

1 General

1.1 RELATED SECTIONS

- .1 Section 26 05 00 – Common Work Results - Electrical.

1.2 REFERENCES

- .1 American National Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers (IEEE)
 - .1 ANSI/IEEE 837-1989 (R1996), Qualifying Permanent Connections Used in Substation Grounding.
- .2 Canadian Standards Association (CSA)
 - .1 CSA 22.1-18, Canadian Electrical Code Part 1, 24th Edition.

2 Products

2.1 EQUIPMENT

- .1 Rod electrodes: copper clad steel 19 mm dia by 3 m long.
- .2 Plate electrodes: copper, surface area 0.2 m², 1.6 mm thick.
- .3 Grounding conductors: bare stranded copper, soft annealed, size as indicated.
- .4 Insulated grounding conductors: green, type RW90, copper, size as indicated.
- .5 Ground bus: copper, size as indicated, complete with insulated supports, fastenings, connectors.
- .6 Non-corroding accessories necessary for grounding system, type, size, material as indicated, including but not necessarily limited to:
 - .1 Grounding and bonding bushings.
 - .2 Protective type clamps.
 - .3 Bolted type conductor connectors, as required by local authority having jurisdiction.
 - .4 Bonding jumpers, straps.
 - .5 Pressure wire connectors.

3 Execution

3.1 INSTALLATION GENERAL

- .1 Install complete permanent, continuous grounding system including, electrodes, conductors, connectors, and accessories.
 - .2 Install connectors in accordance with manufacturer's instructions.
 - .3 Protect exposed grounding conductors from mechanical injury.
 - .4 Use mechanical connectors for grounding connections to equipment provided with lugs.
 - .5 Soldered joints not permitted.
 - .6 Install a bonding wire in all conduits. Where EMT is used, run insulated copper bond wire in conduit.
 - .7 Install internal bonding wire for flexible conduit, connected at both ends to grounding bushing, solderless lug, clamp or cup washer and screw.
 - .8 Install separate ground conductor to outdoor solar racking and connect using mechanical bolt connector recommended by the manufacturer.
 - .9 Make grounding connections in radial configuration only, with connections terminating at single grounding point. Avoid loop connections.
 - .10 Bond single conductor, metallic armoured cables to cabinet at supply end and load end.
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3.2 ELECTRODES

- .1 Install rod, plate electrodes and make grounding connections.
- .2 Bond separate, multiple electrodes together.
- .3 Make special provision for installing electrodes that will give acceptable resistance to ground value where rock or sand terrain prevails. Ground as indicated.

3.3 EQUIPMENT GROUNDING

- .1 Install grounding connections to typical equipment included in, but not necessarily limited to following list. Service equipment, transformers, frames of motors, control panels, steel work, etc.

3.4 FIELD QUALITY CONTROL

- .1 Perform tests in accordance with Section 26 05 00 – Common Work Results - Electrical.
- .2 Perform ground continuity and resistance tests using method appropriate to site conditions and to approval of Departmental Representative and local authority having jurisdiction over installation.
- .3 Perform tests before energizing electrical system.
- .4 Disconnect ground fault indicator during tests.

END OF SECTION
