

NUMERICAL MODELING OF FLEXIBLE PAVEMENT STRUCTURES REINFORCED WITH GEOSYNTHETICS

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ABSTRACT

The general evolution of the finite element method also led to the development of the numerical modeling of flexible pavement structures by finite element method.

Numerical modeling techniques represent an opportunity to understand the mechanics of flexible pavement structures reinforced with geosynthetics.

Experimental studies over the past years have shown the benefits of geosynthetics use as reinforcement materials of flexible pavement structures.

The paper presents results from finite element modeling, on the state of stress and strain analysis of a flexible pavement structures reinforced with geosynthetics in different versions of their location.

The study highlights the reinforcement function of geosynthetic materials and determine optimum layout of geosynthetic within reinforced asphalt overlays.

It follows that the use of geosynthetic materials to reinforce asphalt layers of flexible pavement structures has a positive effect on their bearing capacity, leading to increased calculus traffic volume that it can support a road.

KEY WORDS: Numerical modeling, flexible pavement structures, geosynthetic.