

Pengaruh perubahan arus pada kondisi recast layer aluminium paduan hasil proses electric discharge machine menggunakan elektroda Cu dan fluida dielektrik kerosin = Effect of change current on condition of recast layer the aluminium alloy result electric discharge machine process use electrode Cu and fluid electric kerosene

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Abstrak

[ABSTRAK

Electric discharge machine merupakan proses pemotongan non konvensional yang banyak digunakan saat ini, Hal ini dikarenakan electric discharge machine mampu memotong material yang memiliki kekerasan tinggi dengan cepat dan mampu membentuk dimensi yang rumit. Permasalahan muncul pada saat hasil proses pemotongan memperlihatkan adanya recast layer. Recast layer adalah lapisan tipis hasil dari proses pemanasan yang tinggi lalu didinginkan dengan cepat. Kemunculan recast layer berdampak pada munculnya micro crack disekitar lapisan tersebut. Oleh karena itu pada penelitian ini dilakukan pengkajian tentang pengaruh arus yang digunakan pada electric discharge machine menggunakan material aluminium alloy. Aluminium alloy banyak digunakan di dunia industri otomotif sehingga cacat yang mungkin terbentuk sangat berpengaruh terhadap reject produk yang dihasilkan. Selain recast layer penelitian ini juga mengkaji adanya migrasi material. Penggunaan suhu yang tinggi memungkinkan terjadinya difusi antara benda kerja dan elektroda. Pada hasil recast layer akan dilakukan uji EDAX untuk mengetahui unsur-unsur yang terkandung di dalamnya. Pengujian EDAX juga dilakukan di daerah base metal. Perbandingan hasil dari daerah recast layer dan base metal hasil electric discharge machine tersebut akan membuktikan apakah terjadi migrasi material.

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<i>ABSTRACT

;Today, the process of cutting the material that is widely used. This is because the electric discharge machine was able to cut material that has a high hardness rapidly and capable of forming a complex dimension. The problems emerged when the result of the cutting process showing the recast layer. Recast layer is a thin layer that result from high heating process and cooling down rapidly. The emergence of recast layer affects the advent of micro crack around the layer. Therefore in this research, the study of the influence of currents used in electric discharge machine that using aluminium alloy. The aluminium alloy is widely used in the automotive industry that defect possible is formed very influential to reject the product.in addition recast layer, this study also examine the migration of material. the application of high temperature allowing the diffusion between the electrode and the workpiece. The result of testing will be performed recast layer EDAX to find out elements contained within it. The testing of EDAX was also carried out in the area of the base metal. The comparision the result from the recast layer and base metal would be proving whether the migration of material., Today, the process of cutting the material that is widely used. This is because the

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