

**L3 Land-based Service Engineering - Task Sheet**

NAME:..................................................................................... DATE:................

**Reference: Task:**

 *305/03 TIG WELDING*

**Requirements:**

 TIG welder set up for aluminium welding

 Appropriate welding accessories

 Angle grinder and/or emery cloth

 Appropriate hand tools

 3mm ideally or 5mm x 40mm x 150mm aluminium plate samples

 Filler wire if required

 Letter stamps

 PPE.

**Instructions:**

 Prepare and setup plate samples to be welded.

 Produce **one** each of a lap and butt joint to an acceptable standard.

 Cut each end to produce finished length of 140mm.

 Clean up test pieces and stamp initials for presentation.

 Decommission welding equipment & tidy up.

**Method:**

 1. Clean & prepare metal samples to be welded as required.

 2. Prepare any necessary jigs/clamps to prevent movement.

 3. Setup welder and TIG torch to appropriate settings for 3mm (or 5mm) Al plate.

 4. Produce joints as required to an acceptable standard.

**GET SUPERVISOR FOR INSPECTION AT THIS POINT**

5. Drill a small hole in each sample then clean up samples before finally stamping your initials on them.

**GET SUPERVISOR FOR INSPECTION AT THIS POINT**

 7. Collate samples and place on ring.

over/

Tick as necessary:

Lap  Single run 

Butt  Multi-run 

 **QUESTIONS**

1. What do the initials TIG stand for?

2. State which gas *you* used for the aluminium and why; the electrode type and size; current setting and gas flow rate for the plate thickness welded.

3. Describe the TIG welding process. Include the function of the shielding gas, choice of current and power setting.

4. Why is AC current used for aluminium?

5. How should some electrodes be prepared for use when appropriate and under what circumstances?

6. When should a gas lens be used instead of a gas nozzle/cup with a TIG welder?

**TASK COMPLETE**

Signed (Trainee):.......................................................... Date:...............................

Signed (Assessor):....................................................... Date:...............................