CALCULATION OF FORCE AND ENERGY AT MACHINE MAKERS WEDGE SQUARE WITH ARTLESS STEEL OF DIAMETER 16 MM.

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ABSTRACT
Most of the work in the bending of reinforcing steel (plain steel) for the manufacture of building cross bar using manual bending process by means pleser, therefore, arises the idea to create a tool that serves to bend the plain steel with a machine that is expected to be more efficient and obtain maximum results.

The machine uses rotary bending system with electric motor power and use electric controls, design and planning is done by analyzing the quality of steel in order to know the style of the establishment that will be needed in the Determination used machine components.

To bend the iron bars (plain steel) with 16mm diameter, thus forming cross bar amounted to 527.25 kgf with initial radius of 19.3 mm, initial angle of 92.3° bending and springback compensation of 2.3°. From the calculation of the formation of the force is then obtained power of \( P_1 = F \cdot V \) which was 0.20 KW, and power the electric motor is used that is equal to 2.20 KW to 2 fruit belt that long with \( L = 1118 \text{ mm} \) or 44 inch and 2 pieces Pulley with \( d_1 = 90 \text{ mm} \) and \( d_2 = 180 \text{ mm} \) to 1:30 gear ratio

Keywords: Iron bars (plain steel), Sengkang square, style bending, System transmission of belt