SEISMIC ISOLATION OF HOSPITALS IN PERU: A CASE STUDY WITH DRAFT PERUVIAN CODE

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Abstract:
Seismic isolation is a seismic protection technique for buildings which has been recently introduced in Peru. More than twenty seismically isolated buildings exist in Peru, at present. Seismic isolators in many of these buildings have been designed using foreign codes developed for foreign seismic conditions in the absence of local design code. These conditions may not accurately represent Peruvian seismicity. The mandatory use of seismic isolators in new major hospital buildings has been established recently in the Peruvian seismic design code. Available studies in Peru indicate that most health centres may be temporarily affected after a rare seismic event. The seismic isolation Peruvian code is being developed taking into account the needs and implications of Peruvian seismicity. This paper presents the design procedure of the seismic isolation system of a representative four storey reinforced concrete hospital block. The requirements of the draft code for seismic isolation and the current seismic code have been used. The design process and verification show reasonable response of the structure in terms of drifts and acceleration even after including maximum and minimum modification factors of properties for the seismic isolation bearings.

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