DESIGN MODIFICATION USING SPECIAL CONCENTRIC BRACED FRAME IN METROPOLIS APARTMENTS BUILDING

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ABSTRACT

Metropolis is an apartment building consisting of 15 floors which was originally designed using reinforced concrete structures. For study materials building design was modified to 25 floors using steel structures. Construction steel is a favorable alternative in the construction of buildings and other structures based on economic considerations, the nature and strength, suitable for the load bearer. Structure of the steel rod has a look of a smaller size than the rod structure with other materials, because the strength of steel is much higher than concrete or wood. This resulted in high strength steel structure that is lighter than the structure with other materials. Thus the foundation also needs a smaller.

In Final re-planning is discussed by using a steel structure with a system of special concentric brached frame (SCBF) using a kind of inverted V. Concentric Brached Frame System is the development of portal systems are not restraint or better known by Moment Resisting Frames (MRF). Concentric Bresing Framework System was developed as a lateral restraint system and have a fairly good level of rigidity. At the height of the building structure, rigidity is an important requirement to note,
because rigidity can withstand a lateral load forces. The stiffness of this system are the result of a recognition element that serves as a barrier bresing lateral forces that occur in the structure.

The purpose of this final task is to produce a steel building structural design involves planning the floor plate, stairs, concrete roof, joist, beam, columns and foundations that meet the security requirements based on the structure of SNI 03-1729-2002, SNI 03-1726-2002, and PPIUG 1983.

Key words: steel, brached, concentric.