عنوان مقاله:

SEISMIC PERFORMANCE OF PRECAST INDUSTRIAL BUILDINGS

محل انتشار:

پنجمین کنفرانس بین المللی زلزله شناسی و مهندسی زلزله (سال: 1386)

تعداد صفحات اصل مقاله: 8

نویسندگان:

Kramar - *Research Assistant, Institute of Structural and Earthquake Engineering, Faculty of Civil and Geodetic Engineering, University of Ljubljana, Jamova ۲, SI-۱۰۰۰ Ljubljana*

Fischinger - *Professor, Institute of Structural and Earthquake Engineering, Faculty of Civil and Geodetic Engineering, University of Ljubljana, Jamova ۲, SI-۱۰۰۰ Ljubljana*

Isakovic - *Associate Professor, Institute of Structural and Earthquake Engineering, Faculty of Civil and Geodetic Engineering, University of Ljubljana, Jamova ۲, SI-۱۰۰۰ Ljubljana*

خلاصه مقاله:

Seismic performance and vulnerability of a prefabricated RC industrial building, designed according to Eurocode, were evaluated. Minimum reinforcement requirements governed the design of a single storey structure and connections were designed according to the capacity design rule. Pseudo-dynamic and cyclic tests of a full scale specimen were performed at the European Laboratory for Structural Assessment in Ispra. A macro model based on Takeda rules with degrading strength was adopted for columns. The characteristic rotations defining the backbone curve were obtained by the empirical rules recommended in EC8 and verified by the test results. The peak ground acceleration (PGA) capacity and frequency of exceeding a limit state, defined as a loss of the global equilibrium, were calculated by a method based on a total probability theorem. Large overstrength of the structure was observed leading to large PGA capacity and low annual probability (in the order of 10-5) of exceeding the limit state. Connections were strong enough to enable the structure to act as an assemblage of cantilever columns connected by a rigid slab. Relatively large behavior factor (4.5), as given in Eurocode, can be used for such structures. Very large drift capacity of the structure (8% of the height) was observed. However, serviceability drift limits will likely govern the .design

کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا: