ENGINEERING PROPERTIES OF SBS MODIFIED BITUMEN FOR PAVING MIXES

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ABSTRACT
During the last two decades, increased deformation of road structures due to the increased traffic volume and axle loads, construction errors as well as climatic conditions has been observed in many countries. In order to cope with the deformations occur on pavements, several types of improvement of the engineering properties of asphalt pavement have been proposed, one of which is the utilization of polymers for bitumen modification. Currently the most used polymer is the elastomer styrene butadiene styrene (SBS) polymer. This paper presents a laboratory evaluation of the effect of SBS polymer on the properties of the 50/70 penetration grade base (unmodified) bitumen. For this purpose SBS based polymer modified bitumen samples were prepared with different percentages (2-6%) of SBS polymer and their characteristics were determined by means of conventional test methods such as the penetration test, softening point, thin film oven test and storage stability test etc. The morphology and state of dispersion of the SBS polymer bitumen have also been investigated by means of fluorescence microscopy at room temperature. The results gained from the study were evaluated.

KEYWORDS: Polymer, modified bitumen, SBS, microscopy, elastomer