

THE PROCESS OF ELECTROPLATING ON IRON IN PRESENCE OF  
NICKEL SALTS

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The process of electroplating on iron in presence of nickelsalts,  
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**THE PROCESS OF ELECTROPLATING ON IRON IN PRESENCE OF  
NICKEL SALTS**

**By**

**KEE LIP KUAN**

**Thesis submitted in partial fulfilment of the requirement for  
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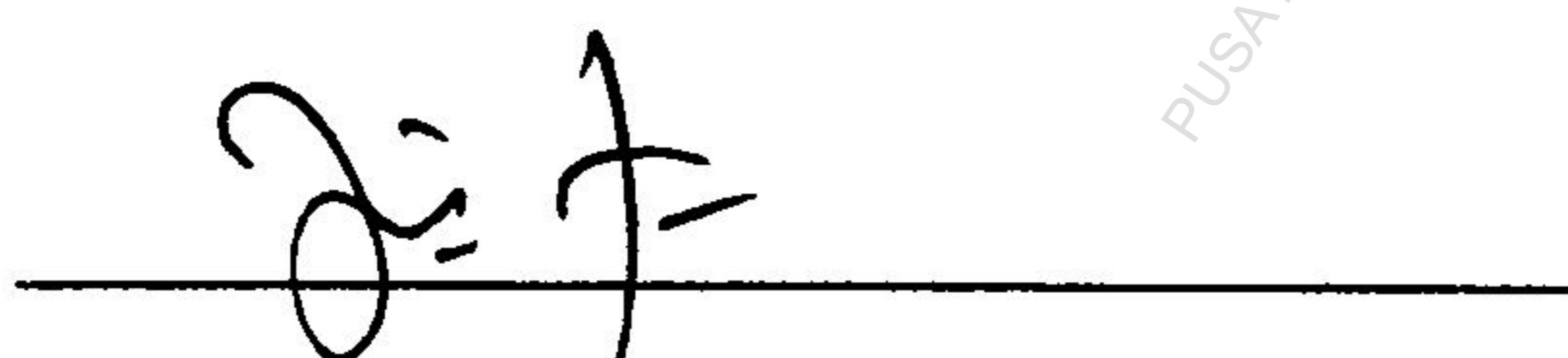
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## ABSTRAK

Proses penyaduran elektrik logam telah dijalankan dengan menggunakan Larutan Watt (*Watt's Bath*) tanpa pencerah. Graf perubahan jisim elektrod melawan ketumpatan arus menunjukkan bahawa kehilangan jisim bagi anod dan jisim deposit pada katod adalah berkadar langsung kepada ketumpatan arus dan masa penyaduran. Manakala graf perubahan jisim elektrod melawan suhu menunjukkan bahawa tiada pengaruh secara langsung oleh suhu terhadap perubahan jisim elektrod. Semua graf dibandingkan dengan nilai teori dan menunjukkan kesetaraan dengan Hukum Faraday. Sampel yang dihasilkan dari anod nikel (saduran) menunjukkan ketahanan terhadap kakisan yang baik dalam keadaan biasa serta mempunyai penampilan yang agak baik (sinar) tanpa pencerah. Kajian lanjutan boleh dilakukan terhadap ciri-ciri bahan yang disaluti dengan nikel gunasemula.

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## ABSTRACT

Electroplating process had been carried out by utilising the Watt's Bath without brighteners. Plots of weight change of electrodes versus current density showed that weight loss of anodes and deposit weight on cathodes were proportional to current density and plating time. While plots of weight change of electrodes versus temperature showed no significant influence of temperature to weight change of electrodes. All plots were compared with theoretical values and showed excellent agreement with Faraday's Laws. Products that were produced by utilising cast nickel anodes show very good corrosion properties in normal condition, and good appearance without using brighteners. Further studies can be done on the mechanical properties of recycled nickel-plated items.

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