



Welding Investigation of Austenitic Stainless Steel

Austenitic stainless steel is widely used for many industrial applications due to its excellent corrosion resistance and mechanical properties. Higher productivity in welding is achieved by GMAW and FCAW process. The evaluation of mechanical property, microstructure and economic production will lead to sustainable production for manufacturing the component. In this investigation, the effect of welding parameters such as welding current, welding speed, and nozzle-to-plate distance on the weld bead geometry was evaluated. The experiments were conducted for 201L grade stainless steel plate of size 150x75 mm and thickness 4 mm. The mechanical properties of the welded plates were obtained by performing tensile tests on welded area to cause an elongation of the welded plate in order to investigate its properties. The welded test coupons were evaluated through various tensile, microstructural and hardness test. The socio-economic impact was also projected for sustainable weld production.