

## RINGKASAN

Pelapisan seng pada katoda tembaga menggunakan anoda karbon telah dilakukan. Lapisan seng tersebut dimaksudkan untuk memberikan perlindungan pada tembaga khususnya dan logam pada umumnya dari korosi yang disebabkan kondisi lingkungan kawasan industri.

Pelapisan seng dilakukan secara elektrolisis dalam sel elektrolitik dengan memvariasikan konsentrasi seng klorida (larutan elektrolit) sebesar 10 g/L, 20 g/L, 30 g/L, 40 g/L; rapat arus 7,16 mA/cm<sup>2</sup>, 12,14 mA/cm<sup>2</sup>, 14,57 mA/cm<sup>2</sup>, 19,40 mA/cm<sup>2</sup>, 24,28 mA/cm<sup>2</sup> dan suhu operasi 20°C, 30°C, 40°C, 50°C dengan waktu proses elektrolisis 360 detik.

Hasil penelitian menunjukkan bahwa efisiensi arus pelapisan seng pada katoda tembaga dipengaruhi oleh konsentrasi elektrolit, rapat arus dan suhu operasi. Efisiensi arus yang optimal dicapai pada konsentrasi seng klorida sebesar 20 g/L, suhu operasi 30°C dan rapat arus 14,57 mA/cm<sup>2</sup>.



## SUMMARY

An electroplating of zink on copper cathode by the use of carbon anode had been done. The aim of the zink film was for giving protection, especially for the copper and for other metals from corrosion caused by environmental conditions in industrial area.

The electroplating was done by electrolysis in electrolytic cell and varied the zink chloride concentrations(as electrolyte solutions) of 10 g/L, 20 g/L, 30 g/L, 40 g/L; the current densities of 7,16 mA/cm<sup>2</sup>, 12,14 mA/cm<sup>2</sup>, 14,57 mA/cm<sup>2</sup>, 19,40 mA/cm<sup>2</sup>, 24,28 mA/cm<sup>2</sup>; an operation temperatures of 20°C, 30°C, 40°C and 50°C respectively with the period of electrolysis for 360 seconds.

The result of the research referred that at concentration of 20 g/L zink chloride, temperatur of 30°C and current density of 14,57 mA/cm<sup>2</sup> was obtained a zink film with optimum current efficiency and fine zink plates performance.

