

عنوان مقاله:

Numerical simulation of temperature distribution in welding and the effect of welding sequence on heat distribution and distortion

محل انتشار:

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خلاصه مقاله:

In this study the heat distribution of a T-shape steel plate due to gas metal arc welding (GAMW) has simulated numerically with the aid of finite element method. 3D thermal simulation was done via ANSYS software. To apply the heat source during welding, a Macro code based on Goldak's Model were programmed. The simulation was in 3D phase, transient and non-linear. Birth and death technique was used to add filler metal. because of the high thermal gradients, temperature dependent properties were applied to simulate the specimen in this study. Different welding sequence were investigated at some points of Model to obtain to uniform temperature distribution and reducing residual stress and distortion. The results indicate that different welding sequences affect greatly on temperature distribution but not on the maximum temperature.

کلمات کلیدی:

Thermal Analysis, Finite Element, Heat Source, Welding Sequence, Temperature Distribution, Distortion

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