INSTITUT FÜR LUFTHYGIENE
Luft und Wasser: Planung, Analysen, Sanierungskonzepte

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Test report BM 05/17-08

1. Subject

Examination of the fungistatic effect of the sample material according to DIN EN ISO 846, method B and B'

2. Customer

Hermann Otto GmbH
Krankenhausstraße 14
83413 Fridolfing

3. Contractor

Institut für Lufthygiene
Kurfürstenstraße 131
10785 Berlin

4. Material tested

OTTOSEAL® S 68*, color white

Dimensions of the test material: 1.590 mm^2 x 2 mm

* according to the customer

5. Examination Period 19th May 2017 – 15th June 2017

6. Procedures

The examination of the resistance of the samples to fungi was undertaken in accordance with DIN EN ISO 846 “Plastics – Evaluation of the action of microorganisms”, method B and B’, by visual examination. The material has been examined to determine whether it has a fungistatic effect (method B and B’).

Fungistatic effect (method B)

The samples were placed separately on a medium containing carbon and they were then sprayed with a spore suspension of the following fungi:

Aspergillus niger DSM 1957
Penicillium funiculosum DSM 1944
Paecilomyces variotii DSM 1961
Gliocladium virens DSM 1963
Chaetomium globosum DSM 1962

10 samples were tested, they were incubated for four weeks at 24±1°C and at a relative humidity of > 95%. After periods of two and four weeks they were examined for visible fungal growth to the naked eye and to a stereoscopic microscope (at a magnification of x 50).

Fungistatic effect (method B’)

Method B’ was undertaken like method B. The only difference was that the media were sprayed with the fungi and then after two or three days (when the media were totally covered by fungi) the samples were placed on the media.

7. Assessment

The intensity of microbiological growth has been evaluated in table 1:

Table 1: Evaluation of microbiological growth

Intensity of growth	Evaluation
0	No growth apparent under the microscope.
1	No growth visible to the naked eye, but clearly visible under the microscope.
2	Growth visible to the naked eye, covering up to 25% of the test surface.
3	Growth visible to the naked eye, covering up to 50% of the test surface.
4	Considerable growth, covering more than 50% of the test surface.
5	Heavy growth, covering the entire test surface.

The results have been interpreted as shown in table 2:

Table 2: Interpretation of results

Intensity of growth	Interpretation
0	Strong fungistatic effect
0 + zone of inhibition around the sample	Strong fungistatic effect around the sample by diffusion
1	Partial fungistatic effect
2 to 5	Decreasing to no fungistatic effect

8. Results of the examinations

The results of the examinations are summarized in table 3:

Table 3: Results of the examinations

No.	Material tested	Intensity of microbiological growth as shown in table 1	
		Fungi, method B	*Fungi, method B'*
1	**OTTOSEAL® S 68, color white**	0	0
2		0	0
3		0	0
4		0	0
5		0	0
6		0	0
7		0	0
8		0	0
9		0	0
10		0	0

On the surface of material **OTTOSEAL® S 68, color white** fungal growth was not visible under the microscope (neither in method B nor in method B').

9. Conclusion

In accordance with the examination carried out, the test material **OTTOSEAL® S 68, color white** has a strong fungistatic effect.

Berlin, 26th June 2017

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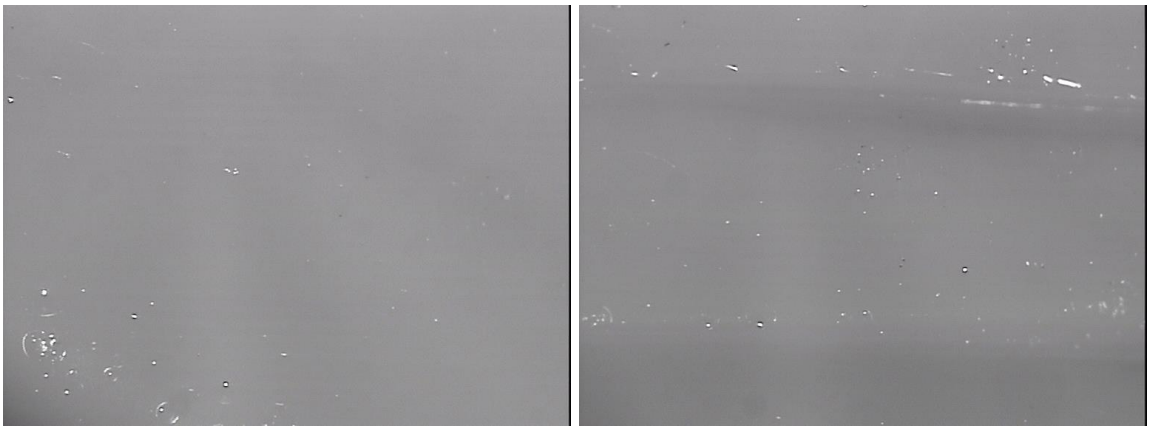
10. Photo documentation

Method B **Method B‘**

Photo 1: Material **OTTOSEAL® S 68, color white** after an incubation period of 28 days (method B and B‘) without visible fungal growth



Method B **Method B‘**

Photo 2: Material **OTTOSEAL® S 68, color white** (at a magnification of x 50) after an incubation period of 28 days (method B and B‘) without fungal growth