

Brief Information of Tungsten inert Gas Arc Welding (TIG)

TIG welding is one welding technology that use tungsten electrode to be the pole and mostly use pure inert gas Ar to be shield gas. Normally the length of bare rods for TIG welding that we supply is 1,000mm but we can supply it 900mm up to the order.

Few alloys in the molten pool would be oxidized due to pure inert gas Ar to be the shield gas so the weld joint of TIG welding has excellent integrative physicochemical properties but the welding efficiency of it is lower than MAG or MIG welding.

A) Matters Need Attention for TIG Welding

- 1) In welding, when current is 100A-200A flowrate of the shield gas should be 7L-12L/minute and when current is 200A-300A flowrate of the shield gas should be 12L-15L/minute. If the shield gas mixed atmosphere due to damaged tube the weld joint would be destroyed by the impure gas.
- 2) The extension of tungsten electrode should as shorten as possible with the nozzle relatively. The arc length should be 2mm-4mm when welding mild steel and it should be 1mm-3mm when welding low alloy steel or stainless steel.
- 3) It should keep out the wind when welding and when wind speed up to 1.0m/second should using wind screen, neither more to fan the welding zone.
- 4) Spotless surface to be welded is very important when welding. Exposed bare rod must be avoided impurities of oil contamination, rust and moisture.
- 5) DC current for TIG welding and tungsten electrode should be contacted positive pole.

B) Storage for the TIG Rods and Preventive Measures for Oxidation

- 1) The storeroom should be arefaction and ventilated. The temperature is better 10°C-40°C and relative humidity (RH) $\leq 60\%$. Moisture should be avoided and repulsing any liquid or mordant effumability materials, such as water, acid, alkali and so on, far away from fire also.
- 2) The TIG rod can not be put on ground directly and it should be put on pallets that made by wooden/metal/ plastic and the distance of the TIG rod against the wall of storeroom at least 300mm.
- 3) Moving TIG rod must be careful and do not damage any package of it.
- 4) It is better to run out of TIG rod in short time after opening a package of it and it can not be exposed in atmosphere exceed 40 hours if not it easy be oxidation particularly in the environment with moisture and mordant.
- 5) Take the principle of first-in, first-out to use the TIG rods to shorten the storage time.
- 6) It is important to store the TIG rods respectively according to the types and specifications and do not misapplication.