Siva Microbiological Solutions LLC

Final Project Report

[SivaMS Report No 2021-031]

Fungal Resistance Test for TWO Pre-Coated Sample by ASTM G21 Method

For:
ICP Group

Building Solutions Group

California Products

Boston

Date: 03-23-2021

Report Prepared By:
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Objective: Fungal Resistance Test for TWO Pre-Coated Sample by ASTM G21 Method

Date of Request: 02-27-2021 **Client Contact: Kevin Perry**

Samples Received:

1. Sample's description given in table 1.

Standard Test Requirement: Fungal Resistance Test based on ASTM G21

Project Timeline

Sample Received Date: 02-19-2021

Project Start Date: 02-20-2021 Expected Date of Completion: 03-21-2021

Reported Date: 03-23-2021

Test Method Descriptions

Test Sample: Pre-coated Leneta Charts samples from ICP were cut into 1 sq. inch coupons and place on the ASTM Minimal Salts medium.

ASTM G-21: Minimal Nutrient Salts Medium as per the method was prepared and agar plates were poured and set. Each plate was inoculated with the mixed spore suspensions of following fungi

Aspergillus niger [ATCC 6275], *Penicillium funiculosum* [ATCC 11797], *Aureobasidium pullulans* [ATCC 15233], *Chaetomium globosum* [ATCC 6205] and *Gliocladium virens* [ATCC 9645]

All coupons were in triplicates placed individually on each plate and the spore suspensions were sprayed onto the disc surfaces. The plates were incubated at 30°C incubator for 4 weeks with weekly observations.

Results:

1. Table 1 shows the results of the Leneta charts and growth ratings per ASTM G21 method.
2. Figure 1 shows pictures of the charts tested by the Agar Based assay of ASTM G21 method. As shown, all the discs were free of fungal colonization. The mildewcide
3. in the coatings seems to leach out to surrounding area and thus the fungal growth was prevented from growing in the whole plate.

Conclusion:

1. The antifungal levels in the coating on the Leneta Chart showed good antifungal activity as per testing method.

Table 1 Fungal Resistance Test of the dry films from wet sample by ASTM G21 Method

Test Method	Growth Rating *			
ASTM G21	Wk 1	Wk 2	Wk 3	Wk 4
6 mill	0z, 0z, 0z	0z, 0z, 0z	0z, 0z, 0z	0z, 0z, 0z
10 mill	0z, 0z, 0z	0z, 0z, 0z	0z, 0z, 0z	0z, 0z, 0z

* Rating Scale for ASTM G21: 0 No Growth 0z No Growth on surface w/Zone of Inhibition
T < 25% Growth 1 > 25% Growth 2 > 50% Growth 3 > 75% Growth 4 >90% Growth

Figure 1 Fungal Resistance of ICP Coating Based on ASTM G21 Agar Plate Method
[4 Week Observation]

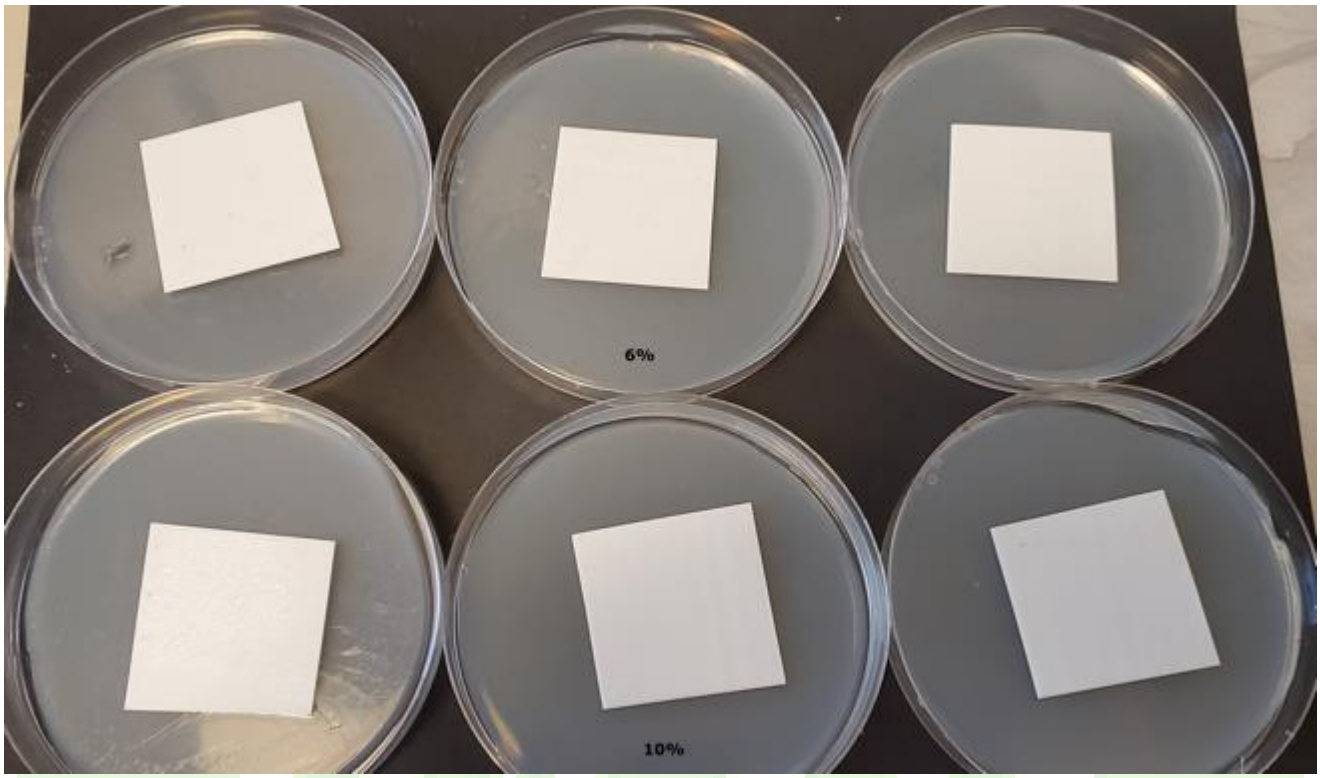

Figure 2 shows the normal growth of fungal mix for ASTM G21 grown on PDA after 4 week incubation