Numerical Analysis of Punching Shear Failure Mechanism and Strength of Open Sandwich Slab

Ahmed Farghaly, Tamon Ueda, Hitoshi Furuuchi

Abstract:

Effort has been given using non-linear 3D FEM program to predict the punching shear failure mechanism and its strength of steel-concrete open sandwich slabs with stud. In the analysis the stud is modeled by link element whose constitutive model is derived from the authors' experimental study. The results show very good agreement between the analytical and experimental values. Punching shear failure phenomena is carefully examined in the analysis observing predicted concrete cracking pattern and concrete crushing.

Published In:

Journal of Structural Engineering , ,