

## **THE PERFORMANCE OF BITUMINOUS MIXTURES CONTAINING UPGRADED LOW QUALITY AGGREGATES**

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### *ABSTRACT*

The paper presents the performance of bituminous mixtures containing upgraded low quality artificial aggregates. The method for producing the high quality aggregates was introduced in the paper. Moreover, a series of the laboratory tests were conducted. These include chemical and physical testing for the aggregates and the bituminous road mixtures produced from these aggregates. The chemical testing was undertaken to determine the affinity of binder-aggregate combinations and their resistance to stripping. The results have been compared to those results obtained using primary aggregates acceptable by road engineers for use in road pavement construction. The tests used also included repeat load axial and repeat load indirect tensile tests performed on the bituminous mixtures produced from the aggregates used in this research project. The laboratory tests show very pleasing results and indicated that coating these low quality aggregates with the coating paste invented at Liverpool John Moores University, would improve their properties and reduce the limitation imposed on their uses in bituminous mixtures for road pavement that satisfied the specifications in the relevant current British code of practice.

**KEYWORDS:** Coating paste, Porous Asphalt, low quality aggregates, deformation, stiffness.