

**Biological Lab Services**

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28Aug03

File 5857

Mr. Ron Robarts  
Kemlite Company  
23525 W. Eames Street  
Channahon, Illinois  
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Dear Mr. Robarts,

I have finished the ASTM D3273 Fungus Resistance test on your products.

1. Background.

The 32 test items arrived at Biological Lab Services on 21Jul03. All were immediately inspected and found to be in good condition. They were put under test on 23Jul03. Each test item was examined and rated weekly for 4 weeks. The front and back of each test item was rated separately. Photos(enclosed) were taken of the test items at the completion of the test.

2. Rating systems.

The table below lists the weekly ratings of the test items. I rate them in two ways. When I take the weekly ratings, I record the estimated percent of the surface area of the test item that is supporting fungi on a 0, 10%, 20%.....80%, 90%, 100%.

However, the D3273 protocol states that test items are to be rated according to the D3274 protocol. In the D3274 system, the ratings go from 0 to 10 where a rating of 0 means 100% of the surface of the test item is colonized by fungi. A rating of 10 means there is no fungal growth on the test item.

In this report, I list the ratings by both methods.

### 3. Results.

3-a. The following test items had no fungal growth on them over the duration of the test. My field rating of them is '0.' Their final rating by the D3274 protocol is '10.'

1. 385 PIF . Items # 1-1, 1-2, 1-3.
2. 0.090 Structoglas. Items # 2-1, 2-2, 2-3.
3. 0.090 Lascobond. Items # 3-1, 3-2, 3-3, 3-4, 3-5.
4. PIF w/o Microban. Items # 4- 1, 4-2, 4-3.
5. PIF with Microban. Items # 5-1, 5-2, 5-3.
6. Ceramic coupons. Items # 8-1, 8-2, 8-3.

3-b. The following test items supported some measurable fungal growth. The following table is my estimate of the percent of surface supporting fungi.

Identif.	Week 1		Week 2		Week 3		Week 4	
	front	back	front	back	front	back	front	back
	--percent--							
Plywood 6-1	0	0	0	0	5	5	20	20
6-2	0	0	0	0	0	10	10	20
6-3	0	0	0	0	0	10	10	40
Wallbd 7-1	0	0	0	5	20	20	30	20
7-2	0	0	0	0	10	0	40	30
7-3	0	0	5	10	30	50	20	20
Wallbd 9-1	0	0	0	0	0	0	60	0
9-2	0	0	0	0	10	0	30	0
9-3	0	0	0	0	10	0	60	0
Wallbd+10-1	0	0	0	0	10	0	30	0
10-2	0	0	0	0	20	0	10	0
10-3	0	0	0	0	20	0	50	0

### 3-c. ASTM D3274 ratings.

The same data are shown below, converted to the rating system from ASTM D3274, as called for in the ASTM D3273. In this rating scale, a 10 signifies no fungal growth and 0 signifies total occupation of the surfaces by fungal tissue.

The data listed below are the ratings by the ASTM D3274 for those test items that display some fungal growth. I have listed data only for the end of the fourth week of the 4 week test.

<u>Identif.</u>	<u>#</u>	<u>Week 4 only</u>	
		<u>Front</u>	<u>Back</u>
Plywood	6-1	8	8
	6-2	9	8
	6-3	9	6
Gypsum	7-1	7	8
	7-2	6	7
	7-3	8	8
Wallbd	9-1	4	10
	9-2	5	10
	9-3	4	10
Wallbd+	10-1	7	10
	10-2	9	10
	10-3	5	10

### 4. Summary.

a. The following test items supported no fungal growth on either the front or back side.

1-1, 1-2, 1-3;  
 2-1, 2-2, 2-3;  
 3-1, 3-2, 3-3, 3-4, 3-5;  
 4-1, 4-2, 4-3;  
 5-1, 5-2, 5-3;  
 8-1, 8-2, 8-3;

b. Some fungal growth occurred on all other test items. The ratings of the front and back of the test items were similar on the plywood samples(6-1, 6-2, 6-3) and on the gypsum board test items(7-1, 7-2, 7-3).

Fungi grew on the front side, but not the back side, of test items 9-1, 9-2, 9-3, 10-1, 10-2, 10-3.

5. Photos.

Photos taken at the end of the 4-week test are included with this report. Photos were taken separately of the front and back sides of each set of test items.

6. Disposal of samples.

Test items will be held at Biological Lab Services for 2 weeks and then destroyed unless you instruct us in some other course of action.

End of Report.

  
Don Knutson, PhD

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