

عنوان مقاله:

Metallurgical and Mechanical Behavior of AISI 316- AISI 304 during Friction Welding Process

محل انتشار:

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خلاصه مقاله:

Present study focuses on the micro-structural and mechanical behavior effect of friction time for similar (AISI 316-AISI 316 and AISI 304-AISI 304) and dissimilar (AISI 304-AISI 316) joint during continuous drive friction welding. The welding carried out with different friction time: 6.5, 8.5 and 10 s while kept all other conditions constant. The effect of that time on the strength, structural and behavior of welded metals was investigated by Energy Dispersive Spectroscopy (EDAX), Scanning Electron Microscope (SEM), micro-hardness and tensile test. The obtained results illustrated that the friction time extended was responsible on some harmful mechanical and micro-structural properties of the welded joint. Therefore, increasing in friction time is led to reduce of Ultimate Tensile Strength (UTS), reduce of ductility, increasing in level of micro-hardness and larger HPDZ, that was clearly observed in similar joint (AISI 316-AISI 316 and AISI 304-AISI 304).

کلمات کلیدی:

Austenitic stainless steel, Friction Time, Microstructure, Micro-hardness, Ultimate Tensile Strength

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