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NOISE CONTROL FOR A BETTER ENVIRONMENT

Comparison between open-graded and close-graded mixtures in noise reducing pavements.

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ABSTRACT

Currently with the new developments of powertrain of vehicles, the rolling noise stands out as the main source of traffic noise in many urban landscapes. An effective measure to reduce noise is the use of sound-reducing pavements.

At the beginning, some local authorities in Spanish cities decided for open- graded mixtures as sound reducing solutions. These mixes allowed to reduce the noise using sound absorption mechanisms fundamentally. The experiences with these mixtures in the cities, although very positive in the beginning by the reduction of the noise achieved, were soon ruined because in a short period of time they lost the cohesion of the aggregates, with an increment in the generated noise.

On the other hand, the number of experiences with close-graded SMA-type mixtures has been increased, where rubber from End of life tires has been added in order to reduce the generation of noise in the tire-pavement contact.

This article reveals different experiences of noise reducing pavement made in Spain where the benefits obtained over time are compared. The acoustic performances are evaluated from measurements made with the CPX method that allows to measure the rolling noise generated near the tire.

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