



**STUDY OF WELDING ON ALUMINUM ALLOY**

**5083**

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“We declared that this final project is the results of our own work except the ideas and summaries which we have clarified their sources. The final project has not been accepted for any diploma and not concurrently submitted in candidature of any Diploma.”

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## **ABSTRACT**

The main objective of this project is to study the characteristics of welding Aluminum Alloy 5083. The characteristics of welding Aluminum Alloy 5083 have known through 4 types of tests. These tests are microstructure tests, Vickers Hardness tests, Rockwell Hardness tests and compression tests. There are 12 samples involved in these tests where from Butt Joint, T-Joint and Edge Joints. The samples have three spots; Base Metal (BM), Weld Metal (WM) and Heat Affected Zone (HAZ). From microstructure's tests, we obtained that, the pattern of microstructures become different between those because when the Aluminum Alloy exposed to heat from welding process the characteristics have changed. From Rockwell and Vickers Hardness tests we obtained that Base Metal (BM) have the highest values followed by Heat Affected Zone (HAZ) and Weld Metal (WM). In Compression tests we obtained that T- Joint has the highest strength followed by Butt Joint and Edge Joint.

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