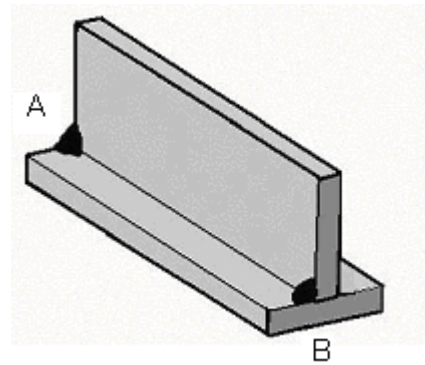
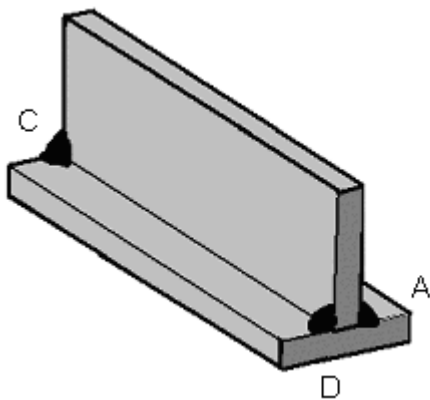


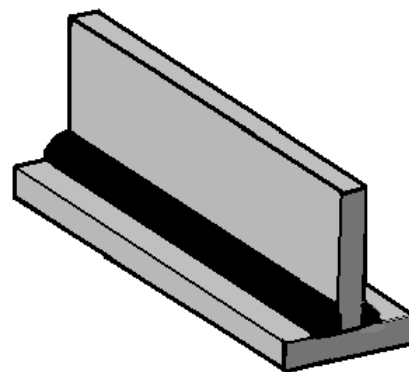
Work pieces in position



Work piece with Tack weld on one side

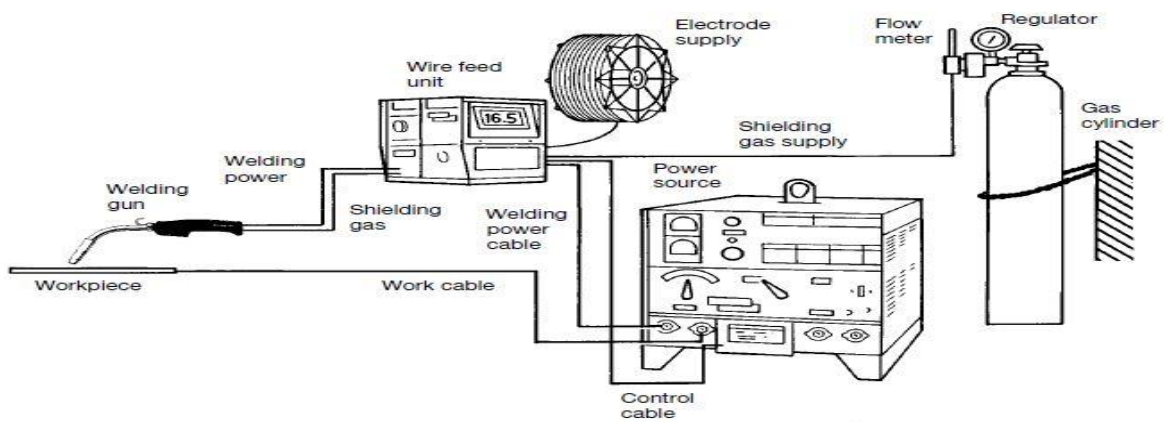


Work piece with Tack weld on both sides



Work pieces with final weld

All dimensions are in mm



Exercise No :

Date :

## **MIG WELDING**

### **TEE JOINT**

#### **AIM:**

To make a **Tee joint** of given mild steel plate of size 100 x 30 x 6 mm using Inert Gas Metal Arc welding machine.

#### **APPLICATION:**

MIG (Metal inert gas) welding is used in very heavy structures, constructions, and steel furniture using Tee joint

#### **SUPPLIED MATERIAL SPECIFICATION:**

Mild steel metal plates of dimension 100mm x 30mm x 6mm – two pieces

#### **TOOLS REQUIRED:**

1) Bench vice. 2) Try square. 3) Steel rule. 4) Flat File. 5) Chipping hammer. 6) Wire brush. 7) Tongs. 8) Welding shield.

#### **EQUIPMENT REQUIRED:**

1) MIG welding machine. 2) MIG welding torch. 3) CO<sub>2</sub> shielding Gas cylinder. 4) E70S - 2 consumable wire (coil 1.0 mm dia) 5) Ground clamps

#### **SAFETY EQUIPMENTS**

1) Leather apron. 2) Hand gloves. 3) Goggle etc.

#### **SEQUENCE OF OPERATION:**

1) Stage I. 2) Stage II 3) Stage III.

#### **WORKING STEPS:**

##### **1) STAGE I**

- a. Clean the edges of the work piece using wire brush to remove dust and rust.
- b. Check the dimensions using steel rule and also check the straightness of the edges to be joined using try square.
- c. File those edges using flat file and make them straight. Once again check with try square.

## **2) STAGE II:**

- a) With cylinder key open the CO<sub>2</sub> gas cylinder and adjust the CO<sub>2</sub> gas regulator so that the gas output pressure is maintained at 0.25kg/cm<sup>2</sup>
- b) Switch on the power source by the ON/OFF switch on the 'MIGMATIC 250" welding machine from panel.
- c) Press down the GAS CHECK switch and ensure the CO<sub>2</sub> gas supply in the gas line and release the switch.
- d) Select the welding voltage by tuning the voltage selector switch. Confirm the set voltage by pressing the "OCV Check" switch. This will show the reading on the voltmeter.
- e) Select the welding current by adjusting the "wire feed speed control potentiometer" on the wire feeder unit. The Ammeter will show the welding current during actual welding. For 1.0 mm dia. CCMS welding wire, the current is set at 80amp.

## **3) STAGE III**

- a) The MIG welding torch should be positioned on a rough metal piece and the torch switch is pressed for checking the spark.
- b) Then the torch is positioned over the joint to be welded on one end. Torch switch is pressed and a tack welded. Similarly weld other end.
- c) Do the run welding on the strip joint by steadily maintaining the movement of the torch over the joint for uniform welding. Similarly do the welding on the other side of the joint.

## **RESULT:**

MIG Welding is done on given mild steel plate and the required "TEE" joint is obtained