

ABSTRACT

PROCESS FOR PRODUCING ARC-WELDED STRUCTURAL MEMBER

[Problem] To provide an arc-welded structural member which includes a Zn-Al-Mg-coated steel plate member and has excellent molten-metal brittle crack resistance, without involving a restriction on the kind of the steel of the plated base or a considerable increase in cost. [Solution] When a welded structural member is produced by bonding steel materials to each other by gas-shielded arc welding, a hot-dip Zn-Al-Mg-coated steel plate member is used as at least one of the members to be bonded and use is made of a shielding gas which comprises, as the base, Ar gas, He gas, or a gas mixture of Ar and He and which has been regulated so as to have a CO₂ concentration C_{CO2} (vol%) that satisfies relationship (2) in accordance with the welding heat input Q (J/cm). $0 \leq C_{CO2} \leq 2900Q^{-0.68}$ (2)

Fig. 6