

TEST REPORT

REPORT NUMBER: 102677921MID-001iREV1
ORIGINAL ISSUE DATE: Dec 23, 2016
REVISED DATE: Jan 3, 2017

EVALUATION CENTER
Intertek
Verification Center
8431 Murphy Dr
Middleton, WI 53562

RENDERED TO
Mark Lund
3M
3M Center, Building 230-BE-16
St. Paul, MN 55144
Phone: 651-773-0973
Email: mwlund@mmm.com

PRODUCT EVALUATED: 3M™ Fire Barrier Sealant CP 25WB+ 10 oz tube

EVALUATION PROPERTY: CDPH Specification 01350 v1.1: Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers v1.1

Report of for compliance with the applicable requirements of the following criteria: CDPH Specification 01350 v1.1: Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers v1.1 and LEED v4.

"This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program."

1 Table of Contents

1	Table of Contents	2
2	Introduction	3
3	Test Samples	3
3.1.	SAMPLE SELECTION	3
3.2.	SAMPLE AND ASSEMBLY DESCRIPTION.....	3
4	Testing and Evaluation Methods	3
4.1.1.	Deviation from Standard Method.....	4
4.2.	RESULTS AND OBSERVATIONS.....	4
4.3.	EXAMINATION OF RESULTS	4
5	Appendix A.....	5
6	Conclusion	6
7	Revision Summary	6

2 Introduction

Intertek has conducted testing for 3M on 3M™ Fire Barrier Sealant CP 25WB+ 10 oz tube. Testing was conducted following the standard methods of CDPH Specification 01350 v1.1: Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers v 1.1.

3 Test Samples

3.1. SAMPLE SELECTION

Two sample of 3M™ Fire Barrier Sealant CP 25WB+ 10 oz tube, tube #98-0400-5456-5 lot 6306CK was bulk manufactured on 11/1/2016. The bulk material was packaged on 811/3/2016 in standard packaging for 10 oz finished cartridge. The samples were shipped by Andrew J. Mais on 11/4/2016. The sample arrived on 11/7/2016 in the Middleton Lab with ID Tracking number: MID16110712118-001.

3.2. SAMPLE AND ASSEMBLY DESCRIPTION

The sample was placed in a ½ inch wide by ½ inch deep channel into two aluminum tray cut to about 10 inches long. The empty metal channels were weight. The tube was inserted into the applicator gun. The applicator tip was cut to produce about a ½ inch bead of material. About 100g of material was dispensed and discarded. The sample was placed in the tray holders using a single smooth stroke of the gun. Any excess caulk was wiped from the exterior of the channel holder. The metal channels were reweighed after applying the caulk to determine the number of grams of wet caulk per linear meter of ½ inch bead. The sample was immediately transferred to the environmental chamber and the date and time recorded. See appendix 1 for the photo of the sample.

4 Testing and Evaluation Methods

Testing was in accordance with CDPH Specification 01350 v1.1: Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers v1.1.

Testing for the private office, and classroom scenario with Floors, Ceiling and walls, and around windows and doors. The chamber volume is 100.35 with an inlet flow of 100.35 L/hour. The load factor is based on the total surface area of the system in the standard environment, where the product is applied as stated in section 4.3.6 of the standard. 20 inches of sample was used for the 100.35 L chamber so that there was a proportional increase in the sample size to that of the smallest chamber of 50L with a sample length of 10 inches. 10 inches is the maximum required length stated in section 3.4.1 of the standard for caulk preparation. The conditioning started on 12/9/2016 and was completed on 12/19/2019. The average temperature range was 23 °C +/- 2 and 50 +/- 5 %RH. The sampling started on 12/20/2016 and completed 12/23/2016. All GC and LC testing was completed by 12/30/2016.

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 24, 48 and 96 hours within the time limitations specified in the standard. Only Formaldehyde is determined at the 24 and 48 hour time point. 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 lintens filled with Tenax GR packing material. Collection was performed at 50 ml/min for 5 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 Shimadzu GC/MS with an ATAS GL High Performance injector for the TD tubes. A Restek Rtx-VMS 40 meter, 0.18 mm ID, 1um df was used.

Direct injection of toluene was used with at least 5 different concentrations was used for determining the concentration of the unknown VOCs. The LOQ for toluene was determined to be 0.008044 ug/m³

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. Standard Cures of the known compounds were made with triplicate injections. The MS spectra and retention time were used to verify the known compounds. The total VOC report will be the sum of the unknown using toluene standard curve and known VOC using the appropriate standard curve for the known compound.

4.1.1. Deviation from Standard Method

There were no known deviations to the standard.

4.2. RESULTS AND OBSERVATIONS

No VOC compounds were found to be present in the chamber by GC/MS. No Formaldehyde or Acetaldehyde were found by HPLC analysis. No CRELs compounds were found.

