

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, a weld metal is composed of multiple layers with one pass per layer, the ratio A/p of a cross-sectional area A of the weld metal in a direction perpendicular to a weld line to the number of weld layers p is $120.0 \text{ mm}^2/\text{layer}$ or less, the ratio H/W of the height H to the width W of each weld layer is 1.00 or less, the gas-shielded arc welding is multiple electrode welding, each welding wire tip of a first electrode and a second electrode is disposed on two distinct weld lines that are parallel to each other, one of the first electrode and the second electrode has positive polarity, and the other has reverse polarity, the distance a between the welding wire tips of the first electrode and the second electrode ranges from 5 to 16 mm, a straight line connecting the welding wire tips of the first electrode and the second electrode 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 an electrode with positive polarity.

[FIG. 1]