

INTISARI

Tujuan penelitian ini untuk mengetahui pengaruh konsentrasi dan waktu korosi aluminium dalam lingkungan NaOH dengan suhu awal 40°C terhadap perubahan ukuran diameter dan kekuatan tarik. Pengujian dilakukan pada batang silinder yang dicelup dalam lingkungan NaOH (*Natrium Hidroksida*). Pencelupan dalam lingkungan NaOH dilakukan selama 1 jam ; 5,5 jam ; 10 jam dengan konsentrasi larutan 5% ; 10% ; 15% ; 20% ; 25% ; 30%.

Pengaruh konsentrasi larutan dan waktu korosi aluminium dalam lingkungan NaOH dengan suhu awal 40°C diamati pada perubahan ukuran diameter, kekuatan tarik, tegangan patah dan struktur makro.

Dari hasil penelitian, benda uji pada kondisi mula-mula mempunyai kekuatan tarik yang paling besar dibanding benda uji setelah mengalami pencelupan dalam lingkungan NaOH. Pada berbagai tingkat konsentrasi larutan dan waktu pencelupan, terjadi penurunan ukuran diameter, penurunan kekuatan tarik dan tegangan patah. Semakin tinggi tingkat konsentrasi larutan, maka ukuran diameter, kekuatan tarik dan tegangan patah semakin turun. Semakin lama waktu pencelupan, maka ukuran diameter, kekuatan tarik dan tegangan patah juga semakin turun.

ABSTRACT

This research aimed at knowing the effect of concentration and aluminium corrosion time in the solution of NaOH with the beginning degree 40°C toward diameter size and ultimate load. The test was conducted on the stick of cylinder which were immersed in the solution of NaOH (Natrium Hydroxide). The immersion in the solution of NaOH was done during 1 hour ; 5.5 hours ; 10 hours with the solution concentration 5% ; 10% ; 15% ; 20% ; 25% ; 30%.

The effect of the solution concentration and aluminium corrosion time in the solution of NaOH with the beginning degree 40°C was observed the changing of the diameter size, ultimate load, breaking strength and macro structure.

From the result of the research, it was found the spescimen in the initial condition have the biggest ultimate load compared to the specimen after immersed in the solution of NaOH. In the various levels of the solution concentration and immersion time, there were the decreases of the diameter size, the decreases of the ultimate load, and breaking strength. The higher the level of the solution concentration, the lower the diameter size, ultimate load and breaking strength. The longer the immersion time, the lower the diameter size, ultimate load and breaking strength.