

or substantial clamps of non-ferrous material (Uncoated buried copper is electro-positive to uncoated buried steel and when interconnected by a current-carrying conductor, these metals form an electrochemical cell that can cause accelerated corrosion of steel)

- 5.2.3 The consumer's 'Main Earth electrode' shall be installed as near to the main distribution board as possible. Wherever, more than one 'Earth electrode' is installed, within the consumer premises, these shall be spaced at minimum 6 metres apart. For load centers located laterally 50 meters or more from the main DBs, additional back-up earthing may be required near the same.
- 5.2.4 Chemical treatment of soil has environmental implications and should not be considered as a long term solution in order to meet a specified level of resistance, apart from the risk of corrosion to the earthing system. Coke breeze should also not be used due to its highly corrosive nature.
- 5.2.5 The main earth electrode resistance shall not exceed 1 ohm, for each incoming DEWA supply/MDB.
- 5.2.6 The resistance from any point of the Earth continuity conductor to the Main Earth electrode shall not exceed 0.5 ohm.
- 5.2.7 The consumer's earth electrode resistance and continuity of ECCs shall be periodically checked and maintained as above, to ensure consumer safety (BS 4444).
- 5.2.8 The lightning protection earthing shall be separate from the earthing of the incoming DEWA supply/MDBs and shall not be interconnected and a minimum distance of 7 meters shall be maintained between the earthing inspection pits.

### **5.3 EARTH CONTINUITY CONDUCTOR (ECC)**

- 5.3.1 Every circuit in the Main, Sub-Main and final distribution boards shall be provided with a separate, green and yellow (G/Y), PVC insulated copper 'ECC'. The minimum size of ECCs shall be selected as specified in Appendix.9.
- 5.3.2 The ECCs shall be terminated at electrical equipment, apparatus and distribution switch gear, light fittings, mounting boxes of switches & socket-outlets, etc. with tinned copper lugs, as applicable, at both ends, on purpose made earth terminals.
- 5.3.3 All bus bar risers installed for electrical distribution in high rise buildings and other consumer installations shall incorporate an adequately sized 'ECC' either integrally within or run separately along the riser.