

## ABSTRACT

### CHARACTERISATION OF MEDIUM CARBON STEEL AISI 1045 COATED WITH ALUMINIUM USING HOT DIPPING METHOD

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Application of medium carbon steel is very common to the construction component. In environmental application, the medium carbon will undergo corrosion. Efforts that can be done to control corrosion on medium carbon steel is coating method. One of the coating methods is aluminium hot dipping. Hot dipping is a coating process, and the process is dipping the metal material into metal coating medium, that melting process before. The aim of this research is to know about holding time effect toward thickness of aluminium layer, hardness value on coating and then intermetallic phase that form coating layer on the carbon steel surface that coated using aluminium.

This research using medium carbon steel coated using aluminium as test specimen. Aluminium melting process using electric furnace on 700 °C. Dipping time variation difference will result characteristic differences on each specimen that already tested

From coating thickness test data result, shows longer holding time in hot dipping process. The thickness of aluminium layer will increase. And the data as 9 second = 60 µm, 16 second = 65 µm, 25 second = 70 µm.

Key word: Hot Dipping Aluminium Coating, Intermetallic, Coating Thickness.