

ABSTRACT

IGNITION CHARACTERIZATION OF AZ31 MAGNESIUM ON THE PROCESS OF TURNING USING THERMOGRAFI APPLICATION

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Magnesium has a light characteristic, good ductility and good corrosion resistance. But magnesium is highly flammable because magnesium reactive to oxygen and other compounds, especially in the form of powder. as it is known that magnesium ignition temperature at atmospheric pressure it is under the liquid point is. 623 °C. One measure to measure ignition temperature is by using thermografi application. Thermografi is also able to capture the event of ignition at the time of the machining process.

Data collection was done by machining AZ31 magnesium rod with various machining conditions and at the humidity 73 %. From the results of experiments, the temperature rise along with increase cutting speed at various feed rate and depth of cut. Beside that, magnesium ignition occurred at the cutting speed of 180 m/min resulted in the temperature of 553.235 ° C and cutting speed of 200 m/min resulted in the temperature of 620.675 ° C. Both ignition occurred in feed rate of 0.05 mm/rev and depth of cut of 0.05 mm.

Histogram shown the highest peak point in the bright area in the ignition. The higher of cutting speed, the temperature will increase as well. Along the high cutting speeds are used, have an important role occurrence of ignition. Thus to avoid the use of some of the parameters that allow the ignition

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