

## USE OF REJUVENATORS ON RECYCLED BITUMINOUS MATERIALS

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### *ABSTRACT*

The use of reclaimed asphalt pavement (RAP) in road related applications helps road authorities to achieve their goal of a sustainable road transport system by reducing waste and resource consumption. The use of RAP in hot mix asphalt applications has environmental and economic benefits, and the performance could also be satisfactory. However, problems of workability and durability can be also observed, especially in recycled asphalts with high RAP contents. Thus, the objective of this paper is to evaluate the merit of some rejuvenator agents to improve the performance of recycled asphalts and the properties of their aged binders. The rejuvenator agents used in this study were a commercial product and one used engine oil. Several blends of oxidized bitumens with the referred rejuvenator agents were prepared in order to simulate mixtures with 100% RAP. These binders were characterized through their basic properties (Pen, R&B) and dynamic viscosity at high temperatures. Then, some recycled asphalts were produced with the best previously observed combinations, and their workability, durability and stiffness performance was assessed. The main conclusion of this paper is that the rejuvenator agents enable the use of high RAP contents on recycled asphalts with better performance.

*KEY WORDS:* Rejuvenators, Recycling, Aging, Binder, Asphalt performance.