

## ABSTRACT

The Pinnacle Apartement and Condotel is one of the candidates for the skyscrapers that will soon be built in strategic areas Pandanaran Semarang. This Apartement is located at No. 18 Pandanaran Street Semarang. By carrying out the minimalist and modern design, it is expected to meet the needs of residents of Semarang and foreigner the comfortable dwelling.

The Pinnacle's apartement structure is designed based on the Design Capacity Method or SRPMK (Special Moment Frame Structure Bearers). The main concept is making the column stronger than the beams, and that are expected to occur in the beam plastic hinge that can reduce energy by earthquake. The main guidelines in this plan are taken from Indonesia Codes such SNI 03-2847-2002 Concrete and SNI 03-1726-2012 Earthquake. The modeling is made, performed using software Extended Three-Dimensinal Analysis of Building Systems (ETABS) version 13, Structure Analysis Program (SAP ) 2000, CSI COL, and AutoCad. Some items are taken into account include the overall structure of the work of both Primary and Secondary element. The primary elements include beams, coloumns, core wall, joints, and piles. The secondary elements are slabs, plate basement walls, stairs, and ramps.

The analysis showed that structure of the apartement is safe.

**Keywords:** *The Pinnacle, SRPMK, Design Capacity*

## ABSTRAK

Apartemen dan *Condotel* “The Pinnacle” adalah salah satu gedung pencakar langit yang akan segera dibangun di daerah strategis Pandanaran Semarang. Apartemen ini terletak di Jalan Pandanaran No 18 Semarang. Mengusung desain minimalis dan modern, diharapkan dapat memenuhi kebutuhan warga Semarang dan sekitarnya terhadap hunian yang nyaman.

Struktur apartemen “The Pinnacle” dirancang berdasarkan metode Desain Kapasitas atau SRPMK (Struktur Rangka Pemikul Momen Khusus). Konsep utama SRPMK adalah membuat kolom lebih kuat daripada balok (*strong column, weak beam*) sehingga diharapkan terjadi sendi plastis di balok yang dapat memancarkan energi akibat gempa. Pedoman utama dalam perencanaan diambil dari SNI 03-2847-2002 Beton dan SNI 03-1726-2012 Gempa. Pemodelan dirancang dengan menggunakan software *Extended Three-Dimensional Analysis of Building Systems* (ETABS) versi 13, *Structure Analysis Program* (SAP 2000), CSI COL dan Auto Cad . Beberapa item pekerjaan yang diperhitungkan meliputi keseluruhan struktur pekerjaan yaitu elemen primer dan sekunder. Elemen primer meliputi balok, kolom, *core wall*, sambungan kolom balok, dan pondasi. Elemen sekunder meliputi pelat lantai, dinding *basement* , tangga, dan *ramp*.

Hasil analisis menunjukkan bahwa struktur apartemen “The Pinnacle” aman secara analitis.

**Kata kunci:** *The Pinnacle, SRPMK, Desain kapasitas*