

수평 고용착 용접기법 개발

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Development of High Deposit Horizontal Welding

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Abstract

In case of horizontal welding, multi pass FCAW is general process for thick plate. This process includes many difficulties and, defects easily generated. The EGW process is very effective process in thick plate welding, but is limited to vertical welding. In order to apply EGW process to horizontal welding, the molten pool, arc length and shielding gas should be controlled according to adaptive groove condition. In horizontal welding with high deposition rate, molten metal fall down and the behavior of molten metal is unstable due to magnetic force and gravity. Also arc instability induces uneven welding with under cut and lack of fusion. In this work, the horizontal EGW with sliding copper shoe is developed to improve these problems. The water cooled, sliding copper shoe prevents falling down of molten pool and improves gas flow. Also the copper shoe helps the operator to control arc position and other parameters.

Key Words : Horizontal welding, High deposit welding, Electro gas welding, Sliding copper shoe