1250	Conforming

PHOTOGRAPHS:

Figure 5: 8.9 Wear Resistance (Abrasion) Samples After Testing.

TEST EQUIPMENT:

ASSET NUMBER	EQUIPMENT	CALIBRATION DATE	CALIBRATION DUE
111151	250g Scale	5/5/2020	5/5/2021
117397	Taber Test Supply	REF ONLY	REF ONLY
117401	Abrasion Wear Test Machine	11/6/2019	11/6/2020
114229	Temperature and Humidity Recorder	2/1/2020	2/1/2021

Revisions Made To Test Report

<table>
<tr><th>INDEX</th><th>DATE</th><th>REVISION DESCRIPTION</th><th>REVISED BY</th><th>REVIEWED BY</th></tr>
<tr><td>001</td><td>7/27/20</td><td>Initial Release</td><td>---</td><td>---</td></tr>
<tr><td>002</td><td>11/6/20</td><td><u>Additions/Changes:</u>
-Revision date to pg 1
-This table
-Page 3:
Added 10/22/20 to dates received
Added 11/4/20 to dates tested
-Page 4
Changed 8.3 Ball impact from Nonconforming to conforming.
-Page 15
* Removed Nonconforming date and replaced it with conforming testing in report 104481451GRR-001
* Original data:
SECTION 8
8.3 BALL IMPACT RESISTANCE TEST:
Date Received: 26-May-2020 and 13-June-2020
Date Tested: 24-July-2020
Location Tested: Intertek Kentwood, MI
DESCRIPTION OF SAMPLES:
Part Description: PL-Base-354822-12 / PL-Wall-304812-02
Material Submitted: Eight (8x) Pre-prepped cabinet samples
Material Specification: SEFA 8 PL (2016)
Condition of Samples: Production
TEST PROCEDURE:
Test Method: SEFA 8 PL (2016) section 8.2
ANSI/NEMA LD 3-2005 Para 3.8 Ball Impact Resistance
Number of Samples: One (1)
Conditioning: 48 hours minimum at 23±2°C and 50±5% R.H.
Sample Size: 12”x12”
Impact Ball: 224±3g and 38.1mm diameter
ACCEPTANCE CRITERIA:
Minimum of 50” (1250mm)
RESULTS:
Table 4: 8.3 Ball Impact Resistance Test Results Table
SAMPLE | IMPACT RESISTANCE HEIGHT (inch) | OBSERVATIONS | CONFORMING
1 | 41 | Ring Fracturing | Nonconforming</td><td>Marc Schra</td><td>Derek Blakeslee</td></tr>
</table>

		-Page15 *New Data SECTION 8 **8.3 BALL IMPACT RESISTANCE TEST:** Date Received: 22-October-2020 Date Tested: 04-November-2020 Location Tested: Intertek Kentwood, MI **DESCRIPTION OF SAMPLES:** Part Description: PL-Base-354822-12 / PL-Wall-304812-02 Material Submitted: Eight (8x) Pre-prepped cabinet samples Material Specification: SEFA 8 PL (2016) Condition of Samples: Production **TEST PROCEDURE:** Test Method: SEFA 8 PL (2016) section 8.2 ANSI/NEMA LD 3-2005 Para 3.8 Ball Impact Resistance Number of Samples: One (1) Conditioning: 48 hours minimum at 23±2°C and 50±5% R.H. Sample Size: 12"x12" Impact Ball: 224±3g and 38.1mm diameter **ACCEPTANCE CRITERIA:** Minimum of 50" (1250mm) **RESULTS:** **Table 4: 8.3 Ball Impact Resistance Test Results Table** SAMPLE | IMPACT RESISTANCE HEIGHT (inch) | OBSERVATIONS | CONFORMING 1 | 60 | Quarter Ring Fracture | Conforming -Page 16 *Replaced image of ring fracture with image of no fracture from 104481451GRR-001 *Revised caption of Figure 2 from "8.3 Ball Impact Resistance Test Ring fracturing observed" to "8.3 Ball Impact Resistance Test no fracturing observed at 50 inches" *Replaced test equipment table with table from 104481451GRR-001 -Renumbered Pages		