Effect of ph impurities and electric current to the electroplating process = Pengaruh dari ph, pengotor dan arus listrik terhadap proses elektroplating

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Abstrak

Proses elektroplating pada riset ini akan berfokus pada efek yang dihasilkan oleh pH, pengotor dan rapat arus pada proses elektroplating. Proses tersebut akan diawali oleh proses loading, degreasing, pickling, electro cleaning, electro plating dan unloading. Riset ini dilakukan dengan memvariasikan nilai pH, pengotor dan arus listrik dan juga melakukan studi pustaka. Berdasarkan hasil dan interpretasi dari riset dapat disimpulkan bahwa pH, pengotor dan rapat arus sangat mempengaruhi proses elektroplating, lebih lanjut faktor yang paling signifikan adalah arus listrik. Melalui hasil eksperimen didapatkan bahwa kondisi operasi standar yang paling optimum adalah proses elektroplating dengan pH berkisar 5.5-6, tanpa keberadaan zat pengotor dan pada besaran arus listrik 42 Ampere. Ketebalan terbaik pada electroplating berkisar antara 15-25 mikron dengan level kecerahan A dan 96.14% efisiensi. Untuk menjaga efektifitas dari proses elektroplating, pemeliharaan berkala terhadap peralatan elektroplating dan alat ukur lainnya harus dilakukan.

.....Electroplating in this research will be focusing in the effect of pH, impurities and electric current in the electroplating process. The processes will be starting from loading, degreasing, pickling, electro cleaning, and electro plating and unloading. In the process of electro plating, there are several factors that affect the end result, which are pH, impurities and electric current. Varying the amount of the pH, impurities and electric current as well as doing the literature review will do the research. Based on the result and interpretation of the research can be concluded that pH, impurities and electric current are affecting the electroplating plating, Furthermore the most significant factor is the electric current. From the result of the experiment obtained that the most optimum standard operating conditions in the electroplating process are with pH ranged 5.5-6, no impurities and 42 Ampere of electric current. The range of optimum thickness is between 15-25 micron, with level of brightness A and having 96.14% of plating efficiency. In order to keep the effectiveness of electroplating process, continuous maintenance of electroplating and measuring equipment have to be done.