SUNSHADOW SOLAR SCREEN





SGS Testing Korea, CO, LTD

Attn: June Lee 18-34 Sanbon-Dong Gunpo-Si Gyeong

Korea, Republic Of 435-837

Report No.: 001:039622/4

Date: 5/07/07

The following samples were submitted by the client as:

1). Alkenz Sunshadow

SAMPLE DESCRIPTION:

White Fabric

DATE OF RECEIPT:

4/03/07

TESTING PERIOD:

4/03/07 - 4/30/07

AUTHORIZATION:

Client's Purchase Order (F690501)

TESTS REQUESTED:

Fungal Resistance Testing, ASTM G-21 Bacterial Resistance Testing, ASTM G-22

TEST RESULTS:

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SUMMARY:

The submitted sample was found to be fungus and bacteria resistant

when tested as specified.

PREPARED BY:

Supervisor, Microbiology

SIGNED FOR AND ON BEHALF OF SGS U.S. TESTING COMPANY INC.

Daniel Drozdowski

Manager, Microbiology

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PROCEDURE:

A. ASTM G-21

The testing was conducted in accordance with the procedures outlined in ASTM G-21-96, "Determining Resistance of Synthetic Polymeric Materials to Fungi".

The samples were placed on a mineral salts medium and sprayed with a combined Inoculum of the following spore suspensions.

Organism	ATCC #
Aspergillus niger	9642
Penicillium funiculosum	11797
Chaetomium globosum	6205
Gliocladium virens	9645
Aureobasidium pullulans	15233

After inoculation with the above organisms, samples were evaluated by rating the extent of developing visible growth (including microscopic growth). Samples and controls were placed in a "tropical test chamber" and incubated at a temperature of 30 ± 1 °C and relative humidity greater than 85%. The total incubation period was 28 days.

B. ASTM G-22

The testing was conducted in accordance with the procedures outlined in ASTM G-22-96, "Standard Practice For Determining Resistance of Plastics to Bacteria".

The samples were placed on a mineral salts medium and inoculated with the test organism $Pseudomonas\ aeruginosa$, ATCC #13388. The test sample and controls were then incubated 21 days at 35° - 37°C.

Samples were evaluated by rating the development and extent of microbial growth on the sample or in the surrounding medium.



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TEST RESULTS:

A. ASTM G-21

Eva	luation	of	Fungal	Growth

Sample	Replicates	Day 0	Day 7	Day 14	Day 21	Day 28
Alkenz	1	0	0	0	0	0
Sunshadow	2	0	0	0	0	0
	3	0	0	0	0	0
Test Controls						
Positive (paper/e	cork)	0	4/3	4/3	4/3	4/3
Positive (viabilit		0	4	4	4	4
Negative (glass		0	0	0	0	0
-						

ASTM Rating	Observed Growth on Specimens		
0	None		
1	Traces of Growth (less than 10%)		
2	Light Growth (10-30%)		
3	Medium Growth (30-60%)		
4	Heavy Growth (60% to complete coverage)		

Summary:

The submitted sample did not support fungal growth.

The positive and viability controls supported heavy growth, while the negative did not support growth, thus validating the test procedure.



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TEST RESULTS (cont'd):

B. ASTM G-22

Evaluation of	Ractorial	Growth
Evaluation of	bacterial	Growth

Sample	Replicates	Day 0	Day 7	Day 14	Day 21
Alkenz	1	0	0	0	0
Sunshadow	2	0	0	0	0
	3	0	0	0	0
Test Controls					
Positive (vinyl)		0	3	4	4
Positive (viability)		0	4	4	4
Negative (glass slid	e)	0	. 0	0	0

All control ratings confirmed as Pseudomonas aeruginosa, the test organism.

Summary:

The submitted sample did not support bacterial growth of the test organism.

The positive control supported heavy growth, while the negative did not, thus validating the test results.

End of Report

