Abstract

The Effect Of TMCP Rolling On Microstructure And Hardness Of SMAW Welded A516 Steel Sheets

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A516 steel is known as one of the most highly used steels in gas and oil industry. SMAW is also the most common welding process of manufacturing in this field. Regarding to remarkable effect of grain size on micro structure and properties of welded steels; study on the effects of reducing grain size with TMCP rolling and accelerated cooling on hardness of the Heat Affected Zone (HAZ) seems to be necessary. Furthermore, the micro structure and grain size of the samples were studied utilizing optical microscopy. Based on the obtained results, it is concluded that fine grains as a consequence of TMCP rolling and accelerated cooling make superior hardness.

Keywords: TMCP, rolling,A516 steel,hardness,SMAW