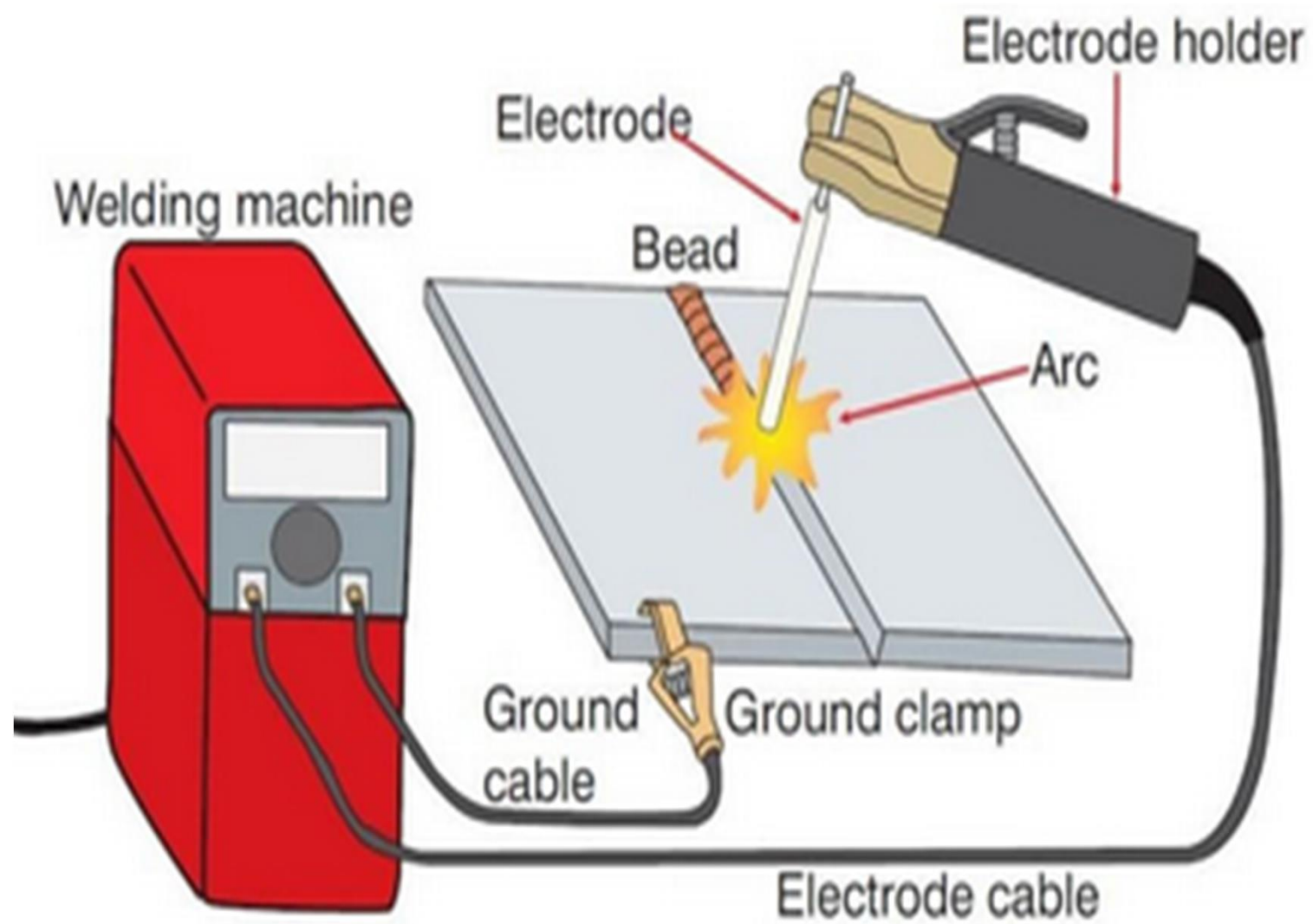
