INTISARI

Penelitian ini dilakukan untuk mengetahui pengaruh lama aging dan korosi dengan larutan NaOH 5% dan 10% terhadap kekuatan tarik, harga keuletan dan perubahan diameter pada aluminium paduan, dengan komposisi kimia Al-76,09%, Zn-14,97%, Fe-0,31%, Mg-0,25%, Cu-0,11%, Si- 0,00%.

Tahap proses pengujian meliputi normalising dengan suhu 550^0C selama 1 jam dengan pendinginan yang dilakukan dalam oven, aging pada suhu 150^0C dengan variabel waktu aging 1jam, 5 ½ jam dan 10 jam, pengujian tarik, impak dan kekerasan.

Hasil penelitian menunjukkan bahwa spesimen dengan perlakuan aging (1jam, 5 ½ jam, 10 jam) dan dikorosi dengan larutan NaOH mengalami penurunan kekuatan tarik, dan kekuatan patah hal ini disebabkan karena adanya cacat pada permukaan aluminium. Semakin lama perlakuan aging semakin baik keseragaman strukturnya, dan semakin tinggi kadar larutan NaOH, maka ukuran diameter spesimen semakin menurun. Analisis struktur mikro pada spesimen yang telah mengalami aging menunjukkan adanya pembentukan butiran-butiran yang membuat keseragaman struktur lebih baik sehingga aluminium menjadi semakin ulet.

ABSTRACT

This research is conducted to know the old influence of aging and corrosion with the condensation NaOH 5% and 10% to tensile strength, value streach and to change diameter at aluminum of alloy, with the chemical composition Al-76,09%, Zn-14,97%, Fe-0,31%, Mg-0,25%, Cu-0,11%, Si- 0,00%.

Phase process the examination cover the normalizing with the temperature 550^{0}C during 1 hour with the refrigeration change in oven reach the room temperature, and aging at temperature 150^{0}C during 1hour with the varible of time aging 1 hour, 5 ½ hours and 10 hours, tensile test, impact, and hardness test.

Research result indicate that the spesimen with the treatment aging (1 hours, 5 ½ hours, 10 hours) and corrosion with the condensation NaOH experience of the degradation of tensile strenght, and break strenght because defect at level of the aluminum. Longer good treatment aging progressively its uniform structure, and excelsior of rate of condensation NaOH, hence size measure downhill diameter specimen progressively. Analyze the micro structure at specimen experienced of the aging show the existence of item forming making better uniform structure so that aluminum become resilient progressively.