

REPORT

**SUNDBYBERG KOMMUNHUS, MEASUREMENT OF SOUND  
PRESSURE LEVELS IN OPEN PLANE OFFICES**



2014-09-08

**Project**

253520, Sundbyberg, mätning av rumsakustiska parametrar enligt SS-EN 3382-3

Title:

Sundbybergs Kommunhus, measurement of sound pressure levels in open plane offices

Version:

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**Participants**

Customer:

Saint-Gobain Ecophon AB

Contact:

Frans Davidsson

Consultant:

Tyréns AB

Project manager:

Philip Zalyaletdinov

Administrator:

Philip Zalyaletdinov

Quality manager:

Martin Höjer

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Author: Philip Zalyaletdinov

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Date: 2014-09-08

Quality manager: Martin Höjer

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Date: 2014-09-08

## Tyréns AB

118 86 Stockholm  
Besök: Peter Myndes Backe 16

Tel: 010 452 20 00  
[www.tyrens.se](http://www.tyrens.se)

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Säte: Stockholm  
Org.Nr: 556194-7986

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## 1 Background

Evaluation of room acoustic parameters according to ISO 3382-3:2012 has been performed at Sundbybergs kommunhus open offices. Measurements of sound pressure level from conventional office activities were performed as part of the acoustic evaluation. Measurements were performed in offices at floor 4 and 5. Sound pressure levels were registered at four different measurement points (MP), see Figure 1.

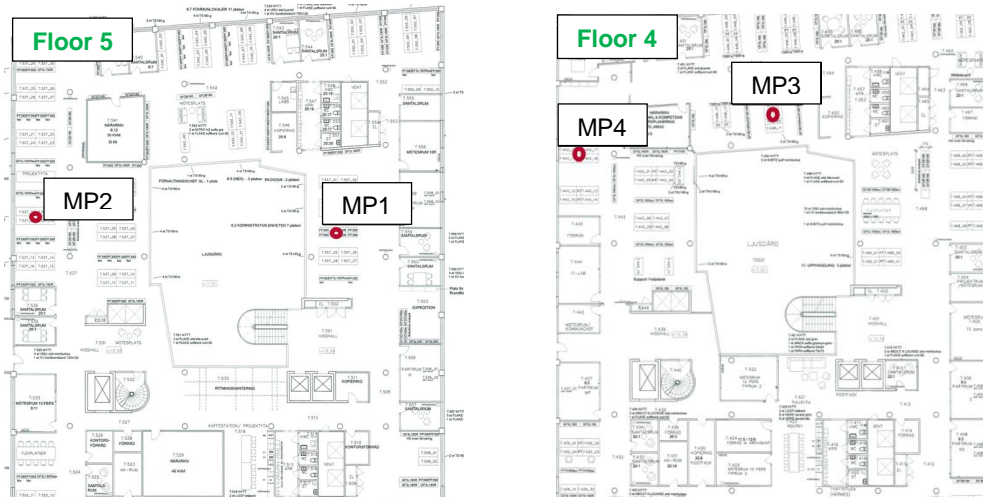


Figure 1 Measurement points at floor 4 and 5

Measurements were done for three different measurement periods:

1. 140306 – 140320
2. 140407 – 140413
3. 140505 - 140526

Measurement results are presented in this report.

## 2 Measurement procedure

Sound pressure was registered as A-weighted, equivalent sound pressure level with time weighting "Fast". Microphones were placed approximately 25 cm below the ceiling, se Figure 2.

Due to sound analyzer malfunction no data values could be collected during measurement period 1 and 3 for measurement point 1 and 2.



Figure 2 Placement of microphones



### 3 Results

Measured sound pressure level, collected during normal working hours (07:00 – 18:00) is presented for each measurement point. Presented values are logarithmic mean for each measurement period.

