

Hybrid Concrete Construction (HCC) for Sustainable Infrastructure Development in Nigeria

Authors : Muhammad Bello Ibrahim, M. Auwal Zakari, Aliyu Usman

Abstract : Hybrid concrete construction (HCC) combines all the benefits of pre-casting with the advantages of cast in-situ construction. Merging the two, as a hybrid structure, results in even greater construction speed, value, and the overall economy. Its variety of uses has gained popularity in the United States and in Europe due to its distinctive benefits. However, the increase of its application in some countries (including Nigeria) has been relatively slow. Several researches have shown that hybrid construction offers an ultra-high performance concrete that offers superior strength, durability and aesthetics with design flexibility and within sustainability credentials, based on the available and economically visible technologies. This paper examines and documents the criterion that will help inform the process of deciding whether or not to adopt hybrid concrete construction (HCC) technology rather than more traditional alternatives. It also the present situation of design, construction and research on hybrid structures.

Keywords : hybrid concrete construction, Nigeria, sustainable infrastructure development, design flexibility

Conference Title : ICESRE 2015 : International Conference on Earth Science and Resource Engineering

Conference Location : Singapore, Singapore

Conference Dates : March 29-30, 2015