

## **BASIC TIG WELDING**

**Weld carbon steel work pieces  
using the gas tungsten arc welding  
process in the down hand position.**  
US 243068 Level 3 (15 Credits)

### **Describe and explain the gas tungsten arc welding process.**

- Components of the gas tungsten arc welding equipment are identified correctly, in terms of manufacturer`s specifications.
- The importance of correct assembly of the gas tungsten arc welding equipment, and the consequences of incorrect assembly, is explained with reference to manufacturer`s requirements.
- Terms and definitions used are consistent with generally accepted welding terminology in accordance with national/international welding standards.

### **Select, assemble and conduct pre- operational checks of gas tungsten arc welding equipment.**

- Verification, identification and selection of gas tungsten arc welding equipment as per job requirements.
- Identification and rectification of hazards related to the welding process in accordance with standard work site practices.
- Pre-operational checks are carried out in accordance with manufacturer`s specifications.
- A safe worksite is created to prevent damage to equipment and injury to people.
- Weld and gas flow parameters including polarity are established to satisfy job requirements.

### **Prepare workpieces prior to welding.**

- Workpieces prepared prior to welding as specified on drawing and worksite practices.
- Dimensions and alignment checked as specified on drawing.
- Workpieces assembled in position in accordance with drawing specifications.
- Safety precautions adhered to.
- Inspect workpiece prior to welding.

### **Weld workpieces.**

- Despite the minimum material thickness as specified in the range statement, learners have
- to display sufficient competency to prepare the groove prior to welding.

- Welding consumables are used as per job requirements.
- Workpiece welded in down hand position.
- Safety precautions adhered to during welding process.
- Workpiece cleaned after welding as per worksite practices.
- Potential causes for welding defects/imperfections are identified prior to welding and action taken to meet job requirements.

### **Inspect welded workpiece for defects.**

- Post-cleaning of welded joint is performed.
- Welded workpiece conforms to job specifications.
- Inspection methods and procedures selected are conducive to specifications.
- Documentation completed as reflected in worksite practices.

### **Care for and store welding consumables and equipment.**

- Tools and equipment are cared for as per manufacturer`s specifications and stored as per worksite practices.
- Welding consumables stored in accordance with worksite practices.

**COURSE DURATION: 5 DAYS**