



Simulation of TIG Welding Process

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LAP Lambert Academic Publishing Jan 2015, 2015. Taschenbuch. Book Condition: Neu. 220x150x6 mm. Neuware - TIG welding is one of the important weld process required for the fusion reactor components development and fabrication. The major components developed for usage for the construction utilize various grades of stainless steel like SS304, SS316, SS316L and some nuclear grade special materials with various thicknesses ranging from 5mm to 60mm. The joining and welding of the materials has major impact on the life of tokamak structures as they undergo various stringent conditions like thermal, mechanical and nuclear radiation effects. Hence every sub system has to be carefully fabricated with the recommended process and material properties as per required. The major method for proposed components are TIG welding. The present of work is aimed at the TIG process parameters selection and optimization with focus on weld sample output quality parameters, temperature distribution, residual stresses, weld distortion. A 10 mm thick SS316 plate of dimensions 300x150mm with TIG welding is selected as experimental investigation and combination of FEM analysis using ANSYS software to predict the temperature variation and thermal stresses with varying plate thickness, voltage and efficiency parameters. 96 pp. Englisch.



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