



Contents lists available at ScienceDirect

Case Studies in Construction Materials

journal homepage: www.elsevier.com/locate/cscm



Full Length Article

Effect of binder strengthening using micro-silica on mechanical and absorption characteristics of HPC reinforced with reclaimed jute fibres

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ARTICLE INFO

Keywords:

Agro fibre
Cement replacement
Tensile performance
Flexural strength
Absorption capacity

ABSTRACT

The incorporation of dispersed fibres in the binder matrix is proven to be beneficial to the tensile performance of high-performance concrete (HPC). However, the insertion of new/virgin fibres in the 'concrete matrix' significantly adds to the final cost and embodied carbon of HPC. Therefore, the environment-friendly design of fibre-reinforced HPC remains the main challenge. In this study, the influence of different volume fractions (Vol.) of 'jute fibre' (JF) was examined on the engineering performance of HPC. The effect of micro-silica (MS) (also known as a pozzolan) on the