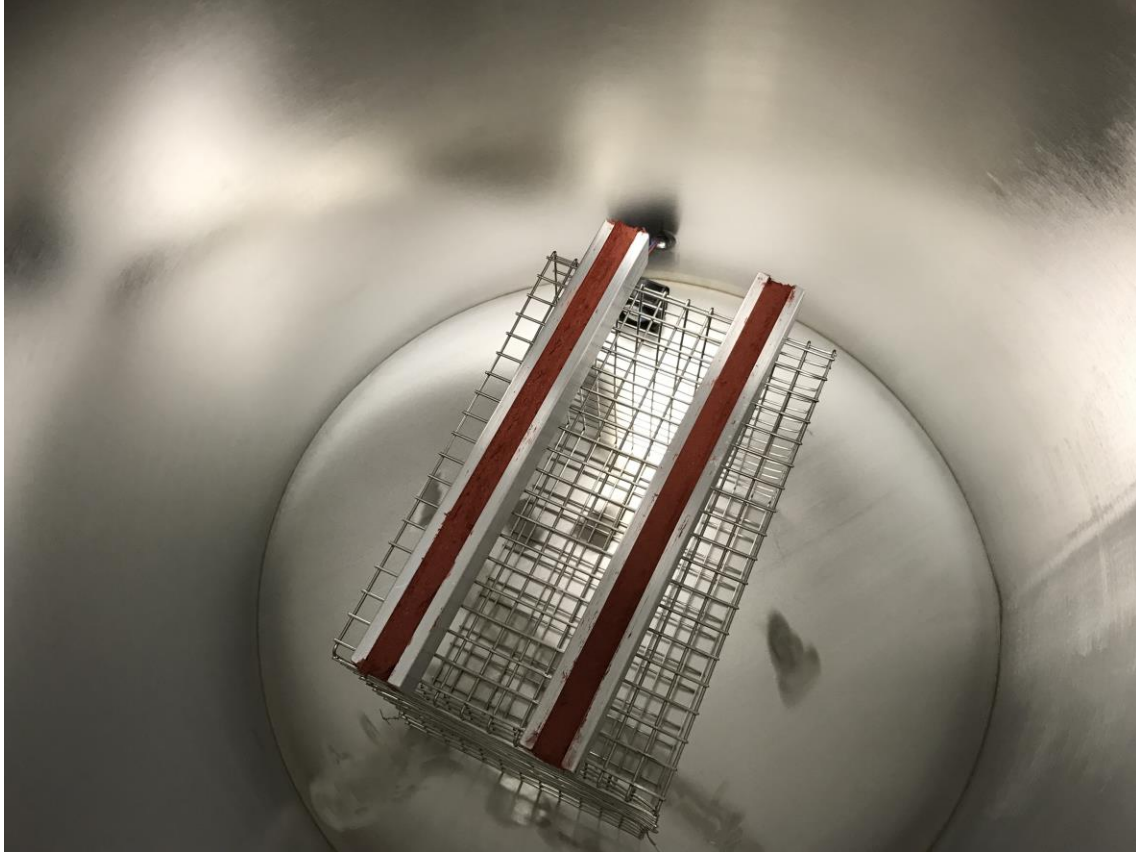
4.3. EXAMINATION OF RESULTS

The results are based on the use of 65.5g/linear foot of 1/2 caulk in a private office or standard classroom placing caulk on the parameters of using floors, ceilings walls and floors and around doors and windows. The amount of the VOC present in the room are based on the total surface area of the system in the standard environment, where the product is applied, using 20 inches of sample in a ½ inch deep by ½ inch wide channel of aluminum with a 100.35 liter VOC chamber.

No VOC compounds were found to be present in the chamber by GC/MS. No Formaldehyde or Acetaldehyde were found by HPLC analysis. No CRELs compounds were found. The summary for each testing scenario is listed in the result above in section 4.2.

5 Appendix A

Photo of tested sample:



6 Conclusion

Intertek has conducted testing Applegate Insulation, on 3M™ Fire Barrier Sealant CP 25WB+ 10 oz tube , to evaluate CDPH Specification 01350 v1.1; Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers v1.1.

3M™ Fire Barrier Sealant CP 25WB+ 10 oz tube complies with limits specified in CDPH Specification 01350 v1.1 February 2010 for private office and classroom. The sample passed the LEED v4 for total VOC and Target Chemical listed in CDPH Standard Method v 1.1 Table 4-1.

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
Reported by:



Bryan Bowman
Chemist

Reviewed by:



Mark Crawford
Chemist Team Lead

7 Revision Summary

DATE	SUMMARY
Dec 23, 2016	Original date of report
Jan 3, 2017	Changed the sample name
