ABSTRACT

Nowadays there are many kinds of welding. But in the world of shipping that are often used lately is the welding FCAW (Flux Cored Arc Welding). Welding is not considered practical because the need to replace electrodes for welding groove long enough. FCAW essentially similar to welding processes GMAW (Gas Metal Arc Welding). Gas guards also use CO₂.

By studying literature and get input data from the planning stage is done making spesification welding procedure. After that the material preparation. Material in use is low carbon steel SA 36, E70T-1 type electrode, and shielding gas using CO₂. In the welding of each specimen using a different variable ampere namely 160A, 180A, and 200A. After the welding process is carried on a visual inspection performed on each material. And according to the plan will be undertaken impact and hardness testing according to standard.

From the test results obtained different results impact and hardness values for each specimen that has been in testing. Changes in heat input from the biggest impact strength test results are based on current 180A and weld metal in the area of 3.108 J / mm². Fracture in all specimens is ductile, while the largest hardness strength test results are based on current areas of WM and HV 180A to obtain the registration 172.068 kgf / mm². From the difference in value will select the highest value. So that these values can result in use in the field as a benchmark for the results in accordance with standard welding.

Keywords: Heat input, flux cored arc welding, impact, hardness