

عنوان مقاله:

Evaluating and comparing the effect of LRB damper with RB+Viscoelastic damper in concrete moment resisting frames

محل انتشار:

پنجمین کنگره بین المللی عمران ، معماری و توسعه شهری (سال: 1396)

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خلاصه مقاله:

At Years old Recent Topic Separators Tremble Oh you Buildings Case Attention Put Taken Is That Work Its original to split Structure From Align Class case Opinion Is. Target Main Separator Seismic increase the period Alternate Structure And depreciation Energy Vibrating You can Is. Necessary To Mention Is That increase the period Alternate plus On Decrease Response Tremble Oh you Structure Causing far Become Structure From Square Escalation You can Be. Reinforced elastomeric isolators by sheet steel Lead core, LRB , Due to good damping, a suitable option is known among other detachers . Also, viscoelastic dampers are also widely used . In this paper, a concrete framing frame in the software SAP Is modeled . Models for a number of different classes 5, 10 and 15floors and was built in three modes: (1) without separation, (2) the separation of lead - rubber (LRB) , 3. The combination of rubber separators (RB) And viscoelastic . The models are based on time history analysis . The results of the analysis consisted of the final position change of the roof and the base cut and the comparison was made . According to the results of the research, for clamping support models, with a rise of classes from 5 floors to 15 floors, the basal cutting value increased by 7% . Also, with the increase of classes from 5 floors to 10 and 15 floors, the maximum displacement of the building increased 1.67 and 1.8 times, respectively . For stand-up models with separator LRB It has been observed that with the increase of classes from 5 floors to 10 floors, the cutting value of the base decreased by 20% . However, in order to increase the floor space from 5 to 15, the cut-off value of the base is 2.6 times . Separate application seems to be LRB For high-rise structures (15 floors) did not show a good performance . Also, with the increase of classes from 5 floors up to 10, the maximum change of location has increased by 3% . Also, with an increase in the number of floors from 10 floors to 15 floors, the value of displacement is 22% increase . In standalone models with separator RB And Viscoelastic It has been observed that with the increase of classes from 5 floors to 10 floors, the basal cutting value increased by 65%. However, for classroom extensions from 10 floors to 15 floors, the baseline cut has increased by 31% . Also, with the increase of classes from 5 floors to 10, the maximum change of location has increased by 6% . Also, with an increase in the number of floors from 10 floors to 15 floors, the amount of displacement is 1.5 times higher

کلمات کلیدی:

Concrete Framing Frame, Clamping Rack, Lead - Rubber Separator (LRB), Rubber seals (RB) And viscoelastic

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