

عنوان مقاله:

microstructural investigation for Nd:YAG pulsed welding of 321 stabilized stainless steel

محل انتشار:

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خلاصه مقاله:

laser welding with low power density is the best methods for welding delicate materials in this study Nd:YAG pulsed laser welding with the power of 80w was used to weld AISI321 stainless steel samples investigations were carried out by optical microscopy scanning electron microscopy -x-ray diffraction analysis and hardness tests the microstructural study shows austenitic microsturcture with a little delta ferrite the cellular and dendritic microstructures were produced upon solidification due to high cooling rate produced in the laser welding process the study shows that the hardness of fusionboundary of weld zone is reduced due to low concentration of titanium moreover the study shows that .hardness increases in the weld zone due to high cooling rate of laser welding process

کلمات کلیدی:

laser welding, laser power ,microstructure, titanium, microhardness

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