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21 – 24 June 2023 Vrnjačka Banja, Serbia

Book of Abstracts

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POSSIBILITIES OF RECYCLED CONCRETE AGGREGATE IMPROVEMENT

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Abstract: Recycled aggregate consists of the original aggregate and cement mortar layer remaining of the old concrete. Physical and mechanical properties of recycled aggregate dependent on the properties, as well as on the quantity of remaining mortar. Removing and strengthening the adhered mortar are the two main methods for improvement the properties of recycled concrete aggregate, as well as improvement treatments with different acids and carbon dioxide (accelerated carbonation). This paper reviews the published improvement methods for recycled concrete aggregate and points out their advantages and disadvantages, also showing an example of own experimental investigation with hydrochloric acid. The overall results show that if RCA is obtained by crushing of compact, high-quality concrete, the procedures of aggregate quality improvement are not necessary.

Keywords: Recycled concrete aggregate, Improvement, Acid, Accelerated carbonation.