

What is Earthing?

Earthing means to connect the metallic part of an equipment to the general mass of Earth.

Why is it done ?

- a. To provide path for heavy fault currents to ensure effective and quick operation of fuses, Circuit Breakers thereby protecting the equipment and person using it.
- b. To divert the surges or induced currents induced due to lightning.
- c. To maintain a potential. E.g. the neutral of a transformer is earthed to maintain it at a potential.
- e. To provide return current path e.g. block instruments and to carry a current during the normal Operation of a device.

Factors affecting Earth resistance

- a. Type of soil i.e. the resistivity of the soil. Clayey soil has very less resistivity compared to rocky soil.
- b. Moisture: for less resistance values the moisture must be maintained at least 20% in the soil.
- c. Salt content : for less resistance values the salt content must be at least 5% in the soil.
- d. Internal Diameter of the pipe : Must be more than 38 mm
- e. Length of the pipe : must be more than 2.5m