

EVALUATION OF RUTTING RESISTANCE OF RUBBERIZED GAP-GRADED ASPHALT MIXTURES

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ABSTRACT

The study described in this paper analyzed the rutting resistance of asphalt mixtures containing crumb rubber from end-of-life tires. Different rubberized gap-graded mixtures, both prepared in the laboratory and produced in a hot mix plant, were considered in the investigation. Moreover, a standard dense-graded mixture was used as a reference material. The experimental program included laboratory tests carried out on binders (Multiple Stress Creep Recovery tests) and on compacted mixtures (flow number and wheel tracking tests). In spite of the enhanced stiffness and elasticity of the binder phase, rubberized mixtures showed a lower rutting resistance than the traditional dense-graded mixture both in flow number and wheel-tracking tests. Such an occurrence was explained by referring to the limits of adopted testing protocols and improvements were suggested for future performance-based investigations.