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Noise Determination in Manufacturing Industry

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Structured Abstract

Background: The rise of Malaysia's industrial sector has also resulted in risk to the occupational health of industrial workers, including noise-induced hearing loss (NIHL). Statistic on occupational sickness and poisoning in Malaysia (2017) reveal that noise-induced hearing disorders account for most occurrences of occupational disease. This study seeks to assess the noise exposure, identify noise personal exposure among the workers and to establish the noise mapping in the manufacturing industry.

Methods: Noise level area monitoring was conducted by performing walkthrough inspection. By using Sound Level Meter, Noise Calibrator and measuring tape to monitor and measure noise emission from noise source. Then, personal noise monitoring was taken using Noise Dosimeter and Noise Calibrator. Lastly, noise mapping was established to visualizing work area and exposure to noise level on an overall workplace layout design.

Results: Area monitoring was conducted to determine the noise level in working area 1, 2, 3, 4 and 5. The result shows the noise level of three from thirteen points which is (P4) in area 2 (Genset Room), (P10) and (P12) from area 5 (Production Area) exceeding noise exposure level (>85 dB(A)) hence it is not compliance with OSH (Noise Exposure) regulation 2019. Next, personal noise monitoring was carried out among selected employee in working area 4 and area 5. Personal noise level received by the employee during working time is between 75.5 dB(A) to 78.8 dB(A) not exceeding the noise exposure limit (>85 dB(A)). Lastly, noise mapping shows that three from thirteen machine monitored had noise level exceeding the noise exposure limit (> 85 dB(A)). However, only Area 2 (Genset Room) with red colour zone which indicate that the area exceeding noise exposure limit (>85 dB(A)).

Conclusion: In conclusion, the noise level generated by the noise source in working area 1, 2, 3, 4 and 5 of the manufacturing industry at Pulau Indah has been measured and recorded through area monitoring. Next, personal noise monitoring was successfully conducted and the data on noise level received by the employee during working time was recorded. Noise mapping was also successfully created to visualize the work area and exposure noise level on overall workplace layout.

Keywords: NIHL, noise monitoring, manufacturing industry

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