

# **STUDI KASUS PENGARUH JENIS INHIBITOR TERHADAP LAJU KOROSI ALUMINIUM *ALLOY* SERI 6061-T6 DENGAN MEDIA AIR LAUT**

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## **ABSTRAK**

Pelapisan inhibitor merupakan metode pengurangan laju korosi yang umum digunakan dalam berbagai industri. Metode pelapisan inhibitor perlu diketahui karena berpengaruh terhadap ketahanan korosi. Penelitian ini bertujuan untuk mengetahui perbandingan dua inhibitor terhadap laju korosi pada aluminium *alloy* seri 6061-T6.

Pada penelitian ini, proses pelapisan ini menggunakan inhibitor anorganik, yaitu inhibitor LPS3 dan inhibitor CRC SP-400 dengan pencelupan dan perendaman air laut selama satu minggu. Proses laju korosi menggunakan metode elektrokimia tiga elektroda dengan media air laut dengan 5 kali pemurnian

Berdasarkan analisa data, perbandingan antara dua inhibitor yaitu inhibitor LPS3 dan inhibitor CRC SP-400 menunjukkan bahwa inhibitor LPS3 lebih mampu terhadap korosi pada metode pencelupan dan perendaman air laut selama satu minggu yaitu 0.65474 mpy, sedangkan pada inhibitor CRC SP400 dengan metode pencelupan dan perendaman selama satu minggu menunjukkan nilai laju korosi 0.85544mpy . Efisiensi dua inhibitor menunjukkan bahwa inhibitor LPS3 lebih efisien dengan nilai persentase 45,15% sedangkan inhibitor CRC SP400 lebih rendah efisiensinya dengan nilai persentase yaitu 26,85%.

**Kata kunci:** inhibitor, LPS3, CRC SP400, AA 6061 T6, korosi.

**CASE STUDY ON THE EFFECT OF INHIBITOR TYPE ON THE  
CORROSION RATE OF ALUMINIUM ALLOY SERIES 6061-T6 USING  
SEA WATER MEDIUM**

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**ABSTRACT**

*Coating inhibitors is a commonly used method of reducing corrosion rates in various industries. Inhibitor coating method needs to be determined because it affects the corrosion resistance. This study aims to determine the ratio of two inhibitors to the corrosion rate on aluminum alloy series 6061-T6.*

*In this research, this coating process applied inorganic inhibitors, as LPS3 inhibitors and CRC SP-400 inhibitors with the immersion and seawater immersion for one week. The process of corrosion rate used three electrode of electrochemical method with sea water with 5 times purifications.*

*Based on data analysis, the comparison between the two inhibitors the LPS3 binder and the inhibitor CRC SP-400 showed that the LPS3 inhibitor was more resistant to corrosion in the immersion method and the immersion of sea water for one week was 0.65474 mpy, whereas in CRC SP400 inhibitors by immersion and immersion method for one week showed the rate of corrosion rate of 0.85544 mpy. The efficiency of two inhibitors showed that the LPS3 inhibitor was more efficient with 45.15% percentage value while the CRC SP400 inhibitor was lower in efficiency with a percentage value of 26.85%.*

**Keywords:** *inhibitor, LPS3, CRC SP400, AA 6061 T6, corrosion.*

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