



Title: Fungal Growth Test Results

Product: Envirocoustic Wood Wool - Painted and Unpainted

Application: Wall or Ceiling

Testing Standard: ASTM D3273

Test Date: 10/08/2018

Why this test: This test evaluates growth of fungal spores on the product, hanging product samples in an environmental test chamber over soil seeded with fungi for 28 days. Products are checked weekly for visual growth compared to a positive growth control and rated on a scale of 0-10 for the percentage of face covered in fungus.

Test Result Summary: 10/10 Front/Back - No Defacement (100% clear of fungal growth)

Test ID: R2018-491-3

ASI TEST RESULT DISCLAIMER

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Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber

FINAL REPORT: R2018-491-3

AMENDMENT TO R2018-491

Prepared for:

ASI

123 Columbia Court N.

Chaska, MN 55318

Accredited Testing Provided by:



130 Erick Street
Crystal Lake, IL 60014
815.526.0954
TESTING CERT: #2832.01

Testing Initiated: September 10, 2018

Testing Completed: October 8, 2018

Report Issued: October 29, 2018

Performed By: Melissa Nolte
Title: Staff Scientist

Approved By: Debbie Koester
Title: Quality Manager



Objective:

To evaluate the mold resistance properties of one sample as demonstrated by the ASTM D3273 fungal resistance test.

Test Sample Identification:

1. Cementitious Wood Fiber Acoustic Board

Test Procedure Summary:

The ASTM D3273 test chamber contains soil that was seeded with fungal spores and allowed to grow. The test samples were hung in the D3273 chamber with three pieces of the positive growth control to confirm validity of the fungal inoculum coming from the soil. Samples were examined weekly for fungal growth and defacement and rated according to visual defacement of fungal growth.

Test Variables

| | | |
|------------------------|--------------------------------|-----------|
| Test Organisms: | <i>Aspergillus niger</i> | ATCC 6275 |
| | <i>Penicillium citrinum</i> | ATCC 9849 |
| | <i>Aureobasidium pullulans</i> | ATCC 9348 |

| | |
|----------------------------|----------------|
| Sample Description: | 3" x 4" pieces |
|----------------------------|----------------|

| | |
|----------------------------|---|
| Sample Preparation: | Cut 3" x 4" pieces from larger submitted sample |
|----------------------------|---|

| | |
|---|-------|
| Number of Replicates per Sample: | Three |
|---|-------|

| | |
|---------------------------------|---------------------|
| Positive Growth Control: | Untreated wallboard |
|---------------------------------|---------------------|

| | |
|----------------------------------|---------------------------------------|
| Environmental Conditions: | 32.5 ± 1°C; 95 ± 3% relative humidity |
|----------------------------------|---------------------------------------|

| | |
|-----------------------------|---------|
| Incubation Duration: | 28 days |
|-----------------------------|---------|

| | |
|--|---|
| Deviations from Standard Test Method: | None, testing performed per ASTM D3273 without deviation. |
|--|---|



Results:

After 4 weeks of incubation in the D3273 chamber, the results for the test pieces can be found in the data table below. These results pertain only to the samples tested.

Additional MicroStar controls were added to the test chamber at Week 3 due to atypical growth on the original test controls. Additional controls confirmed both the viability of the test organisms within the chamber and the validity of the test.

There was no growth on the core area of the samples.

Samples are rated according to degree of surface defacement. Visual defacement is determined with an unaided eye, using magnification only to confirm suspicious areas. The rating scale is as follows:

| Rating | Definition |
|--------|-------------------------------|
| 10 | No Defacement |
| 9 | 90% clear (1 - 10 % defaced) |
| 8 | 80% clear (11 - 20% defaced) |
| 7 | 70% clear (21 - 30% defaced) |
| 6 | 60% clear (31 - 40% defaced) |
| 5 | 50% clear (41 - 50% defaced) |
| 4 | 40% clear (51 - 60% defaced) |
| 3 | 30% clear (61 - 70% defaced) |
| 2 | 20% clear (71 - 80% defaced) |
| 1 | 10% clear (81 - 90% defaced) |
| 0 | 0 % clear (91 - 100% defaced) |

ASTM D3273 Rating

| Sample Identification | Rep | Week 1 | Week 2 | Week 3 | Week 4 |
|---|-----|------------|------------|------------|------------|
| | | Front/Back | Front/Back | Front/Back | Front/Back |
| Cementitious Wood Fiber Acoustic Board | 1 | 10/10 | 10/10 | 10/10 | 10/10 |
| | 2 | 10/10 | 10/10 | 10/10 | 10/10 |
| | 3 | 10/10 | 10/10 | 10/10 | 10/10 |
| Controls and Conditions | | | | | |
| MSL-1 ½" Untreated wallboard | | 9/9 | 7/7 | 7/5 | 4/4 |
| MSL-2 ½" Untreated wallboard | | 9/9 | 8/6 | 7/4 | 5/3 |
| MSL-3 ½" Untreated wallboard | | 9/9 | 8/5 | 7/4 | 5/3 |
| Relative Humidity (95 ±3%) | | 97 | 97 | 97 | 97 |
| Temperature °C (32.5 ± 1°C) | | 32.2 | 32.1 | 32.0 | 32.2 |