

INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh penambahan unsur perak (Ag) dan penambahan variasi unsur magnesium (Mg) pada proses pengecoran aluminium (Al) terhadap sifat fisis dan mekanisnya.

Benda uji dibuat dari coran aluminium (Al) dengan penambahan unsur perak (Ag) sebesar 1% dan penambahan variasi unsur magnesium (Mg) sebesar 1%, 2%, 3%, dan 4%. Jenis pengujian yang dilakukan adalah pencatatan lama waktu pembekuan, kekuatan tarik, kekerasan, struktur mikro, porositas, dan berat jenis hasil coran.

Hasil penelitian menunjukkan bahwa penambahan perak (Ag) akan menurunkan kekuatan tarik, memperlambat waktu pembekuan, dan menaikkan berat jenis hasil coran. Sedangkan penambahan magnesium akan mempercepat waktu pembekuan, menaikkan kekuatan tarik, menurunkan regangan bahan, menaikkan kekerasan, menimbulkan porositas, dan menurunkan berat jenis hasil coran.

ABSTRACT

This research aim to know influence of addition of silver element (Ag) and addition variation of magnesium element (Mg) at process of aluminium (Al) moulding, to know of physical and its his mechanical properties.

Object test made from aluminium casting (Al) with addition of silver element (Ag) equal to 1% and addition of variation of magnesium element (Mg) equal to 1%, 2%, 3%, and 4%. Examination type taken is record keeping of time depth of solidification, interesting strength, Brinell hardness test, micro structure, porosity, and specific gravity result of casting.

The result of research shows that silver (Ag) addition will degrade interesting strength, increasing of substance strain, and increasing specific gravity result of casting. Magnesium addition will quicken solidification time, increasing interesting strength, degrading substance strain, increasing hardness, generating porosity, and degrade to specific gravity result of casting.