# ON THE SOUNDNESS AND OTHER PHYSICOMECHANICAL PROPERTIES OF CRUSHED AGGREGATES FROM CYPRUS USED IN THE PRODUCTION OF ASPHALT CONCRETE

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*ABSTRACT*
Asphalt concrete is extensively used in the construction of pavements due to a favorable combination of satisfactory performance and low production cost. Its durability is influenced by the physicomechanical properties of aggregates.

This paper presents the results of inter-laboratory tests performed on crushed aggregates from Cyprus used in the production of asphalt concrete. The focus is on (i) the study of the soundness of these aggregates using both the ASTM and EN methodologies and (ii) the correlation between soundness coefficient and other physicomechanical properties.

The research findings show that the majority of coarse aggregates from Cyprus comply to national requirements, while fine aggregates have extremely high soundness coefficients. From the test results, it is evident that heptahydrate magnesium sulphate solution is much more reactive than sodium sulphate solution. Furthermore, the results confirm that aggregate quality has an effect on the behavior of asphalt concrete. Only weak correlations have been noted between the water absorption and soundness and abrasion resistance of coarse aggregates.

*KEY WORDS:* Asphalt concrete, aggregates, physicomechanical properties.