

عنوان مقاله:

CHALLENGES OF RANKING NEWLY BUILT RC BUILDINGS IN TERMS OF SEISMIC SAFETY IN IRAN

محل انتشار:

هشتمین کنفرانس بین المللی زلزله شناسی و مهندسی زلزله (سال: 1398)

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خلاصه مقاله:

A residential, office or commercial building unit is one of the most expensive commodities in the consumer goods market basket. Nowadays, every commodity comes with a reference manual, specifications list, and guarantee or warranty documents. In most parts of the world, including Iran, buildings as expensive commodity lack such critical documentation. In the past few years, a technical identification document (technical property document) is introduced as a requirement for obtaining a construction permit. However, the authorities issuing permits have failed to implement this rule throughout the country. Therefore, it is essential to simplify the effort to assess a building's performance by reviewing and clarifying the required metrics, methods and steps in the process. The seismic performance of a building is a critical metric for assessing its quality. The seismic safety rank of a building is a crucial indicator in the identification document to quantify the building's quality especially in seismic region. A potential buyer, the insurance company, construction permit issuance authority and centre for seismic codes and standards are interested in using such indicators for their corresponding objectives as it pertains to purchasing a property. In the long run, the use of seismic safety rank enhances the construction quality indirectly. Additionally, such an indicator provides a more transparent assessment of the current state of an existing building. Finally, it assists with a more accurate prediction of a future building's seismic performance concerning the objectives envisioned in its design. Predicting the seismic performance of a building in the event of a potential earthquake is an immensely complicated computation due to random uncertainties in the process. Hence, a probabilistic approach to this problem is inevitable. In the case of Iranian buildings, this issue is more pronounced compared to other countries like the United States. Deficiencies in the construction process mechanisms, especially in urban constructions, significantly complicates the prediction of seismic performance. Despite these complications, the methods and systems used in other countries for such indicators are still an advantageous starting point and guidance for Iranian engineers. For example, the USRC Building Rating System provides star ratings over three separate dimensions corresponding to the following selected consequences: safety, damage (expressed as repair cost), and recovery (expressed as the time to regain basic ... functions). The following tables provide descriptions o

کلمات کلیدی:

Seismic rating system, Seismic performance, Seismic vulnerability, Technical-property document, RC buildings

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