

عنوان مقاله:

The Recommend of Filler Metal to Increasing the Corrosion Resistance of Gas Pipeline

محل انتشار:

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خلاصه مقاله:

The high strength carbon steels such as API X65 is widely used to build the pipelines. In this study, the corrosion behavior welds region of the gas pipeline was studied. For this purpose, Shield Metal Arc Welding (SMAW) was used to evaluate the proposed method. The welding processes were performed with E6010, E6013, and ER70S-6 electrodes as filler metal and welding carried out in 3 passes by a single butt welded method. The corrosion behavior was determined in the gas fluid solution at environment temperature using potentiodynamic polarization test. The microstructure of the base metal, weld zone, and heat-affected zone were investigated with optical microscopy. Results show that the microstructure changes that formed during the welding process were correlated with electrochemical results. And the corrosion performance of the weld joints was influenced by the type of filler metal. As the welded sample with ER70S-6 has high corrosion resistance in comparison to other electrodes.

کلمات کلیدی:

Bone Scaffold, Implant, Additive Manufacturing, numerical analysis

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