

STUDY OF NOISE GENERATED BY CONSTRUCTION MACHINERY IN URBAN ROAD INFRASTRUCTURE

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ABSTRACT

The noise generated during the construction process of urban road infrastructures is one of the environmental problems that negatively affects the quality of life of workers and the surrounding population. The purpose of this study is to analyze the different levels of sound pressure generated by construction machinery on urban roads with rigid pavement. Monitored noise levels have been made to heavy and light mechanical equipment in operation. The global results indicate ranges of sound pressure levels that go from 69.6 dBA to 98.4 dBA, with light mechanical equipment being the most influential with doses exceeding 100%. The noisiest stage is that of cutting concrete on the pavement, which presents a sound pressure level of 89.12 dBA in the task with a dose that exceeds more than 100%, in the other tasks there is no exceedance of the critical values stipulated for a day 8 hours of work; however, they influence the adjacent population because they exceed 60 dBA for residential areas during daytime hours. In conclusion, the mechanical equipment used in the construction of concrete roads emits sound pressure levels higher than the permissible limits, affecting the population and workers, recommending the use of hearing protectors with a minimum level of NRR 19 dB for operators of heavy mechanical equipment and NRR 35 dB for light equipment.

Keywords: Decibel, Machinery, Sound Pressure, Noise, Sound Level Meter.

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