THE EFFECT OF GEOMETRY BRACING STRUCTURE IN BUILDING USING STEEL STRUCTURE

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ABSTRACT

One of the most widely applied structure in Indonesia is the concrete structure, but on the use of longer concrete structures in its completion with the use of steel structures. Steel structures have great strength to withstand forces and pressures without requiring large volumes, when compared to other construction materials. System structure provides different applications to the working load, the development structure must conform to good standards. Mass and structure are also important factors that affect the whole of the structure. Modeling structure, analysis and design process using computer program. At this stage the definition of all types and sizes of cross-section of building elements is used. With the variation of 7 floors, buildings located in Pangkal Pinang using 3 kinds of bracing structure such as bracing x, v and single diagonal. The seismic load analysis used in this model is the spectrum response. The result and analysis with brace x has the smallest period vibration that is 0,487 direction x and 0,472 direction y, the largest earthquake shear force is 3947,41 kN and the smallest deviation is 35,04436 mm for direction x and 35,929432 mm for direction y. From the results of the analysis it is known that building with brace x are stiff compared to brace v and single diagonal.

Keywords: bracing structure, steel structure, brace x, brace v, single diagonal brace.