DNA Analysis of Building

DNA Mould Test

Address Garðaskóli

Case nr. 3.161.348

Requester Mannvit hf, Alma Dagbjört

Lab nr. 2023002790

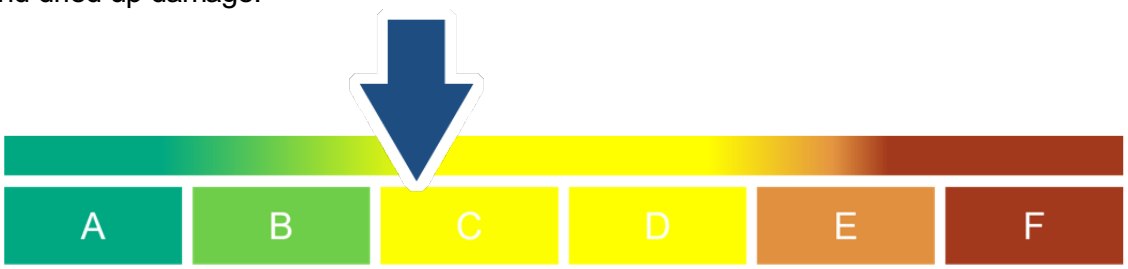
Test ID 8099

Sample date 19.06.2023 Receipt date 22.06.2023 Analysis date 29.06.2023

DNA tests may reveal whether there are microorganisms (mould) in dust originating from moisture damaged building materials or concealed water damages. Microbiologic material from concealed constructions may over time be released to the residential zone, where it will sediment with the dust. The result of the DNA analysis is an indication of the extent of which the room is affected by microbiologic material.

CONCLUSION

On the basis of the analysis results for the test made from Skrifstofa aðstoðarskólameistara, Garðaskóli, our evaluation is that the rate of mould in the building is somehow above the normal, expected level for dry, clean and undamaged buildings. When looking at the mould species there are relatively few moisture damage indicators and a relatively big quantity of socalled outdoor mould, accumulating in dust. No occurrence of mould indicates that the indoor environment is not affected by severe water damages. The few moisture damage indicators present in the test may be originating from small areas of condensation on walls, e.g. cold basement walls or from an old, small and dried up damage.



The results for the individual species/groups are given as DNA units per cm2. The division into classes A-F is based on internal references and is an expression of the probability that the building is affected by atypical occurrences of mould.

A-B	The species composition and concentration of DNA-units is at the level normally expected for dry, clean and not damp-damaged buildings
C-D	The species composition and concentration of DNA-units is at a slightly elevated to elevated level for dry, clean and not moisture-damaged buildings
E-F	The species composition and concentration of DNA-units is at a higher than expected level for dry, clean and not damp-damaged buildings.

OBH Rådgivende Ingeniører
Agerhatten 25, 5220 Odense SØ
T: +45 2726 4664
E: lab@obh-gruppen.dk

8099 Garðaskóli
Skrifstofa aðstoðarskólameistara, 750

RESULT

The amount of organisms per. cm²

Total antal skimmelsvamp	6884	100,00%
Wallemia sebi	0	0,00%
Cladosporium cladosporioides	26	0,37%
Cladosporium herbarum	75	1,09%
Cladosporium sphaerospermum	5	0,07%
Mucor/Rhizopus grp.	0	0,00%
Rhizopus stolonifer	0	0,00%
Acremonium strictum	0	0,00%
Aspergillus og Penicillium arter	560	8,13%
Aspergillus fumigatus	0	0,00%
Penicillium chrysogenum	0	0,00%
Tricoderma viride	1	0,01%
Aspergillus glaucus	0	0,00%
Aspergillus niger	1	0,02%
Aspergillus versicolor	59	0,86%
Alternaria alternata	0	0,00%
Ulocladium chartarum	0	0,00%
Stachybotrys chartarum	0	0,00%
Chaetomium globosum	0	0,00%
Streptomyces	0	0,00%

The evaluation is based on the assumption that the test has been made correctly according to OBH's guide lines.

Contact the undersigned regarding questions to the report

Med venlig hilsen

Daniel Petersen

Daniel Petersen
Mikrobiolog
OBH Rådgivende Ingeniører
Environment and Health

OBH Rådgivende Ingeniører
Agerhatten 25, 5220 Odense SØ
T: +45 2726 4664
E: lab@obh-gruppen.dk

ANALYSIS METHOD

The analysis was developed by EPA, USA's Environmental Protection Agency (pat 6 387 652). The organisms are washed out of the test, and the DNA is extracted. Accordingly, the DNA is amplified in a sequential PCR process, until the light from an attached fluorescence molecule can be seen in the detector. The number of sequences are calculated and compared to a synthetic standard DNA, after which the number of original DNA sequences are calculated. As the DNA is unique for any organism the species and quantity of specific organisms can be determined. By this precise method you will rapidly be informed how much mould, respective indicator organisms which the test contains per square unit.

ANALYSIS EXPLANATION

The above evaluation applies for the test made, and not for the building as such. The analysis response should always be included as part of a total evaluation of the conditions on site together with other observations and measurings. The responsibility for correct testing always lies with the tester. Evaluations and good advice given here or in connection with interpretation of these results apply for the normal cases and are based on the assumption that the test is representative and made according to OBH's guide lines.

TAKING A DUST TEST

The purpose of the test is to evaluate whether in the indoor air there are microorganisms to indicate moisture damaged building parts. Mould releases particles, spores, cells, and other fungus components containing DNA, to the air. These microparticles float in the air and are sedimented with dust in the living area. Collecting dust is thus an expression of whether the air of the room has been effected by particles from mould over an extended period of time.

INDICATION OF QUANTITY

The DNA analysis distinguishes between 20 groups/species.

The test result states the number of DNA sequences for respective species and groups per cm².

Any colour markup states the level of each species or group, deviating according to the levels of dry, clean and undamaged buildings.

Yellow	Above normal
Orange	Far above normal
Red	Very far above normal

OBH Rådgivende Ingeniører
Agerhatten 25, 5220 Odense SØ
T: +45 2726 4664
E: lab@obh-gruppen.dk

HEALTH

Mould in our indoor environment may affect our health, most commonly with respiratory irritation. Further symptoms are irritation of eyes, nose and upper respiratory tract, headache, fatigue, coughing, and rashing. These symptoms will be more severe for persons with hay fever and asthma. Asthmatic symptoms may occur in connection with a long-term stay in an indoor environment with massive mould problems. The DNA result does not reveal anything about the health risk of residing in the building.

THE HEALTH DAMAGING EFFECT

In order to evaluate the health risk of residing in a building, a construction technical and healthcare evaluation must be made. According to the Danish National Board of Health the health risk is among others characterized by the unhealthy circumstances as well as the moisture and mould conditioned health problems of the residents/users.

READ MORE

www.obh-gruppen.dk
www.sst.dk
www.astma-allergi.dk
www.indeklimaportalen.dk

OBH Rådgivende Ingeniører
Agerhatten 25, 5220 Odense SØ
T: +45 2726 4664
E: lab@obh-gruppen.dk