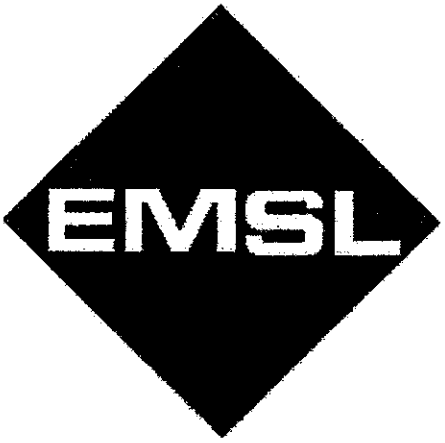

FINAL REPORT

Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi

PROTOCOL: G21-96
ORDER NO: 030640402

PREPARED FOR:
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Nomaco K-Flex

SUBMITTED BY:

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Client: Nomaco K-Flex

Contact: Mr. Ed Cole

Project: ASTM G21-96 Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi

Product: Gray Ductliner

EMSL NO: 030640402

Sample received: December 14, 2006

Start date: December 22, 2006

Completion Date: March 26, 2007

Experimental Summary:

Four foam samples and one fiberglass sample were delivered to the laboratory labeled: Std Gray, 0.1% Gray, 0.2% Gray, AC Black and Fiberglass. Testing was performed according to ASTM G21-96, which determines the resistance of synthetic polymeric materials to fungi. The test samples were prepared in triplicate and aseptically cut into 2 x 2-inch squares. Samples were tested using petri dishes (150) containing sterile nutrient salts agar (pH 6.5) and one test sample inoculated with a fungal suspension that consisted of equal volumes of 5 mold suspensions that were at a concentration of 1,000,000 spores ± 200,000

per ml. The fungal species tested included *Aspergillus niger* ATCC 9642, *Penicillium funiculosum* ATCC 11797, *Chaetomium globosum* ATCC 6205, *Gliocladium virens* ATCC 9645, and *Aureobasidium pullulans* ATCC 15233. The samples were incubated for fourteen weeks in a high humidity chamber at 28 ± 1°C. The samples were examined for visible effects of mold growth once per week (see attached tables 1.1a and 1.1b).

The following rating system was used to score each sample.

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

* According to ASTM G21-96, "continuous cobwebby growth extending over the entire specimen, even though not obscuring the specimen, should be rated as a two."