

## **Brief Information of Metal Inert Gas Arc Welding (MIG)**

MIG welding is one welding technology that use inert gas Ar or mixed gas of Ar add a few active gas ( $O_2 \leq 2\%$  or  $CO_2 \leq 5\%$ ) to be shield gas. The shape of MIG wire is spool/reel and mostly MIG welding is used for stainless steel. The performance of stainless steel welding up to the chemical composition and MIG wires are designed enough elements for burn loss in welding. Different metal alloy systems affect greatly the performance of stainless steel, such as ductility, resistance of corrosion and crack, so choosing MIG wire should according to the ingredient of base metal and it is better of the elements more slightly than the base metal.

### **A) Matters Need Attention for MIG Welding**

- 1) The flowrate of the shield gas should be 15L-25L/minute in welding and the arc length should be 4mm-6mm. If the shield gas is mixed atmosphere due to damaged tube the weld joint would be destroyed by the impure gas.
- 2) It should keep out the wind when welding and when wind speed up to 0.5m/second should using wind screen, neither more to fan the welding zone. The welding site must use facility of aeration, especially in the closed region, so that to avoid harm to welders.
- 3) Use pulsed arc welding power source for MIG welding so that stable spray arc can be obtained and it is suitable for vertical up (V) welding, surfacing stainless steel sheet particularly.
- 4) Regarding for extra-low carbon stainless steel welding the mixed gas of  $Ar+2\%O_2$  should be taken instead of mixed gas of  $Ar+CO_2$ .
- 5) The wire has strong elasticity so when it will be cut one hand must clench the position of wire between cutting nippers with spool/reel to avoid the wire disentwine from the spool/reel dispersedly.
- 6) Spotless surface to be welded is very important when welding. Exposed wire must be avoided impurities of oil contamination and moisture.

### **C) Storage and Moving the Welding Wire**

- 1) The storeroom should be arefaction and ventilated. The temperature is better  $10^{\circ}C-40^{\circ}C$  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 welding wire can not be put on ground directly and it should be put on pallet that made by wooden/metal/ plastic and the distance of the wire against the wall of storeroom at least 300mm.
- 3) Moving wire must be careful and do not damage any package of the wire. Shifting a full spool/reel of uncovered wire with short distance should use fingers of two hands to hook two ends of the inner bore instead to shift it when it flatwise.

4) When open a package of the wire it is better to run out of it in short time and if it is exposed in atmosphere long time it easy be contaminated.

5) It is important to store the wires respectively according to the types and specifications and do not misapplication.