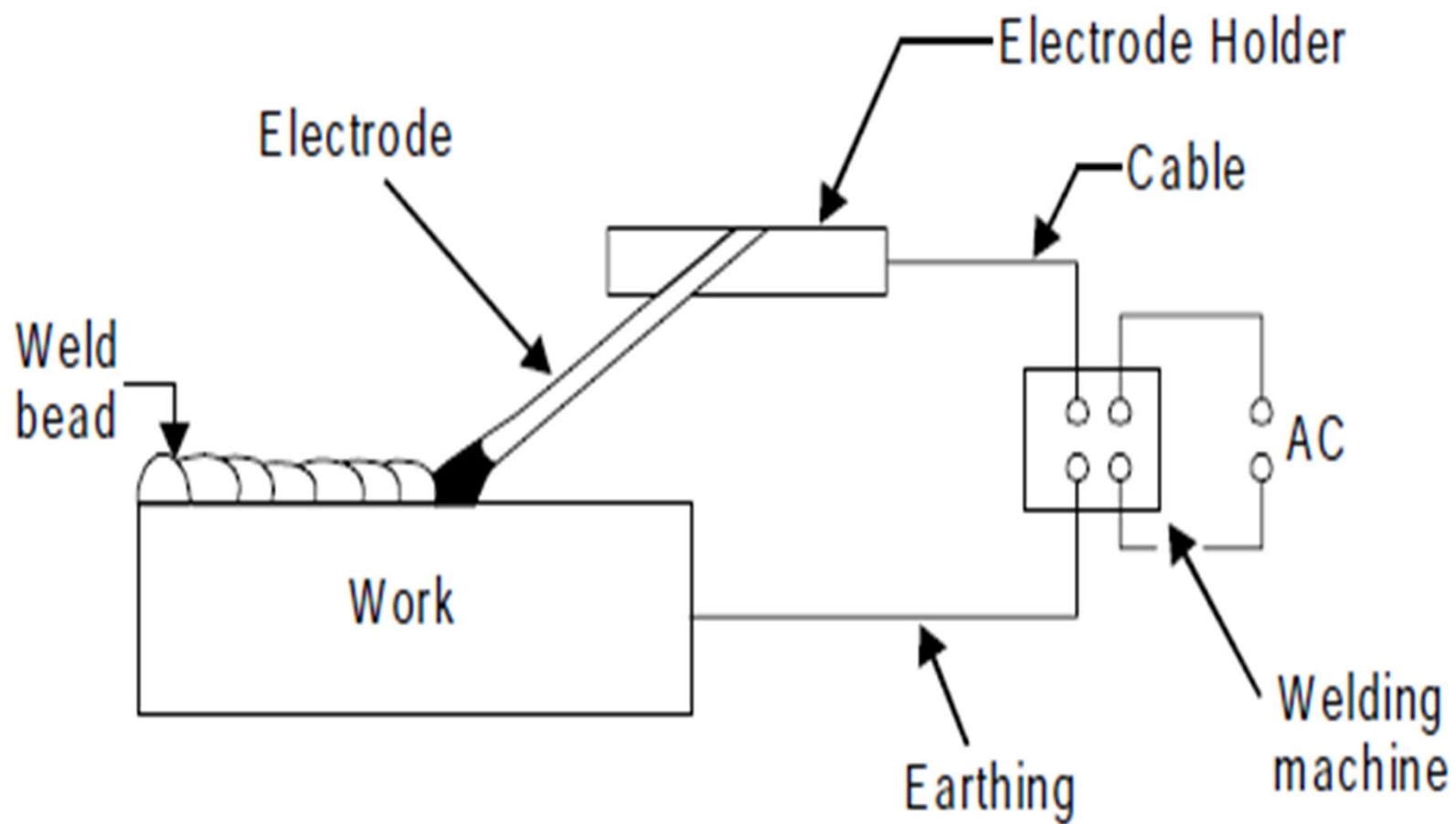
