Document

Cost Effectiveness –Comparison

- The cost of C B rod is very less compared to C I or G.I plates.
- C.B rod can be used in soil by driving while for plate large and deep pits to be excavated.
- The rod can be directly installed; no welding or drilling is required.
- C.B rods can be used even on rocky terrain by drilling a hole and inserting the rod.
- C I/G I plate cannot be installed in rocky area such as granite quarries.
- The installation charges of C.B rods are very less.

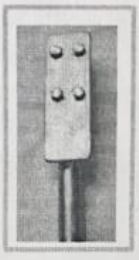
Labour charge for installation of C I/G I plate will be high and additional strips are required for effecting the connection. In fact, the total installation cost alone will be more than the cost of one no plate. But C.B rod can be driven to ground easily.

Life Span

Corrosion is the major factor affecting the life of an electrode. Protecting the steel electrode by molecular bonding of copper is a globally accepted and efficient method to avoid corrosion. The percentage of corrosion of different materials in the same soil in 10 years life is shown in chart given (as per IS: 3043/ 87).

Earthing Materials	Corrosion in 10 years by weight
Copper	2%
Copper –Bonded	2%
Hot Dipped Galvanized	5%
Cast Iron	22%

Efficiency



Copper-bonded rods are also available with flat strips so that an efficient connection between the electrode and earth leads is ensured. In cast iron Plate earth, most of the joints between the plates and external strip connection are under-ground which will be affected by corrosion. In copper bonded rods no such underground connections. More over the external joints can be protected by tinning. The copper bonded rods allows copper to copper connection. Even G I strips can be connected to these rods after tinning both ends.

Conclusion:

Copper bonded rod can very well replace cast iron plates forLT/HT installation earthing. Such rods are widely used all over the world just because of the easiness of installation, cost effectiveness, more life, efficiency and low resistance to ground.