



Title: Mold Resistance Test Results

Product: Envirocoustic Wood Wool - Painted and Unpainted

Application: Wall or Ceiling

Testing Standard: Based on Greenguard Microbial Growth Test

Test Date: 10/23/2018

Why this test: This test evaluates resistance to the growth of mold on the product, placing product samples with mold spores applied in an environmental test chamber with 95% humidity for 3 weeks. Products are removed and shaken to retrieve any spores, and then the spores are incubated for another week. Results are calculated as spores per unit, compared to a positive growth control, and rated on a scale of 1-4 for resistance to mold growth.

Test Result Summary: 4 (both painted and unpainted) - Highly Resistant to Mold Growth

Test ID: R2018-492-2

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*MEASUREMENT OF MICROBIAL RESISTANCE USING
A STATIC ENVIRONMENTAL CHAMBER*

*TESTING BASED ON AQI METHOD GGTM.P040-2007
FINAL REPORT: 2018-492-2
AMENDMENT TO R2018-492*

Prepared for:
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Testing Completed: October 23, 2018

Report Issued: October 29, 2018

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Objective:

To quantitatively evaluate the ability of molds to colonize two samples and rate its susceptibility or resistance to mold growth.

Test Sample Identification:

1. Cementitious Wood Fiber Acoustic Board – purple surface
2. Cementitious Wood Fiber Acoustic Board – interior surface

Test Procedure Summary:

The test sample and control (tongue depressor) were cut to approximately 2cm x 4cm test coupons. Three replicates were prepared for each contact time. Test coupons were autoclaved prior to testing. Each coupon was placed into a sterile Petri dish.

Penicillium brevi-compactum was cultured and adjusted to a target starting concentration of 1.5×10^3 spores/mL. Viability of the harvested spores was verified. 0.2mL of the adjusted inoculum was placed onto the surface of test and control coupons. All samples were then placed into a chamber containing sodium phosphate heptahydrate ($\text{NaHPO}_4 \cdot 7\text{H}_2\text{O}$) to maintain relative humidity of 95% at 25°C.

Contact times were Day 0 (1 hour after inoculation), Week 1 (Control only), and Week 3 after inoculation. Three (3) replicates of the sample and control were removed from the test chamber at the appropriate contact time and placed into a sterile container containing 10mL of sterile peptone. The sample was shaken to facilitate the release of any spores that may be on the test coupon into the buffer solution. Serial dilutions were made to determine if any viable fungal spores remained on the coupons. The serial dilution plates were incubated at 25°C for 5 days and colonies were counted. Averages for the 3 replicates for test and control coupons were calculated.



Test Results:

The results below pertain only to test items included in this report.

The average number of recovered colonies for the test sample and control was converted into colony forming units (CFU) per coupon and log value. The results for tested sample and the control were rated according to the rating scheme given below.

Results

Sample	Day 0	Week 3	Ranking	Product Measurement
Cementitious Wood Fiber Acoustic Board - purple surface	1.2	1.1	4	Highly Resistant to Mold Growth
Cementitious Wood Fiber Acoustic Board - internal surface	1.4	1.1	4	Highly Resistant to Mold Growth
Control	2.4	6.9	2	Susceptible to Mold Growth

Microbial Resistance Rating Scheme

Ranking	Product Measurement	Definition
1	Highly Susceptible to Mold Growth	Growth comparable to highly susceptible materials. $\text{Log}(\text{CFU}) > 7.5$ at 3 weeks
2	Susceptible to Mold Growth	Growth comparable to susceptible materials. $\text{Log}(\text{CFU}) \leq 7.5$ and > 5.5 at 3 weeks
3	Resistant to Mold Growth	Growth comparable to resistant materials. $\text{Log}(\text{CFU}) \leq 5.5$ and > 2.5 at 3 weeks
4	Highly Resistant to Mold Growth	Growth comparable with highly resistant materials. $\text{Log}(\text{CFU}) \leq 2.5$ at 3 weeks, or $\text{Log}(\text{CFU}) < 5.5$ with a decrease of at least 0.5 $\text{Log}(\text{CFU})$ after 3 weeks