

## ABSTRAK

Perilaku bangunan dengan sistem penahan gempa masonry menggunakan metode Respons Spektrum berdasarkan SNI 1726:2019 dan 2847:2019, analisis dilakukan pada struktur tanpa dinding dan dinding bata bangunan 3 lantai yang berfungsi rumah tinggal di Jayamandala, Jakarta Selatan. Bangunan dalam Kategori Risiko II, faktor keutamaan gempa ( $I_e$ ) yaitu 1, kelas situs tanah adalah tanah sedang (SD), spektral desain  $S_{ds}$  0,626 g dan  $S_{d1}$  0,505 g, kategori desain seismik yaitu D, koefisien modifikasi respons situs R untuk tanpa dinding 3 dan dinding 1,5. Periode desain  $T_{amax}$  0,437 detik, gaya geser dasar statik arah x dan y tanpa dinding 1239,66 kN dan dinding 2479 kN. Hasil analisis diperoleh mode 1 tanpa dinding 1,675 detik dan dinding 0,441 detik, gaya geser ekuivalen arah x dan y tanpa dinding 2284,35 kN dan dinding 2478,83 kN, gaya geser gempa dinamik arah x dan y tanpa dinding 2284,36 kN dan dinding 2479 kN, simpangan antar lantai drift limit tanpa dinding 94 mm dan dinding 32,9 mm, tegangan  $S_{max}$  yaitu 45,357 N. Berdasarkan hasil analisis perilaku struktur sistem penahan gempa masonry, tanpa dinding lebih lentur dibandingkan dinding lebih kaku.

**Kata Kunci :** SNI 1726: 2019, SNI 2847 : 2019 Perilaku Struktur, Tanpa dinding bata, Dinding bata

## ABSTRACT

The behavior of buildings with a masonry earthquake resisting system using the Spectrum Response method based on SNI 1726:2019 and 2847:2019, analysis was carried out on structures without walls and brick walls of 3-story buildings that function as residential homes in Jayamandala, South Jakarta. Building in Risk Category II, earthquake priority factor ( $I_e$ ) is 1, soil site class is medium soil (SD), design spectral  $S_{ds}$  0.626 g and  $S_{d1}$  0.505 g, seismic design category is D, site response modification coefficient R for without walls 3 and walls 1.5. Design period  $T_{a_{max}}$  0.437 seconds, static base shear force in x and y directions without walls 1239.66 kN and walls 2479 kN. The analysis results show that mode 1 without walls is 1.675 seconds and walls are 0.441 seconds, the equivalent shear force in x and y directions without walls is 2284.35 kN and walls is 2478.83 kN, the dynamic earthquake shear force in x and y directions without walls is 2284.36 kN and walls 2479 kN, drift limit drift limit between floors without walls 94 mm and walls 32.9 mm,  $S_{max}$  stress is 45.357 N. Based on the results of structural behavior analysis of masonry earthquake resisting systems, without walls is more flexible than stiffer walls.

**Keywords:** SNI 1726: 2019, SNI 2847: 2019 Structural Behavior, Without brick walls, Brick walls