

ABSTRACT

METHOD FOR PRODUCING WELDED JOINT BY GAS-SHIELDED ARC

WELDING OF STEEL PLATE

To provide a method for producing a narrow-gap welded joint with high strength and low-temperature impact toughness and without welding defects in a steel plate with a thickness of 50 mm or more by gas-shielded arc welding. In a method for producing a welded joint by gas-shielded arc welding according to the present invention, each layer excluding a first layer and an outermost surface layer of a weld metal has a width W of 5.0 or more and $0.4T$ or less (mm), a ratio A/p of a cross-sectional area A of the weld metal in a direction perpendicular to a weld line to a number of weld layers p is $120.0 \text{ mm}^2/\text{layer}$ or less, a p/T of the number of weld layers p to a thickness T is 0.40 layers/mm or less, the gas-shielded arc welding is multiple electrode welding, welding wire tips of first and second electrodes are disposed on two distinct weld lines that are parallel to each other, one of the first and second electrodes is set to positive polarity, and the other is set to reverse polarity, a distance a between the welding wire tips of the first and second electrodes ranges from 5 to 16 mm, a straight line connecting the welding wire tips of the first and second

electrodes has an angle α of 60 degrees or less relative to the direction perpendicular to the weld line, and a welding wire containing REM is used for the electrode with the positive polarity.

[FIG. 1]