Numerical analysis of punching failure mechanism and debonding of slabs strengthened with externally bonded FRP

Ahmed Sabry Farghaly, T Ueda

Abstract:

Abstract The external bonding of fibre-reinforced polymer (FRP) sheets to reinforced concrete (RC) structures has emerged as a popular method of strengthening. With this strengthening method, the stress transfer performance of the FRP-to-concrete interface is of crucial importance. Indeed, a number of failure modes associated with FRP strengthened RC members are directly caused by debonding of the FRP from the concrete. The motivation for this work is the fact that, although there is a large amount of experimental data

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