



The Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources was performed by Intertek using Sensitile's Jali[®] Mezzaluna Resin Panels in accordance with the standard methods of California Specification 01350.

Having a vast selection of materials that use the same component material configuration but differ only in the internal optical patterns makes individual testing for each, redundant and unnecessary. The test material was carefully selected to be representative of the "worst case scenario" of our panel materials as a whole.

The test report, #102369956MID-001a of California Specification 01350, dated April 28, 2016, covers the following product lines:

Resin Clad, Resin Core

- Celeste[™]
- Context
- Infinity
- Jali[®]
- Lumina[™]
- Motif
- Ripple
- Scintilla[®]
- SLANT[®]
- Spark[™]
- VAPOR[™]

Glass Clad, Resin Core

- Celeste[™]
- Context
- Jali[®]
- Lumina[™]
- Scintilla[®]
- SLANT[®]

Glass Clad, No Core

- Celeste[™]
- VAPOR

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TEST REPORT

REPORT NUMBER: 102369956MID-001a
ORIGINAL ISSUE DATE: April 28, 2016
REVISED DATE: na

EVALUATION CENTER

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RENDERED TO:

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PRODUCT EVALUATED: Jali Mezzaluna 40%

EVALUATION PROPERTY: California Specification 01350: Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers

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2 Introduction

Intertek has conducted testing for Sensitle Systems on Jali Mezzaluna 40%. Testing was conducted following the standard methods of California Specification 01350: Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers. This evaluation began April 1, 2016 and was completed April 28, 2016.

3 Test Samples

3.1. SAMPLE SELECTION

The sample product Jali Mezzaluna 40% was collected and shipped on 3/30/16 at by Kaitlin Morris to the testing facility at Middleton Wisconsin. The sample arrived on 3/31/16 in good condition. ID Tracking number: MID1603310925-001

3.2. SAMPLE AND ASSEMBLY DESCRIPTION

The sample was removed from the bag and removed from the aluminum foil. The sample was cut by the client to 100.9 x 76.0 x 20.5 mm with an exposed surface area of 0.0225 m², and a weight of 180.2723g.

4 Testing and Evaluation Methods

Testing was in accordance with California Specification 01350: Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers.

Testing for the private office scenario for one wall (9ft by 10 ft). The testing started on April 1, 2016 and completed April 15, 2016. All GC and LC testing was completed by April 28, 2016. The chamber volume is 50L with an inlet flow of 50L/hour. . The average temperature range was 23 °C +/- 2 and 50 +/- 5 %RH.

The VOC for the LC sampling was collected on Sep-Pak DNPH-Silica Cartridges. Collection was performed at 50 ml/min for 20 minutes using a vacuum pump with a mass flow meter. The Sep-Pak DNPH-Silica Cartridges were stored in the refrigerator until eluted according to the manufactures instructions into 5 ml of ACN. The samples were collected at 96 hours within the time limitations specified in the standard. The Sep-Pak DNPH-Silica Cartridges samples were run on Shimadzu HPLC system using a Waters Symetry C18 5um 3.9 x 150 column. A gradient profile was used to run the standard Aldehyde/Ketone –DNPH Mix.

For the HPLC testing, no target VOCs were found at the 96 hr time point. No quantification was required using the standard with minimum of a 5 point curve. A check standard was run during the samples to verify system suitability.

The VOC for the GC/MS was collected on Thermo Desorption (TD) tubes Atas GL (A100054) fritted lintars filled with Tenax GR TA packing material. Collection was performed at 50 ml/min for 20 minutes using a vacuum pump with a mass flow meter. The TD tubes were verified to be clean before testing. The samples were collected at 24, 48, and 96 hours within the time limitations specified in the standard, and tested the same day. The samples were run on

For determining TVOC direct injection of toluene was used with at least 5 different concentrations.

Standard Curves diluted with toluene were performed in triplicate for each standard. The standard was run with the same GC temperature profile as the TD tubes.

The LOQ for toluene was determined to be 0.004022 ug/m³. Area count below this concentration will be reported as present but not quantifiable.

4.1.1. Deviation from Standard Method

There were no deviations from the test standard.

4.2. RESULTS AND OBSERVATIONS

Total VOCs for Private Office (One 9ft by 10ft wall)		24 hr	48 hr	96 hr
Emissions Factor (EF _{Ai}) (ug m ⁻² h ⁻¹)		0.1142	0.1291	0.1231
Inlet flow rate Q (m ³ h ⁻¹)		0.22413	0.22413	0.22413
Chamber Concentration C _{it} (ug m ⁻³)		0.012	0.013	0.012
Chamber background concentration (ug m ⁻³)		0.0000	0.0000	0.0000
Exposed projected surface area of the test specimen in the chamber A _c (m ²)		0.0226	0.0226	0.0226
Estimated Building Concentration C _B (ug m ⁻³)	EF _{Ai} /qA=	0.0461	0.0521	0.0497
Area Specific flow rate w A (m h ⁻¹)= Qb/AB	Qb/AB=	2.4757	m h ⁻¹	
Flow rate of the outside ventilation are Q _b (m ³ h ⁻¹)	Q _b =	20.7	m ³ h ⁻¹	
Exposed surface area of the installed material in the building AB (m ²)	AB=	8.361270	m ²	

