



Intertech LD
Mr. De Berlaymont

Indoor Air Quality Testing Report AF-558132.02.A01

Re: Testing of the quality of the indoor air

1 INTRODUCTION

On September 1, 2020 we conducted a number of tests at the restaurant of the Hotel Ghent River (Waaistraat 5, 9000 Ghent).

The purpose of this testing was:

- To test the indoor climate in the offices, in particular:
 - o Microbiological contamination: yeasts, moulds and total germination count

This testing was performed in two selected locations.

- The hotel restaurant (+3) – **After** installation of the decontamination unit “Tiokraft VR600”
- 1 Reference sample (outdoors): the terrace outside the restaurant

1.1 Bacteriological research (air samples)

The air samples were collected on September 1, 2020.

Location	Total germ count (30°C) /m ³	Yeasts (25°C)/m ³	Moulds (25°C)/m ³
The hotel restaurant (+3) – After installation of the decontamination unit “Tiokraft VR600”	460***	< 5	35****
Reference	220*	< 5	330**

Note: For total colony-forming units, yeasts and moulds (using air samples), the following threshold values can be used:

500 CFU/m³

CFU = colony-forming units

*Identification germs:

- *Bacillus licheniformis*

***Identification germs:

- *Micrococcus luteus*
- *Staphylococcus capitis*

**Identification moulds:

- *Cladosporium cladosporioides/herbrum/phaenocoma*
- *Penicillium chrysogenum/flavigenum*
- *Alternaria alternate*

****Identification moulds:

- *Aspergillus fumigatus*
- *Aspergillus tubingensis/vadensis*

Conclusion:

The threshold for mould, yeast and total germ count (bacteria) was not exceeded for the location hotel restaurant. At the reference point (ambient air outside the building) the measured values were also lower than these thresholds for indoor air.

In our report AF-558132.01.A01 we reported the values measured before installation of the decontamination unit "Tiokraft VR600". The values for moulds/fungi measured after installation were lower: 35 versus 1200. Also the values measured for moulds/fungi in the ambient air outside the building were lower.

Germ species identified on the sample collected in the hotel restaurant were *Micrococcus luteus* and *Micrococcus luteus*. *Micrococcus luteus* can be found in soil as well as dust, water, air and on human skin. It can cause allergic reactions in immunosuppressed individuals. *Staphylococcus capitis* can be found on human skin as normal part of the flora. Immunosuppressed individuals, mostly in hospitals, can have an infection like endocarditis.

Germ species identified on the sample collected on the terrace (reference) where *Bacillus licheniformis*. *Bacillus licheniformis* is commonly found in soil or bird feathers. The species is one of the most important bacteria in industrial enzyme production and can be used in biological laundry detergent

Mould species identified on the sample collected in the hotel restaurant where *Aspergillus fumigatus* and *Aspergillus tubingensis/vadensis*.

Aspergillus Fumigatus can cause allergic reactions and even aspergillosis in patients who are immunosuppressed and can be found in almost any natural environment or in human nose, troth or farynx. *Aspergillus vadensis* belong to the *Nigri* section. *Aspergillus niger* is commonly found on fruits or in humid environments. Some but not all of the *Nigri* species can produce a mycotoxin (mycotoxine ochratoxine A.) that can cause an ear infection as well as aspergillosis.

Mould species identified on the sample collected on the terrace (reference) where *Cladosporium cladosporioides/herbrum/phaenocomae* , *Penicillium chrysogenum/flavigenum* and *Alternaria alternate*.

Cladosporium cladosporioides and *Cladosprrium herbarum* are one of the most common species outdoor. Section *cladosporioides* can cause allergic reactions while *herbarum* can cause hay fever and asthma. *Penicillium chrysogenum* is most commonly found naturally in moist soils with plentiful quantities of carbon and nitrogen for *miccohrizal* growth. This species can also be found on fruit causing decay, soils of degraded forests, on the pollen and provisions of the *alfalfa leafcutter bees*. *Alternaria alternate* can cause upper respiratory infections, asthma and weaken the immune system. It can be found on leaf spots of varies plant species, textile, fruit and vegetables.



Dirk Peeters
Melsele, 16/09/2020

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