

# **PERENCANAAN STRUKTUR BANGUNAN GEDUNG**

## **Studi KASUS HOTEL LIMA LANTAI KOTA PADANG**

**Ahmad Afandi,Taufik, Khadavi**

Jurusan Teknik Sipil, Fakultas Teknik Sipil dan Perencanaan, Universitas Bung Hatta Padang  
E-mail : [ahmadafandi200885@yahoo.co.id](mailto:ahmadafandi200885@yahoo.co.id), [taufik88@rocketmail.com](mailto:taufik88@rocketmail.com), [qhad\\_17@yahoo.com](mailto:qhad_17@yahoo.com)

### **Abstrak**

Bangunan Perhotelan ini di bangun di kota Padang. Perencanaan gedung ini dirancang dengan mengacu kepada SNI 03-2847 : 2013 tentang Persyaratan Beton Struktural untuk Bangunan Gedung, SNI 1726 : 2012 tentang Tata Cara Perencanaan Ketahanan Gempa Gedung untuk Struktur Bangunan Gedung dan Non Gedung. Perancangan bangunan direncanakan dengan SRPMK didapat kategori resiko II, percepatan respons spektra perioda pendek S<sub>s</sub> sebesar 1,492g dan spektra percepatan perioda panjang S<sub>1</sub> sebesar 0,600g, nilai partisipasi ragam x dan y sebesar 93,02% dan 93,66%,gaya geser dasar seismic sebesar arah x dan y sebesar 4964.766 kN, limit simpangan antar lantai sebesar 0,025 dan memenuhi syarat untuk besaran antar lantai. Gedung apartemen ini sudah bisa dikatakan aman terhadap gempa karena telah direncanakan dengan mutu tinggi (f<sub>c</sub>'30MPa dan f<sub>y</sub> 400 MPa), *strong column weak beam* dengan nilai  $\Sigma M_{nc} \geq 1,2 M_{nb}$  dan rangka pemikul momen mampu menahan 25% gaya gempa desain. Dari hasil perhitungan yang telah dilakukan menunjukkan bahwa elemen struktur apartemen ini aman secara analisis.

**Kata Kunci :** perencanaan,perhotelan gempa,SRPMK,

**Pembimbing I**

**Ir. Taufik.,MT**

**Pembimbing II**

**Khadavi.,ST.,MT**

# **BUILDING STRUCTURE PLANNING HOTEL CASE STUDY FIVE FLOORS, PADANG CITY**

**Ahmad Afandi,Taufik, Khadavi**

Civil Engineering Department, Faculty of Civil Engineering and Planning, Bung Hatta University, Padang

E-mail : [ahmadafandi200885@yahoo.co.id](mailto:ahmadafandi200885@yahoo.co.id), [taufik88@rocketmail.com](mailto:taufik88@rocketmail.com), [qhad\\_17@yahoo.com](mailto:qhad_17@yahoo.com)

## **Abstrack**

His Hospitality building was built in the city of Padang. This building planning was designed with reference to SNI 03-2847: 2013 concerning Structural Concrete Requirements for Buildings, SNI 1726: 2012 concerning Procedures for Planning Earthquake Resilience for Building Structures and Non-Buildings. The design of the building is planned with SRPMK obtained risk category II, acceleration response of Ss short period spectra of 1,492g and acceleration of S1 long period spectra of 0,600g, participation values of variance x and y of 93,02% and 93,66%, seismic base shear force for the x and y directions of 4964,766 kN, the inter-floor deviation limit is 0.025 and qualifies for inter-floor quantities. This apartment building can be said to be safe against earthquakes because it has been planned with high quality (fc'30MPa and fy 400 MPa), strong column weak beam with a value of  $\Sigma M_{nc} \geq 1.2 M_{nb}$  and the moment bearer frame is able to withstand 25% of earthquake design force. From the results of calculations that have been done show that the elements of this apartment structure are analytically safe.

**Keywords:** planning, earthquake, hotel, SRPMK

**Advisor I**

**Ir. Taufik.,MT**

**Advisor II**

**Khadavi.,ST.,MT**