SELF-CEMENTING PROPERTIES OF RECYCLED CONCRETE AGGREGATE AND MASONRY

C RUDMAN

University of Stellenbosch
E-Mail: rudman@sun.ac.za

ABSTRACT

Balancing the utilisation of high quality materials, against the increasing depletion of natural materials is a driving force in investigating alternative resources for pavement construction. Some countries use recycled materials as a matter of normality due to lack of quality materials and its proven structural capacity. In this context, construction demolition waste is researched.

Historically, the approach in using this material has been to establish the short term performance. Mechanisms that manifest over time such as self-cementing of latent unhydrated hydraulic binder are not included when these short-term laboratory tests are performed and the behaviour analysed.

In this research, the long term performance as a result of self-cementing is investigated, including the influence of shrinkage potential.

An analysis of these results revealed a significant influence of the residual unhydrated cement on the material behaviour. Conclusions towards a better understanding of the potential behaviour of these types of materials are made.

ISBN Number: 978-1-920017-64-4