

LABORATORY EVALUATION OF ASPHALT MIXTURES USING SIMPLE PERFORMANCE TESTS

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ABSTRACT

The objective of this study is to evaluate the laboratory performance of HMA mixtures based on three laboratory tests. These tests include three simple performance tests (SPTs) namely, dynamic modulus $|E^*|$, flow time (F_t), and flow number (F_N). Five plant-produced HMA mixtures were selected in this study. The results indicated that $|E^*|$, $|E^*|/\sin\delta|_{0.5\text{hz} \ \& \ 54.4\text{C}}$, F_N , and F_T were able to identify the mixes based on their design traffic volume. It is noted that the ranking of the mixtures evaluated was consistent with the field use in terms of their design traffic volume. Mixtures were compared based on their method of mix design.

KEYWORDS: Hot mix asphalt, Permanent deformation, Dynamic modulus, Flow number, loaded wheel tracking, Mechanistic-Empirical pavement design.