

ABSTRACT OF THE DISCLOSURE

FLUX-CORED WIRE FOR GAS-SHIELDED ARC WELDING

Disclosed is a flux-cored wire for gas-shielded arc welding of members to be welded made of mild steel or 490 MPa-class high tensile steel with flux being filled in a steel tube made of mild steel or alloy steel; the wire containing 4.5 to 7.0 mass% TiO_2 , 0.11 to 0.29 mass% Ti, 0.30 to 0.70 mass% Mg, 0.02 to 0.08 mass% C, 0.35 to 0.75 mass% Si, 2.20 to 2.85 mass% Mn, and 0.002 to 0.010 mass% B. Also, in the flux-cored wire for gas-shielded arc welding, MgO satisfies the following relation based on the above content of Mg: $[\text{MgO}] + [\text{Mg}] \times 1.66 \leq 2.5 \text{ mass\%}$. With such compositions, a weld metal can be obtained which: can prevent a drop of a molten metal at a high welding current in the vertical and upward progressing of welding; is excellent in the hot cracking resistance of the first layer in the one-side welding; and is excellent in the low temperature toughness in the high heat input welding.