Private Office (10ft by 9 ft wall)		24 hr	48 hr	96 hr
Unknown at 5.1 min				
Emissions Factor (EF _{Ai}) (ug m ⁻² h ⁻¹)		0.0491	NA	0.0615
Inlet flow rate Q (m ³ h ⁻¹)		0.22413	0.22413	0.22413
Chamber Concentration C _{it} (ug m ⁻³)		0.005	na	0.006
Chamber background concentration (ug m ⁻³)		0.0000	0.0000	0.000
Exposed projected surface area of the test specimen in the chamber A _c (m ²)		0.0226	0.0226	0.0226
Estimated Building Concentration C _B (ug m ⁻³)	EF _{Ai} /qA=	0.0198	na	0.0249
Area Specific flow rate w A (m h ⁻¹)= Qb/AB	Qb/AB=	2.4757	m h ⁻¹	
Flow rate of the outside ventilation are Q _b (m ³ h ⁻¹)	Q _b =	20.7	m ³ h ⁻¹	
Exposed surface area of the installed material in the building AB (m ²)	AB=	8.361270	m ²	

Private Office (10ft by 9 ft wall)		24 hr	48 hr	96 hr
Unknown at 8.05 min				
Emissions Factor (EF_{Ai}) ($\mu\text{g m}^{-2} \text{h}^{-1}$)		0.0651	0.0576	NA
Inlet flow rate Q ($\text{m}^3 \text{h}^{-1}$)		0.22413	0.22413	0.22413
Chamber Concentration C_{it} ($\mu\text{g m}^{-3}$)		0.007	0.006	0.000
Chamber background concentration ($\mu\text{g m}^{-3}$)		0.0000	0.0000	0.000
Exposed projected surface area of the test specimen in the chamber A_c (m^2)		0.0226	0.0226	0.0226
Estimated Building Concentration C_{iB} ($\mu\text{g m}^{-3}$)	$EFAi/qA=$	0.0263	0.0233	na
Area Specific flow rate $w A$ (m h^{-1})= Q_b/AB	$Q_b/AB=$	2.4757	m h^{-1}	
Flow rate of the outside ventilation are Q_b ($\text{m}^3 \text{h}^{-1}$)	$Q_b=$	20.7	$\text{m}^3 \text{h}^{-1}$	
Exposed surface area of the installed material in the building AB (m^2)	$AB=$	8.361270	m^2	

Compound Name:		24 hr	48 hr	96 hr
Unknown at 9.9 min				
Emissions Factor (EF_{Ai}) ($\mu\text{g m}^{-2} \text{h}^{-1}$)		NA	NA	0.0615
Inlet flow rate Q ($\text{m}^3 \text{h}^{-1}$)		0.22413	0.22413	0.22413
Chamber Concentration C_{it} ($\mu\text{g m}^{-3}$)		NA	na	0.006
Chamber background concentration ($\mu\text{g m}^{-3}$)		0.0000	0.0000	0.000
Exposed projected surface area of the test specimen in the chamber A_c (m^2)		0.0226	0.0226	0.0226
Estimated Building Concentration C_{iB} ($\mu\text{g m}^{-3}$)	$EFAi/qA=$	na	na	0.0249
Area Specific flow rate $w A$ (m h^{-1})= Q_b/AB	$Q_b/AB=$	2.4757	m h^{-1}	
Flow rate of the outside ventilation are Q_b ($\text{m}^3 \text{h}^{-1}$)	$Q_b=$	20.7	$\text{m}^3 \text{h}^{-1}$	
Exposed surface area of the installed material in the building AB (m^2)	$AB=$	8.361270	m^2	

Private Office (10ft by 9 ft wall)		24 hr	48 hr	96 hr
Unknown at 10.8 min				
Emissions Factor (EF_{Ai}) ($\mu\text{g m}^{-2} \text{h}^{-1}$)		NA	0.0715	na
Inlet flow rate Q ($\text{m}^3 \text{h}^{-1}$)		0.22413	0.22413	0.22413
Chamber Concentration C_{it} ($\mu\text{g m}^{-3}$)		NA	0.007	0.000
Chamber background concentration ($\mu\text{g m}^{-3}$)		0.0000	0.0000	0.000
Exposed projected surface area of the test specimen in the chamber A_c (m^2)		0.0226	0.0226	0.0226
Estimated Building Concentration C_{iB} ($\mu\text{g m}^{-3}$)	$EFAi/qA=$	na	0.0289	na
Area Specific flow rate $w A$ (m h^{-1})= Q_b/AB	$Q_b/AB=$	2.4757	m h^{-1}	
Flow rate of the outside ventilation are Q_b ($\text{m}^3 \text{h}^{-1}$)	$Q_b=$	20.7	$\text{m}^3 \text{h}^{-1}$	
Exposed surface area of the installed material in the building AB (m^2)	$AB=$	8.361270	m^2	

Note: All Unknown compounds value are below the LOQ are report present but not quantified.

1. Two unknown compounds were found below the LOQ at 9.9 and 10.8 minutes at the 24 hour testing point.
2. Two unknown compounds were found below the LOQ at 5.1 and 9.8 minutes at the 48 hour testing point.
3. One unknown compound was found below the LOQ at 10.8 minutes at the 96

4.3. EXAMINATION OF RESULTS

Four Unknown compounds were found. The total VOC for the estimated building concentration at 96 hr is 0.123 ug/m³

5 Appendix A

Photo of tested sample:



6 Conclusion

Intertek has conducted testing Sensitle Systems, on Jali Mezzaluna 40% , to evaluate Californian Specification 01350; Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers.

A total of 4 unknown compounds were found. No low molecular weight aldehydes were found by the HPLC. A summary of the finding can be found in section 4.3 of the evaluation of the results. The total VOC for the estimated building concentration at 96 hr is 0.123 ug/m³

The conclusions of this test report may not be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

INTERTEK

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Reviewed by:



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7 Revision Summary

DATE	SUMMARY
April 28, 2016	Original date of report