

Microstructural and mechanical characterization of dissimilar welded joint between 2205 duplex stainless steel and API X52 HSLA steel

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Abstract : In this work we study the evolution of the microstructure and phase transformations along the welded joint and the mechanical properties of dissimilar metals weld between duplex stainless steel and HSLA steel. Welds are produced by shielded metal arc welding (SMAW) using a duplex grade filler metal (E2209). The welds obtained in this study, have good mechanical properties, despite the appearance of a hard zone at the interface between the weld metal and the heat affected zone of the HSLA steel

Keywords : duplex stainless steel, API 5L X52, Dissimilar welding, Heat affected zone