WELDING AND CHARACTERIZATION OF 5083 ALUMINUM ALLOY

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Abstract : A pipe of Aluminium Alloy 5083 for Liquefied Natural Gas (LNG) transport has been welded by the Gas Tungsten Arc Welding process (GTAW). The welding was conducted following the welding parameters in four passes and using an ER 5356 filler metal according to standard American Welding Society (AWS) and Argon as shield gas.A Metallographic studies (Optical Microscopy and Scanning Electron Microscopy) and mechanical tests (Micro Hardness Vickers test and Tensile Test) were made to determine microstructure evolution and mechanical properties of weld joint.

Keywords : Aluminium alloys welding, HAZ, hardness, tensile strength & yield strength, microstructures.