RESISTANCE WELDING

In resistance welding the metal parts to be joined are heated by their resistance to the flow of an electrical current. Usually this is the only source of heat, but a few of the welding operations combine resistance heating with arc heating, and possibly with combustion of metal in the arc.

The amount of heat generated in the work-piece depend on the following factors:

(1) Magnitude of the current,

(2) Resistance of the current conducting path

Types of Resistance welding

The major types of resistance welding are given as under:

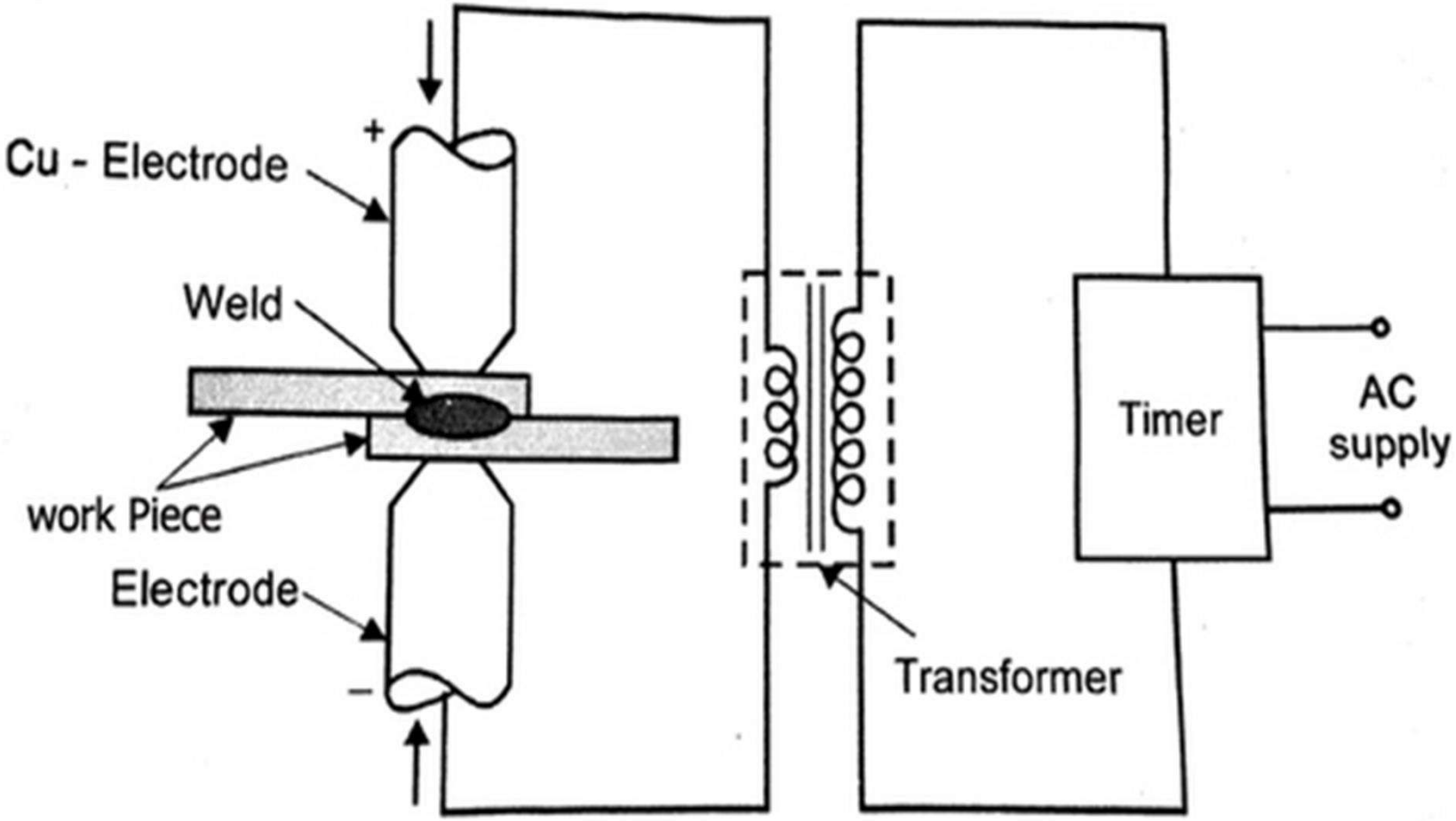
(1) Spot Welding

(2) Seam Welding

(3) Projection Welding

(4) Resistance Butt Welding

Spot Welding



working

- In this process overlapping sheets are joined by local fusion at one or more spots, by the concentration of current flowing between two electrodes.
- This is the most widely used resistance welding process. It essentially consists of two electrodes, out of which one is fixed. The other electrode is fixed to a rocker arm (to provide mechanical advantage) for transmitting the mechanical force from a pneumatic cylinder.
- This is the simplest type of arrangement. For welding large assemblies such as car bodies, portable spot welding machines are used.

- A resistance welding schedule is the sequence of events that normally take place in each of the welds.
- Copper base alloys such as copper beryllium and copper tungsten are commonly used materials for spot welding electrodes.
- For achieving the desired current density, It is important to have proper electrode shape for which three main types of spot welding electrodes are used which are pointed, domed and flat electrodes.