

COMPARATIVE EVALUATION OF 152.4 MM-DIAMETER AND 101.6 MM-DIAMETER MARSHALL SPECIMENS IN COLD RECYCLING OF ASPHALT MIXES

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ABSTRACT

Since cold recycling process is carried out on existing materials, and these may contain large aggregate and 101.6 mm-diameter Marshall method eliminates aggregate larger than 25.4 mm. due to mold size restrictions, application of a method capable of using a wider range of stones deems necessary.

This study compares recycled mix properties such as Marshall stability, flow, indirect tension, vertical and horizontal deflections in 101.6 and 152.4 mm-diameter Marshall specimens. During comparison, the mixes are similar and for 101.6 mm-diameter Marshall tests, large aggregates are eliminated. The test data show a larger coefficient of variation for 101.6 mm-diameter Marshall Specimens than the 152.4 mm-ones. In this research specification requirements for mix design of Cold In-place Recycling (CIR) with 152.4 mm modified Marshall method are obtained. Results of this research were evaluated in the field (Shahrood- Sabzevar road) and the field evaluation results showed the correctness of the obtained specification requirements.

KEY WORDS: Marshall method, Cold Recycling, coefficient of variation.