IFA
Institut für Arbeitsschutz der
Deutschen Gesetzlichen Unfallversicherung

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Focus on IFA's work

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Noise exposure at construction site workplaces

Problem

Working methods, machinery and equipment are employed on construction sites which accelerate the progress of work and reduce the physical effort required. At the same time, however, they frequently cause high noise exposure. Discrete peak values and daily exposure to noise with an average sound level of 85 dB(A) or more over a period of several years are equally hazardous to human hearing.

Since noise at construction site workplaces frequently varies as a function of both location and time, typical time-averaged sound levels are difficult to determine. In the interests of employee safety, however, it is important to identify the activities during which noise posing a hazard to the hearing occurs. The Institution for Social Accident Insurance and Prevention in the Building Trade is therefore conducting the "Noise exposure at construction site workplaces" research project in conjunction with the IFA.

Activities

In order to record and assess the frequently changing noise levels at workplaces in the construction sector, the IFA has developed a task-based method of individual noise monitoring with noise dosimeters. The daily noise exposure level can then be calculated for the typical constellation of activities.

Noisy workplace at a builder of ventilation equipment

Results and Application

The daily noise exposure level of an occupation is an indicator of the level of noise to which employees pursuing the occupation concerned are exposed. In addition, it is also possible to draw conclusions about task-related noise exposure.

The results form an important basis for measures for the protection of employees: machinery and equipment which once generated substantial noise are now designed for low noise generation, and more suitable hearing protectors can be selected.

Since 1982 a total of 1,226 personal long-term measurements were conducted in the course of several projects on 427 construction sites. These were used for calculating the average daily noise exposure levels for 33 professions.

For five professions for which measurements were conducted in the Eighties, new and supplementary measurements were carried out as it was assumed that changes may have occurred due to technical advances. These measurements also yielded useful supplementary findings on modern working techniques and on currently used materials.

Area of Application

All companies in the construction sector as well as businesses with employees from the construction sector

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Expert Assistance

IFA, Division 4: Ergonomics – Physical environmental factors

Literature Requests

IFA, Central Division

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