

Odour measurements in a kitchen exhaust duct

For Interzon AB

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1. Introduction

IVL Swedish Environmental Research Institute has been commissioned by Interzon AB to undertake analysis of odour samples in a kitchen exhaust duct that ventilates a McDonald's restaurant in Sweden. The measurements were undertaken on the 28th August 2008 and 25th September 2008.

The contact at Interzon AB was Mika Lindfors.

2. Purpose of the measurements

The main purposes of the measurements in a kitchen exhaust duct were to study odour concentration in a kitchen exhaust duct with and without installed AirMaid ozone generator.

3. Measurement method

3.1 General

Measurements were undertaken in the ventilation shaft on the 28th August 2008 in a restaurant with installed AirMaid ozone generator for kitchen ventilation and 25th September 2008 in a restaurant without AirMaid ozone generator installed. Both measurements were undertaken during busy periods for the each restaurant 11.30-12.15

3.2 Sampling techniques

Samples are taken in airtight bags specially for the purpose. The air sample is then analysed sensorially within 30 hours.

In the figure 1 shows the location of the odour sampling after the fan unit (MacDonald's restaurant in central Gotenborg).



Figure 1 Odour sampling after the fan unit.

3.3 Analysis of odour samples

In appendix 1 (Åf-Consult AB) are the methodology for sensory odour evaluation describe

4. Results

Samples for determining odour concentration are taken in bags and the analysis is conducted within 30 hours of the sample being taken. The results of the odour analyses are presented in table 1 (mean value) below as the number of odour units per cubic metre from a restaurant with installed Air Maid ozone generator for kitchen ventilation and from a restaurant without Air Maid ozone generator, respectively. Raw data from the measurement are shown in appendix 2.

Table 1 Results of the odour analyses (mean value)

Sampling date	Sampling time	Odour concentration (ou/m ³)
28 th August	11:30-12:00	159*)
25 th September	11:30-12:05	2680**)

*) With AirMaid ozone generator installed.

***) Without AirMaid ozone generator installed.

5. Comments on the results

Odour measurements from a MacDonald`s restaurant with AirMaid ozone generator installed and from a restaurant without AirMaid ozone generator installed shows that odour concentration reduce with about 95% .

