

Statistical verified noise exposure of construction workers

Problem

- Many employees in the construction sector are exposed to high noise levels
- For appropriate preventive measures, trades and tasks exposed to high noise must be identified

Measuring noise exposure on construction sites is often difficult

- highly mobile persons
- all-round tasks
- narrow workplaces, difficult to reach
- observer would impair work
- dangerous workplaces



Measurement method

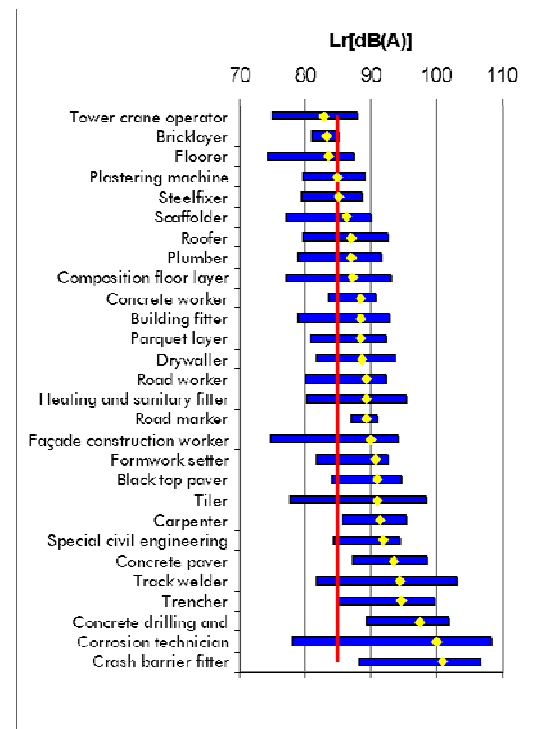
- Field
 - Noise dosimeters
 - Record of activities
- Lab
 - Data analysis
 - Categorizing tasks

Measurements

- Noise exposure levels are calculated from averages of the daily average levels
- Average levels for different categories of activities and tasks can be computed
- Within the occupations subgroups can be formed, when there is great diversity in typical activities and in the machines employed
- The number of measurements required for adequate accuracy is determined by the spread of daily average levels

Results

- measurements for 28 trades
- more than 1,000 long-term-measurements
- on approximately 330 construction sites



Rating level (dot) and 90% range of measured average levels (bar)

Summary

- A method adjusted to the particular characteristics of construction site work was used for measurement of the noise exposure of construction workers
- The results indicate that the action value of 80 dB(A) specified by the EU Directive 2003/10/EC is exceeded in all the occupations considered
- 86% exceed the level of 85 dB(A)

Contact

Reimer Paulsen
 BGIA, D-53754 Sankt Augustin
 E-mail: reimer.paulsen@hvbg.de



BGIA

Berufsgenossenschaftliches
 Institut für Arbeitsschutz