

## **1. GENERAL**

### **1.1 Description**

- .1 Supply and install a complete grounding system. Securely and adequately ground all components of the electrical system in accordance with the requirements of all related sections in the latest Canadian Electrical Code and the local Electrical Inspection Branch.
- .2 The extension to existing system to consist of cables, supports, and all necessary materials and inter-connections to provide a complete system. Measured resistance to ground of the network shall not exceed 5 ohms.
- .3 All ground conductors shall be run in conduit.

## **2. PRODUCTS**

- .1 Cables 3/0 and smaller to be connected to ground bars via Burndy Quiklug Type QA-2B connectors. Connections for cables larger than 3/0 shall be brazed.
- .2 All ground wires to be stranded copper TWH complete with a green jacket unless otherwise shown.
- .3 Cable to pipe connectors to be made with Burndy GAR connectors.

## **3. EXECUTION**

### **3.1 Grounding - General**

- .1 All frames and metallic enclosures of all electrical equipment and electrically operated equipment shall be grounded via a ground wire.
- .2 All transformers, switchgear, motor control centres, panelboards and splitters fed from the main distribution centre shall be grounded by grounding conductors sized in accordance with the Canadian Electrical Code. The ground wire shall be terminated at each end with an appropriate grounding lug, which shall be connected to the equipment ground bus. Ground wire to be green TWH.
- .3 All sub panels such as lighting panels, local distribution panels, etc., shall be grounded with a green ground wire run back to the panel from which it is fed. The ground conductor shall be sized according to the Canadian Electrical Code.
- .4 All main distribution centres, motor control centres, switchgear, and all panels requiring equipment grounds shall contain a ground bus of adequate size, and tapped for lugs for the ground wire required.
- .5 All bolted connections must be accessible.

## **GROUNDING**

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- .6 All motors shall be grounded by means of an adequately sized green ground wire contained within the feeder conduit.
- .7 Include a separate green ground wire in all power conduits including branch circuit wiring sized to Table 16, Canadian Electrical Code.
- .8 Expansion joints and telescoping sections of raceways shall be bonded using jumper cables as per Canadian Electrical Code.
- .9 Use Burndy compression connectors or approved equal for all grounding splices and terminations unless otherwise shown on the Drawings. For bolted ground connections use Burndy Engineering Company's "Durium" or approved equal hardware.
- .10 Connect all transformer neutrals to the main building ground wire, using compression terminations.
- .11 Install rigid conduit sleeves where ground wires pass through concrete slabs.
- .12 Conduit installed buried in earth or installed in or under grade floor slabs shall have separate ground wire installed, whether the conduits are metal or not.
- .13 Ground all utility services to the electrical system ground.
- .14 Ground control cable shields at one end only. Ensure that shields are continuous over the entire circuit run.

**END OF SECTION**