

Effect of welding on microstructure and mechanical properties of an industrial low carbon steel

Engineering 2010, vol 2, 502-506

Authors: Zakaria Boumerzoug, Chemseddine Derfouf, Thierry Baudin.

Abstract

In this work, the effect of arc welding on microstructures and mechanical properties of industrial low carbon steel (0.19 wt. % C) was studied. This steel is used for making gas storage cylinders. In order to realize the objective, optical microscopy, EBSD, X-ray diffraction, and hardness tests were used. Different zones and some phases are identified. New microstructural phenomenons are observed by using EBSD technique.

Keywords: Steel, Welding, HAZ, Ferrite.

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