

## عنوان مقاله:

Effects of bitumen characteristics on the recovery capability in asphalt mixtures: A discussion

## محل انتشار:

اولین کنفرانس بین المللی پیشرفت های نوین در مهندسی عمران (سال: 1396)

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## خلاصه مقاله:

The recovery capability of bituminous mixtures has been used as an important base for developing new found technologies in order to prolong the service life of pavements. There are many factors that could influence the recovery capability of bituminous materials. Among the various factors that affect their recovery capability in these materials, bitumen characteristics play a decisive role. In order to promote a better understanding of this issue, the current article aimed at reviewing and analysing the effects of physical, chemical, morphological and micro-structural characteristics of the bitumen on the recovery capability in asphalt mixtures. According to the reviewed studies, the recovery capability in bitumen can be affected by the content and structure of its components. Generally, a higher concentration of the molecules with lower weight (i.e. higher maltenes content) can enhance the fluidity and consequently the molecular mobility, which is necessary for the occurrence of the healing phenomenon. Additionally, the recovery capability is more sensitive to the molecular structure (i.e. morphology) than the large molecule content.

## کلمات کلیدی:

Bitumen, Recovery, Healing, Thixotropy, Molecular mobility

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