

## 인장하중법에 따른 STS 304 다층 맞대기 용접부의 변형 제어 특성에 관한 연구

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### A Study on the Distortion Control Characteristics of the STS 304 Multi-pass Butt Weldment by the Tensioning Method

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#### Abstract

The purpose of this study is to develop the control technology of the welding distortion caused by Auto NG-GTA welding process at the STS 304 multi-pass butt weldment. For it, heat input model for Auto NG-GTA welding process was established and verified by measuring temperature change and molten pool shape at the bead-on-plate weldment. With heat input model developed, the effect of the tension load on the amount of welding distortion at the STS 304 multi-pass butt weldment was evaluated using the thermo-elasto-plastic FE analysis. In accordance with FEA results, the angular distortion and transverse shrinkage sharply decreased with an increase in tension load. This result indicates that tensioning method was verified as a countermeasure against the welding distortion of STS 304 multi-pass butt weldment.

**Key Words** : STS 304 Multi-pass Butt Weldment, Finite Element Analysis, Tension Load, Tensioning Method, Distortion Control, Angular Distortion, Transverse Shrinkage