

ABSTRACT

A stainless steel flux-cored welding wire for zinc-coated steel sheet welding use which gives a weld zone where no zinc embrittlement cracking occurs and the corrosion resistance and ductility are excellent and which is good in weld work efficiency and a welding method using the same, the welding wire characterized in that total amounts of elements which are included as metals or alloy compositions in the sheath and flux are, by mass% with respect to a total mass of the welding wire, C: 0.01 to 0.05%, Si: 0.1 to 1.5%, Mn: 0.5 to 3.0%, Ni: 7.0 to 10.0%, and Cr: 26.0 to 30.0%, an F value is 30 to 50 in range, further, the wire contains, as slag forming agents, in the flux, by mass% with respect to the total mass of the wire,  $\text{TiO}_2$ : 3.8 to 6.8%,  $\text{SiO}_2$ : 1.8 to 3.2%,  $\text{ZrO}_2$ : 1.3% or less, and  $\text{Al}_2\text{O}_3$ : 0.5% or less, a total amount of the slag forming agent and other slag forming agents is 7.5 to 10.5%, furthermore, the  $\text{TiO}_2$  satisfies, by mass% with respect to the total amount of slag forming agents,  $\text{TiO}_2$ : 50 to 65%, and a balance of the sheath and flux is Fe and unavoidable impurities.