

IPC EnviroGT, Non-PVC Material Test Results
ASTM G-21, G-22



Eggers Industries

SGS

CLIENT: Inpro Corporation
Attn: Matt Bennett
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Muskego, WI 53150

Report No.: 001:056646/4

Date: 1/28/09

The following samples were submitted by the client as:

Envirogt, Non PVC Material

SAMPLE DESCRIPTION: Non PVC Material

DATE OF RECEIPT: 11/20/08

TESTING PERIOD: 12/16/08 – 1/13/09

AUTHORIZATION: Client's Purchase Order # 65443

TESTS REQUESTED: Fungal Resistance Testing, ASTM G-21
Bacterial Resistance Testing, ASTM G-22

TEST RESULTS: Page 3-4

CONCLUSIONS: The submitted sample was found to be fungus and bacteria resistant when tested as specified.

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

Erin Ricciardi
Dept Head, Microbiology

Page 1 of 4

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Page: 2 of 4

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.

<u>Organism</u>	<u>ATCC #</u>
<i>Aspergillus niger</i>	9642
<i>Penicillium funiculosum</i>	11797
<i>Chaetomium globosum</i>	6205
<i>Gliocladium virens</i>	9645
<i>Aureobasidium pullulans</i>	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 $30 \pm 1^\circ\text{C}$ 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 $35^\circ - 37^\circ\text{C}$.

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

Evaluation of Fungal Growth

<u>Sample</u>	<u>Replicates</u>	<u>Day 0</u>	<u>Day 7</u>	<u>Day 14</u>	<u>Day 21</u>	<u>Day 28</u>
Envirogt, Non	1	0	0	0	0	0
PVC Material	2	0	0	0	0	0
	3	0	0	0	0	0
Controls						
Positive (paper/cork)		0/0	4/3	4/3	4/4	4/4
Positive (viability)		0	4	4	4	4
Negative (glass slide)		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 (Continued):

B. ASTM G-22

Evaluation of Bacterial Growth

<u>Sample</u>	<u>Replicates</u>	<u>Day 0</u>	<u>Day 7</u>	<u>Day 14</u>	<u>Day 21</u>
Envirogt, Non	1	0	0	0	0
PVC Material	2	0	0	0	0
	3	0	0	0	0
Controls					
Positive (vinyl)		0	2	3	4
Negative (glass slide)		0	0	0	0

All positive ratings confirmed as *Pseudomonas aeruginosa*, the test organism.

Summary:

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

End of Report



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