

Development and behaviour of interlocking compressed earth bricks in Universiti Malaysia Sabah, Malaysia

ABSTRACT

Conventional bricks such as Fired Clay Bricks (FCB) contribute to environmental issues due to the production process. Previous study has shown that interlocking bricks have potential as alternative way for sustainable development. The Interlocking Compressed Earth Bricks (ICEB) is a sustainable construction material which all the main constituents locally available and stabilize with Ordinary Portland Cement (OPC). Thus, this study focusses on determination of proper mix design for the ICEB in line with that to reduce the contribution to environmental issues. Six (6) different of cement contents were investigated, which 0% to 10% by incremental of 2%. All the ICEB samples were tested for water absorption and compressive strength at the ages 7, 14 and 28 days. The ICEB with 10% of cement contents show the highest compressive strength which have exceeded the minimum required stated in BS3921:1985 (5 N/mm²) however the water absorption exceeds the allowable limit of 15% based on MS 76:1972. This study may contribute and act as manual for mix design of the ICEB.