

## ***ABSTRACT***

*Arch bridge is a bridge that has a curved shape and both ends are support on abutments. The height of the arch bridge is influenced by the length of the bridge span. Aims of this study are to determine the effect of arch bridge height variation on material strength and efficiency on the Sardjito II bridge.*

*This research was conducted by comparing three variations of arch bridge height, namely 20 m, 22 m and 24 m. The structural response reviewed is the axial force in each component of the curved structure. Steel and cable needs are obtained from the results of steel and cable designs in each component.*

*The results of this study show that at 20 m arch height the axial force obtained in the frame is relatively larger than the arc height of 22 m and 24 m. At 24 m arch height, the smallest axial force is obtained. Whereas in the cable structure, the 20 m high arch has the smallest tensile strength and the 24 m arch height has the greatest tensile force.*

***Keywords :*** *Arch Bridge, steel frame, SAP2000*