

EFFECTS OF METHODS OF PRODUCTION OF ASPHALT CONCRETE MIXES ON THE PROPERTIES OF ASPHALT CONCRETE

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ABSTRACT

The method of mixing the components of asphalt mixes influences their properties. Mixes were prepared in a laboratory mixers using:

I. Traditional technology, in the following sequence: coarse aggregate + fine aggregate – mineral filler – bitumen;

II. Two-staged technology: mineral filler – bitumen, mixing after 15 seconds – adding coarse aggregate + fine aggregate;

III. Technology: coarse aggregate + fine aggregate – bitumen, mixing after 15 seconds and adding mineral filler.

Asphalt mixes with different bitumen content and gradation were prepared. Tests were performed to determine the compressive strength at 20 °C and 50 °C, water saturation under normal conditions and continuous water saturation. The low temperature properties of mixes were investigated to determine the internal stress and crack resistance of materials.

The results showed that the sequence of adding the asphalt concrete mix components into the mixer had significant effect on asphalt concrete properties and time of mixing.

The third blending method gave considerably shorter mixing time and produced asphalt mixes with better properties.

KEY WORDS: Asphalt mixes, crack resistance, mixing time, mineral filler