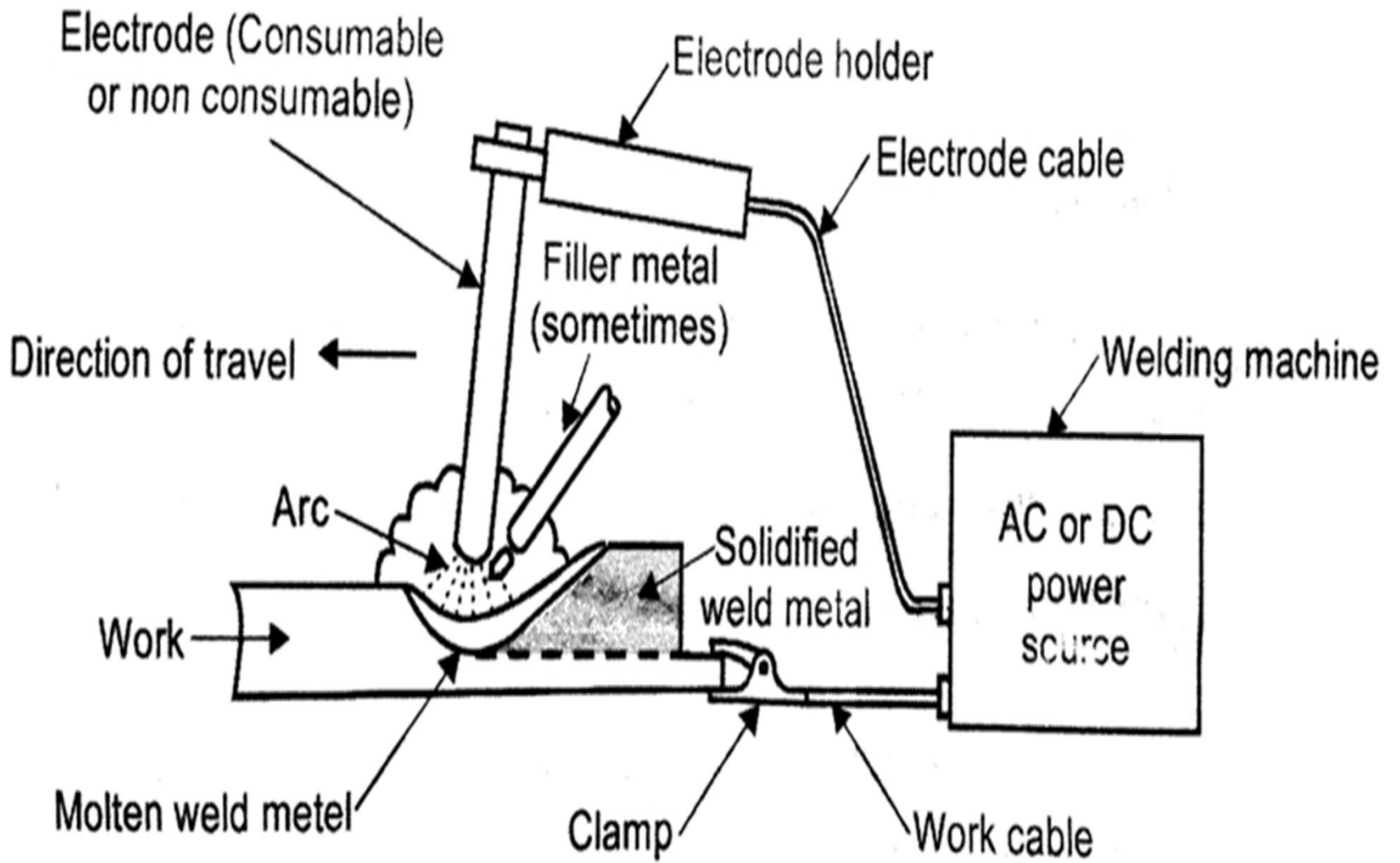


