ABSTRAK

Indonesia termasuk salah satu negara yang rawan terhadap bencana alam berupa gempa bumi karena letak geografis Indonesia yang berada di jalur gempa teraktif dunia dan berada di atas tiga tumbukan lempeng benua. Bencana gempa bumi telah banyak memberikan dampak berarti mulai dari kerusakan infrastruktur hingga merenggut banyak korban jiwa. Struktur gedung sekolah yang terbilang tidak terlalu tinggi menjadikannya kurang mendapat perhatian dari segi kajian ilmiah ataupun penelitian yang membahas dampak yang dapat ditimbulkan akibat gempa bumi terhadap gedung sekolah sehingga minim sekali upaya dalam mengoptimalkan perencanaan gedung sekolah yang tahan gempa bumi dan sesuai regulasi perencanaan gedung tahan gempa. Oleh sebab itu, penelitian ini mengkaji ketahanan gedung sekolah terhadap gempa bumi dengan melakukan pemodelan struktur gedung sekolah pada program SAP2000 berdasarkan tata cara perencanaan ketahanan gempa SNI 1726-2012. Hasil dari penelitian ini merupakan desain gedung sekolah yang dirancang sedemikian rupa untuk menahan beban gempa berdasarkan tata cara perencanaan ketahanan gempa SNI 1726-2012.

Kata kunci: gempa bumi, gedung sekolah tahan gempa, pemodelan struktur.

ABSTRACT

Indonesia is one of the countries that is vulnerable to natural disasters, especially earthquake disaster due to Indonesia's geographical location which is located upon of the most active earthquake pathway in the world and at the above of three continental plate. Earthquake disaster has gave a lot of meaningful impact from a damage of infrastructure even taking a lives. Considering structure of school buildings is not too high making them gets less of concern in any research that is discuss about impact of earthquake could occured to the school building itself, so that is very minimum effort of optimalization about design of earthquake resistant of school building and apropriate with any regulation about an earthquake resistant building. Therefore, this research is discussing and modeling about the endurance of a school building to earthquake force using programme of SAP2000 based on the national standard of Indonesia 1726-2012. The result of this research is a design of an earthquake resistant building of school which is safe and designed in such a way, also based on national standard of Indonesia 1726-2012.

Keywords: earthquake, earthquake resistant building, structure modeling