

Mechanical properties of dissimilar welds between stainless steel and mild steel

Abstract

Joining of stainless steel type 304 to mild steel was carried out using a gas tungsten arc welding (GTAW). Samples were welded using stainless steel welding electrode: (AWS: E308L-16) and mild steel welding electrode: (AWS: E6013). The mechanical properties of welded joint were investigated by tension test. It was observed that, the yield strength and tensile strength of welded samples using mild steel welding electrode were slightly lower than welded samples using stainless steel welding electrode. All welded samples fractured at mild steel base metal indicated that the regions of stainless steel base metal, fusion zone and heat affected zone are stronger than mild steel base metal.

Keywords

Mechanical properties; Spot welding; Tensile shear