

Gas Pressure Welding Method of Rails by Mixed Gas of Hydrogen and Ethylene Gas

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Gas pressure welding (GPW) is one of the solid phase welding methods. This method is commonly adopted for rail welding in Japan. However, it is worried about that the supply of acetylene gas, which is used as fuel gas in GPW system, will be stopped due to recent tendency of reduction of demand. Moreover, a large volume of CO₂ gas is generated in GPW process, because acetylene gas is a kind of hydrocarbon. Therefore, we have developed a new GPW method of rails by mixed gas of hydrogen and ethylene gas in order to ensure continuation of the use of GPW in the future. This paper describes this newly developed GPW method.