



72 East Street
Crystal Lake, Illinois 60014
(815) 526-0954
Fax (815) 356-7342

July 2, 2009

Ms. Debbi Lowder
3G Mermet
5970 N. Main St.
Cowpens, SC 29330

- RE: ASTM G - 21 Test Report
- Project #2009-181
 - Date Samples Received: 6/4/09
 - Date Testing Started: 6/4/09
 - Date Testing Ended: 7/2/09
 - Date Report Issued: 7/2/09

Objective:

To evaluate the mold resistance properties of four mesh screen materials as seen in the ASTM G-21 fungal resistance test.

Test Sample Description:

1. T-Screen 9601 Roll: 9201406
2. M-Screen 8505 Roll: 91819209

Customer Requested Modifications

None

Procedure:

ASTM G-21 utilizes a mineral salts agar that provides all of the trace nutritional elements needed by fungi to support growth. However, to achieve a heavy growth, the fungi must use the test material as its primary carbon source. The fungi used in this test were:

<i>Aspergillus niger</i>	ATCC 9642
<i>Penicillium funiculosum</i> ¹	ATCC 11797
<i>Chaetomium globosum</i>	ATCC 6205
<i>Gliocladium virens</i> ¹	ATCC 9645
<i>Aureobasidium pullulans</i>	ATCC 15233

¹ *P. funiculosum* has been reclassified as *P. pinophilium*. *Gliocladium virens* has been reclassified *Trichoderma virens*. Both organisms maintain their original ATCC numbers.

All organisms were grown on PDA for 7-20 days until mature. Spores were aseptically harvested, washed and counted. Each spore solution was adjusted to 1,000,000 spores/mL \pm 200,000 spores and equal aliquots of the suspensions combined to make the final inoculation suspension. The test pieces were placed on the surface of solidified G-21 mineral salts agar before spraying the top surface with approximately 200 μ L of the spore suspension. The Petri dishes were then incubated at 29-30° C and maintained at greater than or equal to humidity of 85% for 4 weeks with readings taken after 7, 14, 21 and 28 days. Viability controls produced heavy fungal growth within 7 days, confirming the viability of the spore suspension. The grading scale for this test is shown below.

Observed Growth	Rating
No Growth	0
Trace of Growth (less than 10% coverage)	1
Slight Growth (10-30% coverage)	2
Moderate Growth (30-60% coverage)	3
Heavy Growth (60-100% coverage)	4

Humidity and temperature are checked against a Vaisala Humidity and Temperature Probe HMP75, NIST Calibration Certificate H33-08210031.

Results:

After 4 weeks of incubation, the results for the test pieces can be found in the data table below. The control test pieces performed as expected, confirming the validity of the test. These results pertain only to the samples tested.

If you have any questions regarding this report, please do not hesitate to call.

Judy LaZonby
President – The MicroStar Lab, Ltd.



Notice: Customer is responsible for determining whether the information in this document is appropriate for Customer's use. Seller assumes no obligation or liability for the information in this document. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.
Doc# ISO-R-108-01

Sample Description		Week 1 (6/11)	Week 2 (6/18)	Week 3 (6/25)	Week 4 (7/2)
		G-21 Grading Scale/percent coverage			
T-Screen 9601 Roll:9201406	1A	1/1	1/3	1/3	1/5
	1B	1/1	1/3	1/3	1/5
	1C	1/1	1/3	1/5	1/5
	1U	0	1/1	1/1	1/5
M-Screen 8505 Roll:91819209	2A	1/1	1/1	1/1	1/1
	2B	1/1	1/1	1/1	1/1
	2C	1/1	1/1	1/1	1/1
	2U	0	0	1/1	1/1
MSL-1 (filter paper)		3	4	4	4
Temperature (28 to 30°C)		29.8	29.9	30.0	30.0
Relative Humidity (≥ 85%)		97.2	92.2	94.9	89.6
1* = less than 1% fungal coverage					



Notice: Customer is responsible for determining whether the information in this document is appropriate for Customer's use. Seller assumes no obligation or liability for the information in this document. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.
Doc# ISO-R-108-01