

ABSTRACT

WELD JOINT AND PRODUCTION METHOD THEREFOR

Provided is a weld joint having high strength and excellent hot crack resistance and low-temperature toughness. High Ni steel plates containing
5 6.5 mass% to 10.0 mass% of Ni are welded to form a weld metal to obtain a weld joint. The weld metal has a chemical composition containing Mn: 13.0 % to 25.0 %, Cr: 3.8 % or less, Ni: 1.0 % to 12.0 %, Mo: 0.1 % to 5.0 %, N: 0.080 % or less, and O: 0.100 % or less, and the strength of the weld metal is adjusted so that the yield strength BYS of each steel plate and the 0.2 % proof
10 stress WPS of the weld metal satisfy

$$[\text{WPS}] \leq [\text{BYS}] - 100 \text{ MPa} \quad \dots (1)$$

and the tensile strength BTS of the steel plate and the tensile strength WTS of the weld metal satisfy

$$[\text{WTS}] \leq [\text{BTS}] + 100 \text{ MPa} \quad \dots (2).$$