

Effect of postweld heat treatment on microstructure and mechanical properties of welded 2205 duplex stainless steel

Riad BADJI, Brahim BELKESSA, M. BOUABDALLAH, B. BACROIX, C. KAHLOUN

Abstract: Duplex stainless steels 2205 are widely used in constructional and petrochemical applications because of their good mechanical and corrosion properties. The objective of this work was to study the influence of aging at high temperature on the austenite and δ ferrite equilibrium. After welding by TIG process, duplex stainless steel was aged in the range of 800 – 1150 °C temperatures for 60 min. The microstructure was characterized by metallography and X-ray methods. The toughness of welded structure was also measured

Keywords : duplex stainless steel, δ ferrite, aging, grain growth, γ - δ equilibrium