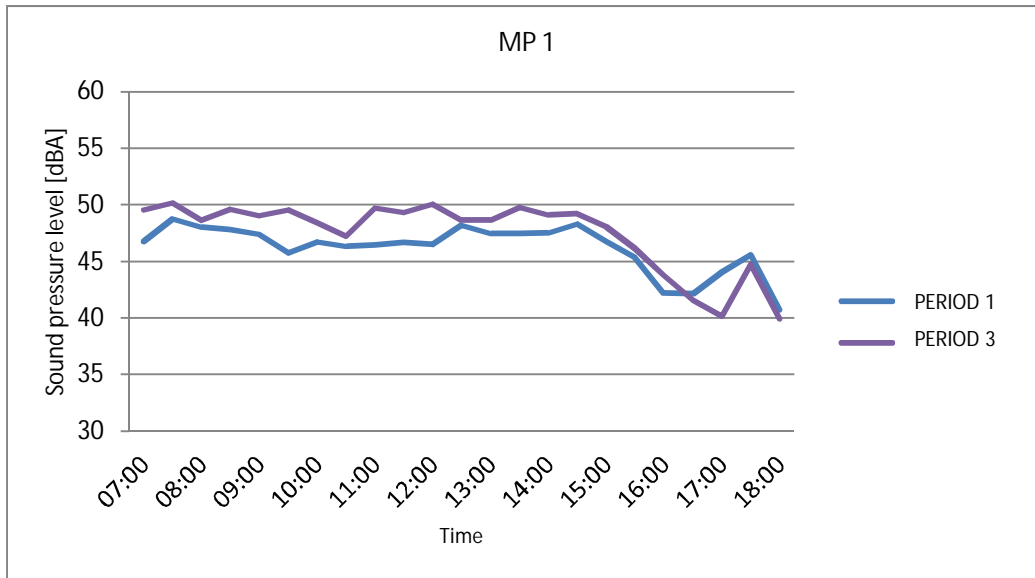


Figure 4 Registered A-weighted sound pressure level - MP 1

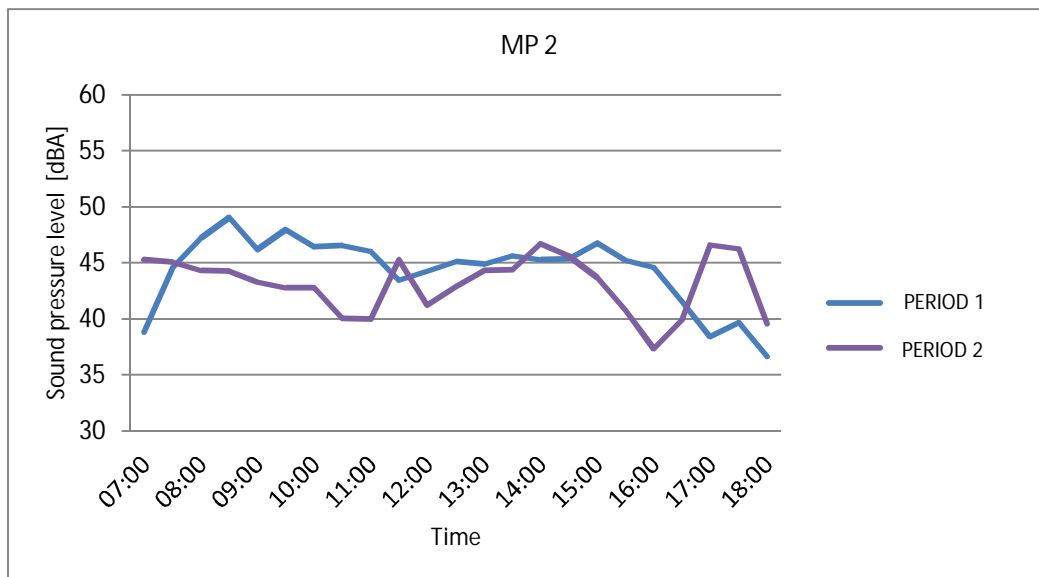


Figure 5 Registered A-weighted sound pressure level - MP 2

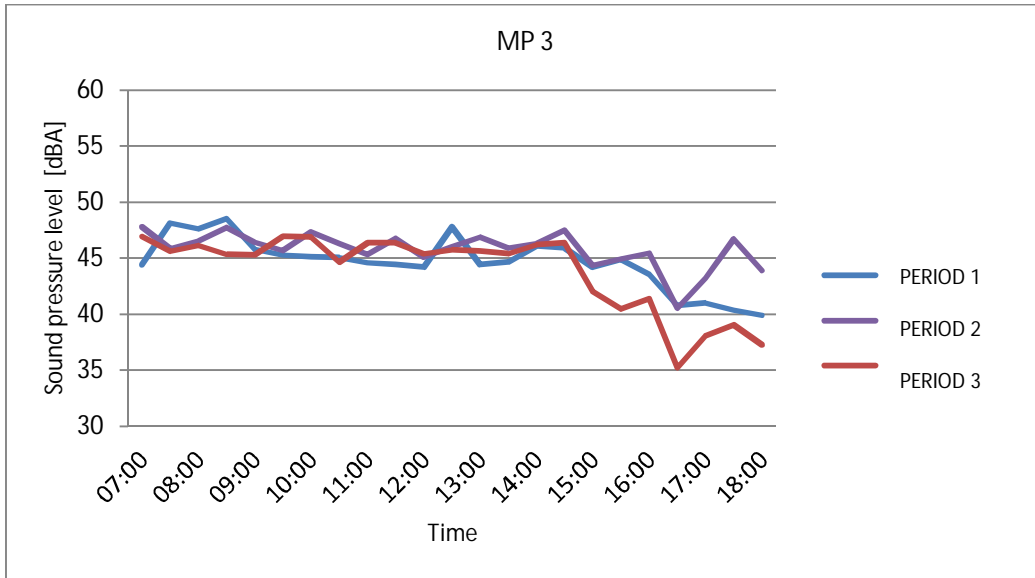


Figure 6 Registered A-weighted sound pressure level - MP 3

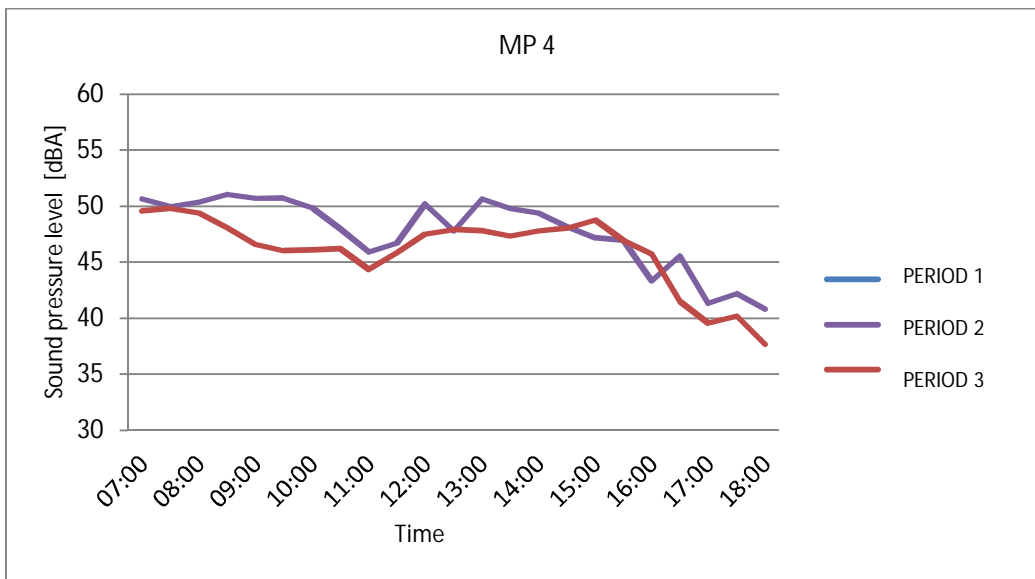


Figure 7 Registered A-weighted sound pressure level - MP 4

## 4 Measurement equipment

<i>Type</i>	<i>Brand</i>	<i>Type</i>	<i>Label</i>
Real time analyzer	Norsonic	Nor 140	LA 01s
Real time analyzer	Norsonic	Nor 140	LA 02s
Real time analyzer	Norsonic	Nor 140	LA 03s
Real time analyzer	Norsonic	Nor 140	LA 04s

Measurement instruments are calibrated according to national and international standards and our internal quality system.