

DIVISION 16 - ELECTRICAL

Section 16390 - Primary Grounding

Introduction

This section applies to the main building grounding electrode system. In general this applies to new building construction or major building expansions only and is not applicable to general renovation projects.

Ground system shall be considered to be separate from the lightning protection system and its associated counterpoise but must be attached to each other. (Typically below grade).

Part 1 - General

- On the Main campus, the wiring in the facility becomes a separately derived system as it relates to the distribution system supplied by the power company any time we have a local 13,800 volt primary transformer. The design of this system should be based on that fact. Grounding shall be per article 250 of the NEC.

Part 2 - Products

- Provide a minimum 50' size 3/0 stranded bare copper conductor in the footing to provide for a base conductor or Concrete Encased Electrode ("UFER") ground for the electrical system. At each end bond out to a 3/4" x 10' copper clad or copper weld ground rod. Where ground rods are not feasible UFS Electrical Engineer or delegated representative will determine if grounding plates are acceptable. At each of these points provide an inspection or test point.

Part 3 - Execution

- All primary and secondary service ground connections shall be made using an exothermic welding such as Cadweld or compression/ crimp style (C Billet).
 - Ground shall be bonded in at least one location to any underground metal water mains or copper water mains.
 - Ground shall be bonded to building structural steel at least one location and per the NEC.
 - The building ground system shall be bonded to any ground ring for lightning protection.
 - Bond to fire protection at main fire riser as it daylights from underground.
 - All installations shall be inspected by UFS Engineer, UFS Inspectors, and FM Medium Voltage shop prior to energization.

End of Section 16390