

Is Re-recycling of Asphalt Really Possible?

Overview

Recycling is considered to be an essential solution to the economic problems and limited natural resources of our world these days. In highway engineering, recycling an asphalt pavement is not a new technology; it commenced in the 1970's and has achieved considerable saving in energy, natural resources, petroleum materials such as bitumenetc.



Objectives

- ❖ Investigate the effect of repeated recycling on asphalt behaviour during its service life.
- ❖ Study the factors by which the quality of recycled asphalt can be improved.




Methodology

An experimental program has been carried out to simulate the repeated recycling process in reality by fabricating samples containing recycled asphalt.

Re-recycling process has been conducted over three rounds and the samples were tested after each round for their stiffness and resistance to cracking.

Findings

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- Results after the 1st cycle showed some degradation in performance of recycled asphalt (in terms of strength and cracking resistance).
 - Re-recycling process, however, has no further effect on deterioration of recycled asphalt after the 2nd or even the 3rd round.
 - Moreover, the quality of recycled pavement can be enhanced by quality-control during production and construction stages.

