

GMAW 용접조건을 고려한 자동차 AHSS 샤시부품의 내구해석

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Durability Analysis of Automotive AHSS Component Considering GMAW Condition

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Abstract

The automotive chassis components are structural assemblies that support the engine, suspension, and steering components of the vehicle. For the development of AHSS components, the durability analysis is important. In this paper, the low cycle fatigue property of AHSS was evaluated for the geometry complex and local plasticity in the base material. The GMAW optimization was implemented for the weld soundness using the moving least square method. And the weld S-N curves of AHSS were evaluated to access durability analysis for the weld region. For the verification, the durability analysis of the couple torsion beam axle (CTBA) was performed and compared to the rig test result. The durability analysis using the low cycle fatigue property and the evaluated weld S-N curve of AHSS met the good agreement with the test result.

Key Words : GMAW, Durability analysis, AHSS