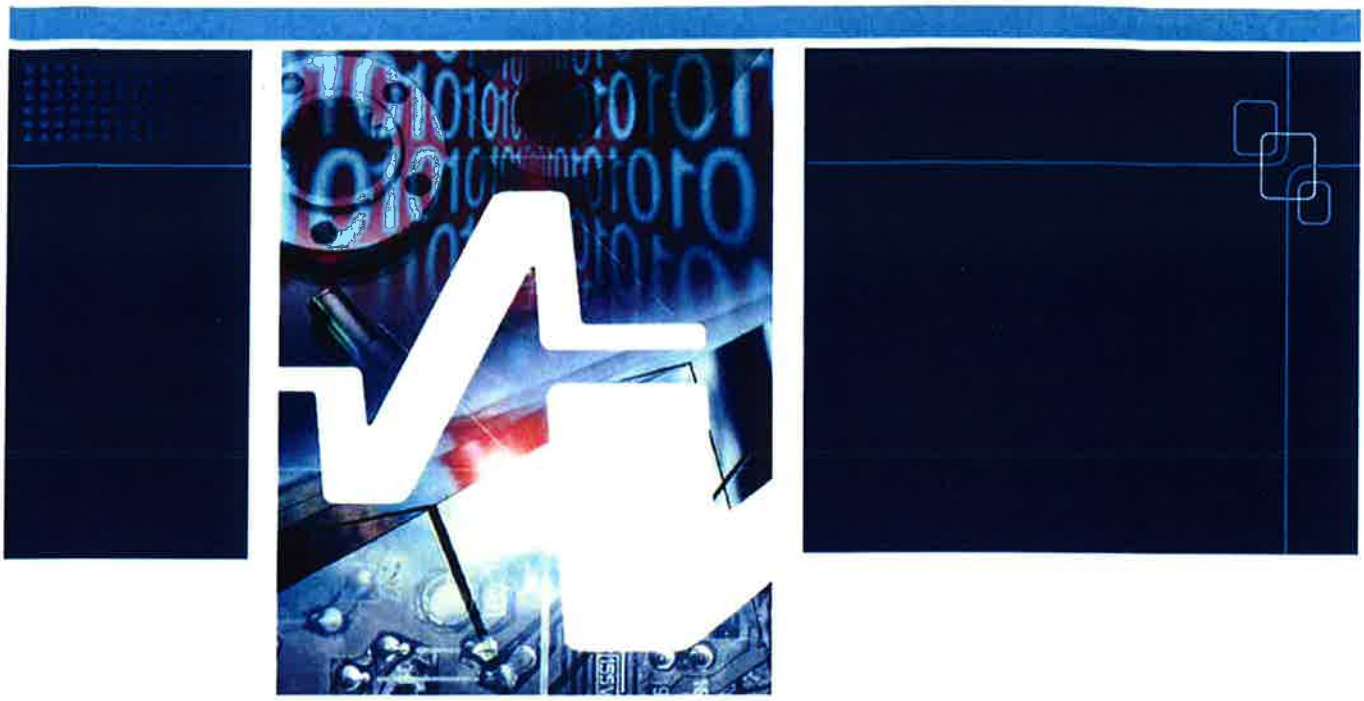

Resistance of building insulation material to mould fungi

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Confidentiality: Confidential

Report's title

Resistance of building insulation material to mould fungi

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Contents

1. Description and objectives

The resistance of open cell polyurethane foam insulation material to mould fungi was determined.

2. Methods

Product to be tested: Open cell polyurethane foam for thermal insulation of civil and industrial buildings, manufactured by IsoGreen Industries Ab, Sweden. The sample was delivered by the customer.

The test method: The test was carried out according to CUAP/ETA request no. 12.01/21 "Soft foam insulation" annex B "Determination of resistance to mould fungus".

The test material was cut to ten 50 mm x 20 mm x 30 mm test specimen. Five of the test specimen were sprayed with fungal spore suspension containing: *Aspergillus versicolor, Aspergillus niger, Chaetomium globosum, Cladosporium spherpspermum, Paecilomyces variotii, Penicillium fumiculosum, Trichoderma viride.* The amount of spores applied was 10^5 pfu / test specimen. The test specimen were incubated in a closed chamber at 23 °C, RH>95%. After four weeks the test specimen were visually inspected for the presence fungal growth first by naked eye and then with a stereoscopic microscope at a magnification of 40X. Assessment of fungal growth on the test specimen by visual examination was done according to table 1 (table 4 of ENISO 846).

Table 1. Assessment of fungal 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 that 50 % of the test surface
5	Heavy growth, covering the entire test surface

3. Test results

The results of visual assessment of fungal growth on test specimen are presented in Table 2. Fungal growth was not detected on the samples after 4 weeks incubation at 23°C, RH>95% with or without addition of fungal spores.

Table 2. The results of visual assessment for each test specimen in terms of fungal growth

Sample	Intensity of fungal growth on test specimen	
	Without addition of fungal spores	With addition of fungal spores
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
Average	0	0

4. Conclusions and summary

Fungal growth was not detected on open cell polyurethane foam from IsoGreen Industries Ab, after 4 weeks incubation in conditions specified in CUAP/ETA request no. 12.01/21 "Soft foam insulation" annex B.