

Asphalt concrete interface with interposition of geosynthetic in pavement restoration

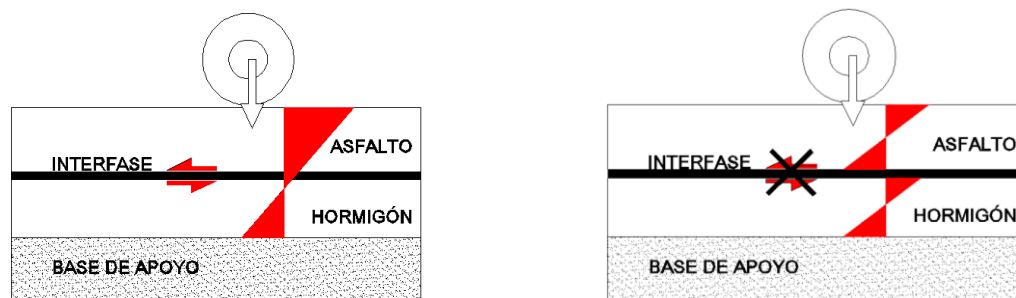
Hector Luis Delbono

LEMaC, Centro de investigaciones Viales, La Plata, 1900, Argentina

Tel/fax: (+54) 0221-4890413; E-mail: delbonoluis@hotmail.com



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Resistance of the multilayer system: left, right adhered layers and layers unbonded

ABSTRACT

On many occasions deteriorated concrete pavement is restored by a layer of asphalt reinforcement. Currently, appropriate intervention is to interpose a geosynthetic delay material known phenomenon reflecting fissures topcoat. The great dilemma is that adhesion is achieved between the materials that make up the pavement.

The physical and mechanical properties of a pavement depend on the properties of the constituent materials; therefore, this paper studies the interactions that occur between geosynthetic materials, different structure and chemistry, brought composition between a layer of portland cement concrete and a layer of conventional asphalt mixture, using as a bonding agent bitumen emulsion modified polymer.

assays SEM, EDAX of the interface system are performed. Two tests were used to determine the adhesion in the plane of discontinuity between the layers, making a comparison with the standard system, which does not consider the filing of geosynthetic, and another system where the geosynthetic is placed between asphalt layers.

It is found that the geosynthetic material has greater affinity with the asphalt layer, showing greater benefit in adherence according to the results achieved. However, it is evident that the geosynthetic generates a detriment in adhesion when compared with the standard system which does not consider the interposition of the material.

Keywords: Interface; Pavement; Concrete; Asphalt; Geosynthetic.

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