Electric arc welding processes

- The process, in which an electric arc between an electrode and a work-piece or between two electrodes is utilized to weld base metals, is called an arc welding process.
- Most of these processes use some shielding gas while others employ coatings or fluxes to prevent the weld pool from the surrounding atmosphere.
- The temperature produced by the electric arc is about 4500°C to 5500°C.
- Both direct current (D.C.) and alternating current (A.C.) are used for arc welding.

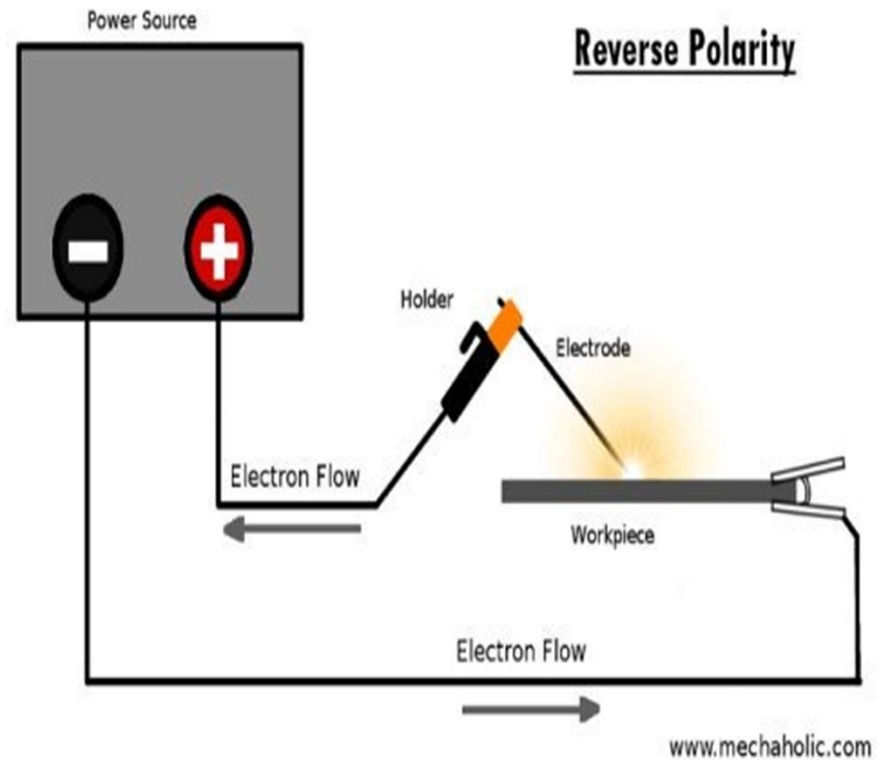
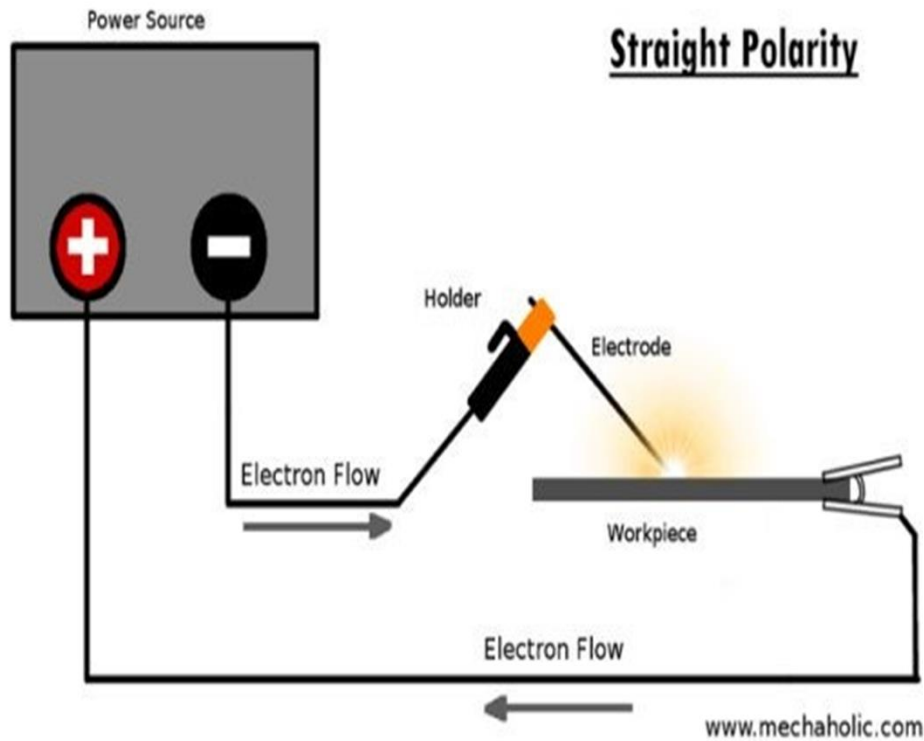




