



Analysis Fracture Behavior of Asphalt Mixtures in Freezing and Thawing Cycles Conditions Using Linear Elastic Fracture Mechanic (LEFM) Technic

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ABSTRACT

Today, cracking asphalt pavement in low temperature is one of the obstacles for protecting pavement in the cold climates. One of important factors in extending of these types of cracking is cooling and heating temperature cycles according to the changes in seasons. Therefore, this research examines these types of asphalt cracking by considering asphalt mixtures and using mechanics science. In this research, cold environmental conditions were determined by making asphalt gyratory asphalt samples and fracture test in -15°C to study the effect of asphalt mixtures important parameters, it means asphalt construction materials textile on fracture resistance of samples. On the other hand, simultaneous effect of two parameters on asphalt fracture resistance was examined by considering the effect of freezing and thawing cycles, as well as using siliceous and calcareous materials.

Keyword:

asphalt mixtures, freezing and thawing cycles, linear elastic fracture (LEF)

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