

## ABSTRACT

*In this study horizontal rotation of the ball mill machine was carried out using dimmer. This machine is used for grinding the material so that it can produce a reduction in the size of the material. The working of this grinding machine will rotate the tube mixed with iron ball and water. The result of rounds and collisions with centrifugal iron balls that can damage the material inside. This machine uses dimmer as speed controller and AC electric motor as a propeller drive engine. The measuring instrument is done in two steps, measuring the turning speed of the motor and grinding the material. When the speed measurement is divide into four parts when the engine with the water load 600 mL, when the engine is without load, when the engine with the water load 600 mL + 50 gram brick fragments and when the engine with the water load 600 mL + 75 gram brick fragments. Whereas for material milling is done using brick fragments. The right variable includes the length of time and the work value of the machine. The results of grinding will be compared with the ingredients before grinding. After grinding process, will be given in shape less than 0.2 mm at speed 130 RPM within 60 minutes of grinding duration.*

**Keywords:** *Ball Mill, Material Milling, Milling, Dimmer, Motor DC*