저온용 강재 Electro Gas 용접부 물성에 미치는 모재와 용접 입열의 영향

성희준*, 구연백*, 김경주*
*현대중공업 산업기술연구소 용접연구실

Effect of base metal and welding heat input on the properties of low temperature steel welds made by Electro Gas Welding

Hee-Joon Sung*, Yeon-Baeg Goo* and Kyeong-Ju Kim*
*Welding Research Dept., Industrial Research Institute,
Hyundai Heavy Industries. Co., Ltd., 1 Jeonha-dong, Ulsan, Korea

ABSTRACT In order to understand the properties of high heat input welds made by electro gas welding, two kinds of low temperature steel were welded. Welding heat inputs were controlled by width of root gap and ranged from 118 to 143kJ/cm. Chemical composition and micro-structural analysis were performed. To understand low temperature impact properties, Charpy impact test was conducted at several temperatures. The results were summarized as follows;

1) Grain size of weld metal and heat affected zone was increased with an increase in welding heat input.
2) Impact test values at fusion line were severely fluctuated regardless of base metals, showing enormous difference among the values at the same test temperature.