عنوان مقاله:

ACCURACY OF COMMON MACRO-ELEMENT MODELS IN PREDICTING BEHAVIOR OF CONCRETE INFILLS

محل انتشار:

سومین کنفرانس بین المللی بتن و توسعه (سال: 1388)

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خلاصه مقاله:

Reinforced concrete infills improve seismic behavior by increasing lateral strength, initial lateral stiffness, and energy dissipation capacity of buildings, so it is important to implement a model which can predict behavior of infilled buildings correctly. Duo to convenience and simplicity in application proposes, modeling of infills with macro element models can be implemented in place of micro element. In this study, two applicable macro-element models namely one-strut and threestrut was implemented for modeling of these infills and accuracy of these models in predicting actual behavior of structure was compared with experimental tests which have been carried out in recent years on concrete and steel frames. The results show that in frames with strong members when the critical mode is failure in infill; three-strut can simulate ultimate strength and initial stiffness better than one-strut model. This paper also indicates that frame weakness can affect dramatically on the concrete infilled frame behavior and interrupt infill performance.

کلمات کلیدی:

concrete infill, macro element model, three-strut model