

ABSTRACT

Provided is a flux for submerged arc welding that has good welding workability and can reduce the diffusion hydrogen content in a weld metal in the use of either an AC or a DC welding power source. The flux for submerged arc welding includes Al_2O_3 : 15 to 35% by mass; SiO_2 : 10 to 30% by mass; MgO : 10 to 25% by mass; F (in terms of CaF_2): 10 to 25% by mass; Mn (in terms of MnO): 3 to 20% by mass; Na (in terms of Na_2O) and/or K (in terms of K_2O): 0.5 to 4.5% by mass in total; and Fe (in terms of FeO): 0.5 to 8% by mass, in which a CaO content is restricted to 6% by mass or less, a water-soluble SiO_2 is restricted to less than 1% by mass, and the flux has a composition that satisfies the following formula (I): $0.2 \leq [\text{MgO}] / ([\text{Al}_2\text{O}_3] + [\text{MnO}]) \leq 0.8$ (I).