

Part 1 General**1.1 RELATED SECTIONS**

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

1.2 REFERENCES

- .2 Canadian Standards Association, (CSA International).
 - .1 CSA C22.2 No. 41-07, Grounding and Bonding Equipment

1.3 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 00 10 – General Instructions.
- .2 Remove from site and dispose of all packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal all packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.
- .4 Divert unused metal and wiring materials from landfill to metal recycling facility as approved by Departmental Representative.
- .5 Fold up metal banding, flatten and place in designated area for recycling.

Part 2 Products**2.1 MATERIALS**

- .1 Grounding equipment to: CSA C22.2 No. 41.

2.2 EQUIPMENT

- .1 System and circuit, equipment, grounding conductors, bare stranded copper, un-tinned, soft annealed, un-armoured, Size #3/0 AWG.
- .2 Insulated grounding conductors to Section 26 05 21 – Wires and Cables (0 – 1000V).
- .3 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 compression type conductor connectors,
 - .4 bonding jumpers, straps,
 - .5 pressure wire connectors

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- .6 compression-type bonding and connections with pure wrought-copper compression devices, factory filled with inhibiting compound or with appropriate all bronze or copper mechanical devices and shall meet current CSA C22.2 No.41.

Part 3 Execution

3.1 INSTALLATION GENERAL

- .1 Install the complete permanent, continuous system and circuit, equipment, grounding systems including conductors, connectors and accessories as indicated to conform to the requirements of the Departmental Representative and the local Authority Having Jurisdiction over installation.
- .2 Install connectors to the 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 are not permitted.
- .6 Install bonding wire for flexible conduit, connected at both ends to grounding bushing, solderless lug, clamp or exterior of flexible conduit.
- .7 Make grounding connections in radial configuration only.
- .8 Bond single conductor, metallic armoured cables to cabinet at supply end and provide non-metallic entry plate at load end.
- .9 Provide a separate green-insulated ground conductor in every feeder and branch conduit.
- .10 Provide separate green-insulated ground conductor in every conduit to all devices and fixtures.
- .11 Ground panels and transformers to local ground bus. Connect each ground bus to the building ground loop at the nearest location.

3.2 SYSTEM AND CIRCUIT GROUNDING

- .1 Install system and circuit grounding connections to the neutral of the secondary 600-V system as indicated.

3.3 GROUNDING BUS

- .1 Install copper ground bus mounted on insulated supports on wall of generator enclosure.
- .2 Ground to electrical equipment with insulated stranded copper conductor size 2/0.

3.4 EQUIPMENT GROUNDING

- .1 Install grounding connections to typical equipment included in, but not necessarily limited to the following list. Service equipment, transformers, switchgear, frames of motors, starters, enclosure and metal cladding work, and distribution panels.

3.5 FIELD QUALITY CONTROL

- .1 Perform tests in accordance with Section 26 05 00 – Common Work Results for Electrical.
- .2 Perform ground continuity and resistance tests using method appropriate to the site conditions and to the approval of the Departmental Representative and local Authority Having Jurisdiction over installation.
- .3 Perform tests before energizing electrical system.
- .4 Test all joints including threaded conduits connection used as ground.
DC resistance shall be no greater than 5 milliohms per joint or connection.
- .5 Submit the test report to the Departmental Representative.

END OF SECTION