

마찰교반용접된 6061-T6 알루미늄 합금의 어닐링 열처리 시간에 따른 효과**Effect of maintaining time in annealing heat treatment for FSWed 6061-T6 Al alloy**김성종^{a*}, 장석기^b, 이승준^c^{a*,b} 목포해양대학교 기관시스템공학부(E-mail:ksj@mmu.ac.kr), ^c목포해양대학교 기관시스템공학부 대학원

Aluminum (Al) is a superior material for shipbuilding to FRP because it is environmentally friendly and provides a high added value to fishing boats. Moreover, Al craft requires less fuel, and thus it is estimated that the changeover from FRP to Al vessels will be accelerated. However, a deformation is serious at welding process, because the aluminum alloy has a big coefficient of thermal expansion. In addition, it is recognized that the corrosion resistance is excellent, nevertheless in the practical circumstance, much corrosion is generated and a reality is the very serious situation. To solve this problem, the FSW (Friction stir welding) technology is extensively applied at the various industrial fields as the new welding techniques. Particularly, in the case of 5XXX series aluminum alloy, the mechanical property and the corrosion resistance which is remarkably superior to the preexistence welding method are shown. However, in the case of 6XXX series aluminum alloy, weld ability is excellent but the welding strength is degraded. In this research, we evaluated improvement degree through the annealing heat treatment after applying FSW technology for 6XXX series aluminum alloy.