

## عنوان مقاله:

Correction of Bitumen with the use of Carbon Nanotubes

## محل انتشار:

نهمین کنگره بین المللی مهندسی عمران (سال: ۱۳۹۱)

تعداد صفحات اصل مقاله: ۸

## نویسندگان:

a Akbari Motlagh - MS in civil

S.A Tabatabaei, - PhD in civil

a Kiasat, - PhD in chemical engineering-polymer

F. Omid Birgani

## خلاصه مقاله:

In this investigation has been trying to use the carbon nanotubes as an additive matter for bitumen technical characteristics of bitumen and asphalt mixtures as well as to promote. Therefore, in this research, parameters such as bitumen's permeability degree, softening point, flash point and ductility and marshal stability, marshal flow, marshal ratio (stability/flow) and asphalt specific gravity will be investigated. In the samples of nanotube containing, nanotube should completely mix with the bitumen. In this case with increasing the amount of carbon nanotube, technical characteristics as well as being better. But the issue should be considered, is the cost. Among the made examples, the sample that its bitumen contains carbon nanotube the rate of ۰.۰۰۱ weight bitumen, is the best results; while its initial cost is higher than prototype, it can cause a considerable economy in total cost. The use of these mixtures, in addition to improving asphalt surface properties, will decrease thickness of under layers and cause the decreasing

## کلمات کلیدی:

Nano technology, Carbon nanotubes, Bitumen, Asphalt surface, Making cost

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/۱۶۵۴۰۳>