

Technological validation of hot sand asphalt as a wearing course of road pavements in Mozambique

Summary

The hot sand asphalt is an unconventional bituminous hot mixture, similar to conventional bituminous hot mixtures in terms of mix design, production, construction and quality control. The main difference between the hot sand asphalt and the conventional bitumen mixtures is the fact that in the hot sand asphalt composition there are not aggregates. It is composed by sandy soil (about 90%), non-active mineral filler, cement and bitumen.

The present research aims to characterize the hot sand asphalt, used as a wearing course (layer) for road pavements, based on an experience of construction and monitoring of about 28 km of a hot sand asphalt wearing course in Mozambique. In general, the research work evaluates the performance (structural and functional behavior) of experimental road sections, which performance is comparable to wearing courses built with conventional bituminous hot mixtures.

The performance of these sections reveal that this material can be considered a viable alternative for roads wearing courses, particularly in areas located far from quarries (more than 200 km) and close to sandy soils deposits with adequate characteristics to compose hot sand asphalt mixtures. However, since it is an unconventional bituminous mixture, it is necessary to validate the experience for its credibility.

Keywords

Hot sand asphalt, validation, road pavements, wearing course.



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