بيانات عن بحث رقم (6)

عنوان البحث:

Numerical Investigation of Punching Shear Pattern of Flat Plate Supported by Coupled Columns

Mahmoud Elsayed

مكان النشر

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Abstract: In this study, non-linear 3D numerical analyses were performed to investigate the influence of separation distance of the columns on the punching shear capacity of the flat plate supported by coupled columns. Verification models have been carried out by simulating available experimental data. A total of 135 models was analyzed and examined numerically by the 3-D nonlinear finite element package (ANSYS 14.5). The effects of three variables on the punching strength of RC slabs; the separation distance, the concrete strength, and the reinforcement ratio were considered. Finally, the BS 8110 code equation and Rankin's approach, were compared with the numerical results. The results presented that increasing the concrete strength results on an increment of the FEA predicted punching load. It was observed that punching load capacity was improved by increasing the reinforcement ratio. The FEA punching shear strength was increased gradually by increasing the separation distance between columns and maximum ultimate load reaches at clear distance between columns equal to 8d.