

Sirinapa Prommarak 2014: Comparison of Noise Level using the Noise Predictions Models and Sound Level Meter Measurement. Master of Engineering (Safety Engineering), Major Field: Safety Engineering, Faculty of Engineering. Thesis Advisor:
Associate Professor Prapaisri Sudasna-na-Ayudhya, Ph.D. 88 pages.

Noise from machinery in industrial is a major contribution that can cause health problems for employees and a nuisance to the community. Therefore, the measurement volume of the machine is necessary but the method in legal required standard of International Electrotechnical Commission is equivalent. In addition, the legal also required professionals who have been registered by the government to conduct the measurements. The limitation is in assessing the risk of volume. Therefore, this study aimed to compare of noise levels using the noise predictions models and sound level meter measurement to determine the confidence level for apply in industry. The studied volume are 80 and 90 dBA at 1/3 Octave Band frequency 125, 250, 500 and 1000 Hz

The results showed that the volumes using noise predictions models and sound level meter measurement are not different. Major factors that affected the result were the reflection absorption and refraction of sound. Moreover, the results also indicated that factors that affect to volume measurement using measurement tools are measuring point, methods and frequency used in the measurement. The influenced factors of volume are the interaction between frequency and measuring point.

Thus, it is concluded that the volumes of the 2 method are not different at confidence level of 95 %. Suggestion for using noise predictions model is user must previously study the reflection, absorption and refraction of the material before filling in noise predictions models.

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