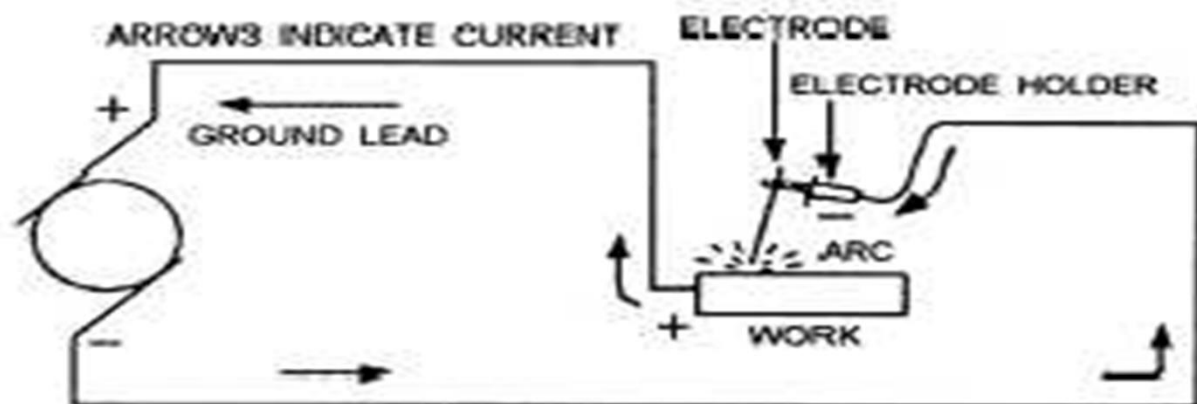


Working procedure

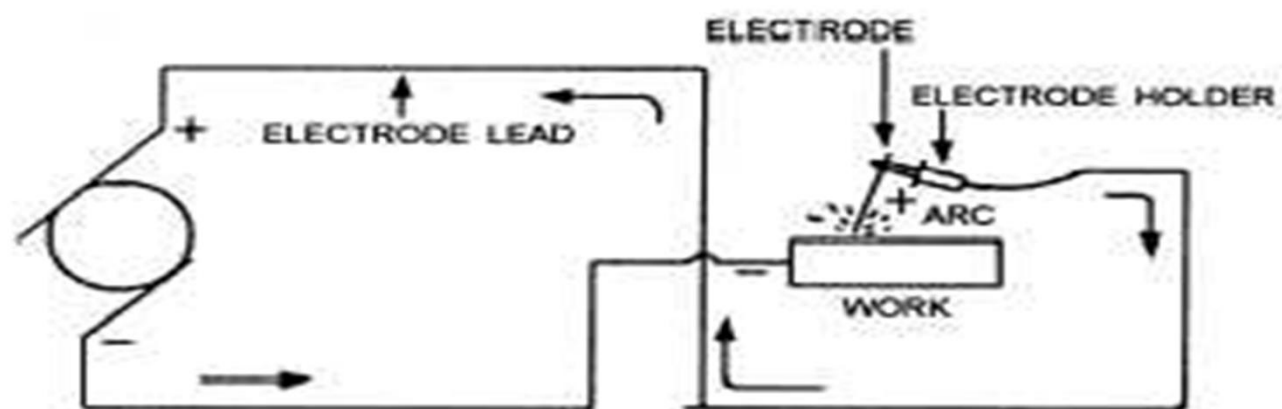
Electric arc welding is a process in which metal melts and joins by heating them with an arc established between a covered electrode and the metals. The core wire conducts the electric current to the arc and provides filler metal for the joint. The electrode holder is essentially a metal clamp with an electrically insulated outside shell for the welder to hold safely. The heat of the arc melts the core wire and the flux covering at the electrode tip into metal droplets. Molten metal in the weld pool solidifies into the weld metal while the lighter molten flux floats on the top surface and solidifies as a slag layer.



Straight Polarity Vs Reverse Polarity



STRAIGHT POLARITY



REVERSED POLARITY

Advantages

- The welding equipment is portable.
- It has the ability to weld on porous and dirty metals.
- Its equipment is inexpensive.
- It is a fast welding process when compared to others.
- It offers strong joint.
- Arc welding beads can be used to create designs on fine metals.
- Its power supply can be use where there is electricity and the alternative can use be if there is no electricity but generator.

Disadvantages

- Increase of project costs as wastage is inevitable during the process.
- Well trained and skillful operator is needed for the task.
- Not all thin metals can weld on arc welding.