

Structural behaviour of ferrocement–brick composite floor slab panel

ABSTRACT

This study introduces a semi-fabricated system for the construction of floor slab. The slab panel consists of two layers joined together using truss type shear connectors. The first layer is a precast ferrocement layer which acts initially as a formwork, while the second layer consists of bricks and mortar. Continuous truss shear connectors are used to connect the two layers. The paper experimentally investigates the structural response of ferrocementóbrick composite panel under flexural load. Four full scale specimens were cast and tested under two-line loads. The study highlights the effect of shear connectors and brick layout on the overall structural response of the slab. The results in terms of loadódeflection, crack pattern, strain distribution and failure loads indicate that the response of the composite slab to the flexural loading is satisfactory and can be used as a floor slab in construction sector.

Keyword: Ferrocement; Composite slab; Brick layout; Steel truss shear connector